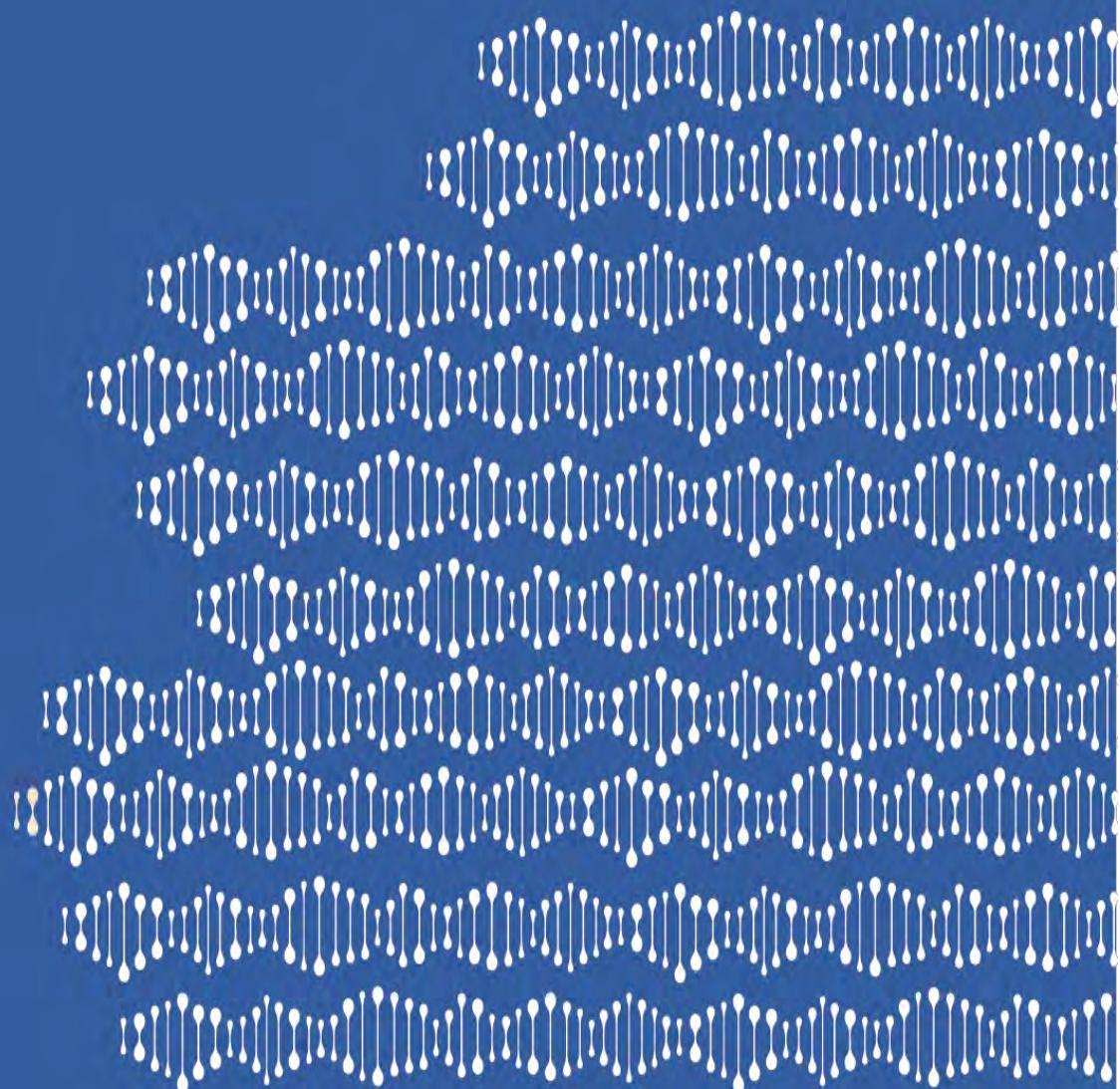




CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

Oversight Committee Meeting

November 18, 2020





Summary Overview of the November 18, 2020, Oversight Committee Meeting

This summary provides an overview of major agenda items and background on key issues for Committee consideration at the November 18, 2020, Oversight Committee meeting.

Resolution Honoring Angelos Angelou

The Oversight Committee will consider a resolution honoring Angelos Angelou for his seven years of service as an Oversight Committee member.

Grantee Presentations

CPRIT has invited CPRIT Scholar Dr. Patrick Sung, Professor of Biochemistry & Structural Biology at The University of Texas Health Science Center San Antonio and Dr. Mei Wang, CEO and co-founder of Instapath, Inc., to make presentations to the Oversight Committee about their CPRIT-funded work.

CEO Report

Wayne Roberts will present the CEO's report and address issues including grant funds available for fiscal year 2021, CPRIT's response to COVID 19, the upcoming legislative session, and other topics as warranted.

Chief Compliance Officer Report

Vince Burgess will report on the status of required grantee reports, financial status report reviews, desk reviews and site visits, annual compliance attestation, single audit tracking, and training. He will also certify that the proposed academic research awards complied with statutory and administrative rule requirements.

Chief Scientific Officer Report and Grant Award Recommendations

Dr. Willson will provide an update on the Academic Research Program, including five requests for applications for fiscal year 2022. He will also present the Program Integration Committee's nine award recommendations for Recruitment of First-Time, Tenure-Track Faculty Members, and Recruitment of Established Investigators totaling \$26,000,000.

CPRIT will not publicly disclose information related to the Academic Research grant applications recommended for funding until the Oversight Committee meeting. The information is available to board members through a secure electronic portal.

Chief Prevention Officer Report

Ms. Magid will present an update the Oversight Committee on the Prevention Program.

Chief Product Development Officer Report

Dr. WalkerPeach will provide an update on the Product Development Program.

FY 2022 Program Priorities

Health and Safety Code Chapter 102 requires the Oversight Committee to establish program priorities on an annual basis. Mr. Roberts will present the program subcommittees' recommendations for fiscal year 2022 Program Priorities for approval by the Oversight Committee.

Internal Auditor Report

Weaver and Tidwell, CPRIT's internal auditor, will provide an internal audit update and present an *Internal Audit Report over Governance* and a *Disaster Recovery and Business Continuity Planning Audit Advisory Report*. Weaver will also present the *Fiscal Year 2020 Annual Internal Audit Report*.

Appointments - Scientific Research and Prevention Programs Committee

Mr. Roberts has provisionally appointed eight new members to CPRIT's Scientific Research and Prevention Programs Committees. CPRIT's statute requires the Oversight Committee to approve the CEO's recommendation before the appointments are final. CPRIT has provided the appointees' biographical sketches for the Oversight Committee's consideration.

Appointment – Advisory Committees

Presiding Officer Dee Margo has provisionally appointed one new member to CPRIT's Prevention Advisory Committee. CPRIT's statute requires the Oversight Committee to approve the recommendation to finalize the appointment. CPRIT has provided the appointee's biographical sketch for the Oversight Committee's consideration.

Amendments to 25 TAC Chapters 701 and 703

Ms. Eckel will present three proposed changes to Chapter 701 and 703 administrative rules for Oversight Committee consideration and approval to publish in the *Texas Register*.

Chief Operating Officer Report and Contract Approvals

Ms. McConnell will discuss the operating budget, performance measures, and debt issuance history for the fourth quarter of fiscal year 2020.

Communications Update

Mr. Cutrone will update the Oversight Committee on CPRIT's communication efforts, including coverage of the agency and grantees in earned media, digital media, and social media.



Oversight Committee Meeting Agenda

November 18, 2020
9:00 a.m.

This Meeting Will Be Conducted by Videoconference and Telephonically

In accordance with Texas Government Code Section 418.016, Governor Abbott has suspended various provisions that require government officials and members of the public to be physically present at a specified meeting location.

Members of the public may connect to the meeting by going to the URL

<https://zoom.us/j/93548532393?pwd=SHZKcStrSFRXM3ozLzNzYmhRWndKQT09>

The public may also join via telephone audio only using the following:

US: +1 346 248 7799 or +1 253 215 8782 or +1 669 900 9128 and entering the Webinar ID of 935 4853 2393 when prompted.

A recording of the meeting will be available after the meeting on CPRIT's public website. CPRIT will provide an electronic copy of the agenda packet at <https://cprit.texas.gov/oversight-committee/meetings/> by November 16.

A member of the public wishing to comment during the meeting must contact Melanie Cleveland (mcleveland@cprit.texas.gov) at least 30 minutes prior to the posted meeting start time. When the Oversight Committee reaches the "Public Comment" agenda item, the Chair will recognize each person requesting to provide public comment by name. The Chair may limit the amount of time a member of the public may speak. CPRIT cannot guarantee that an individual contacting Ms. Cleveland less than 30 minutes before the posted start time may provide public comment.

The Oversight Committee may discuss or act on any item on this agenda, and as authorized by the Texas Open Meetings Act, Texas Government Code Section 551.001 et seq., may meet in closed session concerning any purpose permitted by the Act.

1. Call to Order
2. Roll Call/Excused Absences
3. Adoption of Minutes from the August 19 meeting Tab 1
4. Public Comment
5. Resolution Honoring Angelos Angelou's CPRIT Service
6. Grantee Presentations Tab 2
7. Chief Executive Officer Report Tab 3
8. Chief Compliance Officer Report and Compliance Certification of Grant Award Process Tab 4
9. Chief Scientific Officer Report Tab 5
 - Grant Award Recommendations
 - FY 2022 Cycle 1 Requests for Applications
10. Chief Prevention Officer Report Tab 6
11. Chief Product Development Officer Report Tab 7
12. FY 2022 Program Priorities Tab 8

13. Internal Auditor Report Tab 9
 - Disaster Recovery and Business Continuity Planning Audit Advisory Report
 - Internal Audit Report over Governance
 - FY 2020 Annual Internal Audit Report
14. Scientific Research and Prevention Program Committee Appointments Tab 10
15. Advisory Committee Appointments Tab 11
16. Amendments to 25 T.A.C. Chapters 701 and 703 Tab 12
 - Proposed Amendments to Chapters 701 and 703 and Authorization to Publish in *Texas Register*
17. Chief Operating Officer Report Tab 13
18. Communications Report Tab 14
19. Subcommittee Business
20. Compliance Investigation Pursuant to Health & Safety Code § 102.2631
21. Consultation with General Counsel
22. Future Meeting Dates and Agenda Items
23. Adjourn



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

**Oversight Committee Meeting Minutes
August 19, 2020**

NOTE: CPRIT conducted this meeting by videoconference in accordance with Texas Government Code Section 418.016. Governor Abbott suspended various provisions that require government officials and members of the public to be physically present at a specified meeting location. Unless the information is confidential, the reports, presentations, and grant award information referenced in the minutes are available at <http://ocmeetings.cprit.texas.gov> in the "Oversight Committee Board Packet" section for the corresponding meeting date.

Call to Order – Agenda Item 1

A quorum being present, Presiding Officer Dee Margo called the Oversight Committee to order at 9:00 a.m.

Roll Call/Excused Absences – Agenda Item 2

Committee Members Present

David Cummings, M.D.
Ambrosio Hernandez, M.D.
Donald (Dee) Margo
Will Montgomery
Mahendra Patel, M.D.
Cindy Barberio Payne
Bill Rice, M.D.
Craig Rosenfeld, M.D.

Adoption of Minutes from the May 20 and July 31, 2020 Meetings – Agenda Item 3 – Tab 1

MOTION:

On a motion by Mr. Montgomery and seconded by Dr. Rice, the Oversight Committee unanimously voted to approve the minutes of the May 20 and July 31 Oversight Committee meetings as presented.

Public Comment – Agenda Item 4

Presiding Officer Margo recognized Cathleen McBurney to provide public comment on behalf of the American Cancer Society Cancer Action Network. Ms. McBurney recounted her experience as a head and neck cancer survivor and her experience as a cancer advocate. She emphasized the importance of cancer research for patients now, specifically crediting the research funded by CPRIT grant awards to MD Anderson for the study of proton radiation therapy - including a 2015 award to Dr. Jack Phan for a Phase I clinical trial of Stereotactic HYpofractionated RadioAblative (HYDRA) treatment of advanced laryngeal cancer - for her treatment.

Presiding Officer Margo recognized Bernice Joseph, Chief Operating Officer of The Rose, for public comment. Ms. Joseph spoke on the importance of CPRIT funding for women in Southeast Texas. The Rose, with CPRIT grant funding since 2010, has served 18,000 women in 41 counties throughout Southeast Texas. One-third of the women screened by The Rose through prevention projects supported by CPRIT received their first mammogram. Ms. Joseph emphasized how critical CPRIT support is to women throughout Texas, especially in the rural parts of the state.

Grantee Presentation – Agenda Item 5, Tab 2

Presiding Officer Margo recognized Chief Prevention Officer Ramona Magid to introduce Dr. Rakhshanda Rahman, founding executive director of the multi-campus Breast Center of Excellence at Texas Tech University Health Sciences Center. Dr. Rakhshanda reported on her CPRIT-funded prevention projects.

An Oversight Committee member asked Dr. Rahman if she was coordinating with Dr. Shokar's project in El Paso. Dr. Rahman explained that the programs had communicated but that they used different database systems and did not coordinate.

In response to an Oversight Committee member's question, Dr. Rahman reported that she has been able to leverage the Medicaid 1115 waiver and DSRIP project funds to provide outreach and other services not funded by the CPRIT grants.

Responding to an Oversight Committee member's question about the unusually high mortality rate in Council of Government (COG) 7, Dr. Rahman explained that some of the causes may be lack of access to cancer prevention and control services. She noted that providers had not been coordinating care in this area but were now communicating to resolve the access issues.

Chief Executive Officer Report – Agenda Item 6, Tab 3

Presiding Officer Margo recognized Chief Executive Officer Wayne Roberts to present the Chief Executive Officer's Report.

Mr. Roberts informed members that staff received Instructions for the Legislative Appropriations Request (LAR), which is due September 25, 2020. The staff will prepare CPRIT's LAR. Mr. Roberts reported on FY 2020 funds available for awards and updated members on CPRIT's response to COVID-19, including continued mandatory work from home and videoconference board meetings through at least the November meeting, unless directed otherwise by state leadership. Mr. Roberts noted that CPRIT records all COVID-19 grantee expenses and submits those expenses to the Governor's Office and Legislative Budget Board.

He ended his presentation with a brief discussion on preparations for FY 2022 program priorities and the CPRIT 2.0 planning process.

There were no questions.

Chief Compliance Officer Report and Compliance Certification for the Proposed Grant Awards – Agenda Item 7, Tab 4

Presiding Officer Margo recognized Chief Compliance Officer Vince Burgess to present the Compliance Report and Compliance Certification of Grant Award Process. Mr. Burgess updated members on the Compliance Program activities for the past quarter. Mr. Burgess presented the FY 2021 Grantee Risk Assessment.

An Oversight Committee member asked Mr. Burgess if the risk assessment was the same one provided by the internal auditors. Mr. Burgess explained that this is an independent assessment.

An Oversight Committee member asked Mr. Burgess why the assessment seems to rank academic institutions priority 3 versus Product Development grantees ranked priority 1. Mr. Burgess explained that academic institutions are often more mature and have robust processes and policies/procedures in place versus a new Product Development grantee company.

Mr. Burgess also certified that the review process and proposed awards academic research, prevention, and product development research grant awards presented for the Oversight Committee's consideration complied with all applicable state and agency requirements.

Chief Scientific Officer Report and Grant Award Recommendations – Agenda Item 8, Tab 5

Presiding Officer Margo recognized Chief Scientific Officer Dr. Jim Willson to provide his report on the academic research program and present the award recommendations. Dr. Willson referred members to page 8 of the Proposed Grant Award booklet and presented the academic research award slates recommended by the Scientific Review Council (SRC) and the Program Integration Committee (PIC). The 52 awards totaling \$75,298,095 result from 10 grant mechanisms issued for FY 2020 review cycles 20.1, 20.2 and recruitment cycles 20.10, 20.11 and 20.12.

Dr. Willson noted that the recommendations for the Oversight Committee's approval included thirteen applications from cycle 20.1 that the PIC previously deferred putting forward for consideration pending sufficient funding.

Academic Research FY20.2 Recommendations

Rank	ID	Award*	Score	Title	PI	PI Organization	Budget
1	RP200668	CFSA	1.1	The Combinatorial Drug Discovery Program (CDDP)	Davies, Peter	Texas A&M University System Health Science Center	\$3,989,892
2	RP200554	CAP-RA	1.2	A Novel Risk Stratification and Early Detection Strategy to Reduce Liver Cancer Mortality	Singal, Amit	The University of Texas Southwestern Medical Center	\$2,499,995

Rank	ID	Award*	Score	Title	PI	PI Organization	Budget
3	RP200584	ECI	1.4	CPRIT Early-Career Clinical Investigator Award for Applicant: Premal Lulla, MD	Dickinson, Mary	Baylor College of Medicine	\$1,500,000
4	RP200619	CFSA	1.8	CPRIT RNA Therapeutics Core	Cooke, John	The Methodist Hospital Research Institute	\$3,999,995
5	RP200549	ECI	1.8	Enhancing Neoantigen Expression and Immune Checkpoint Inhibitor Response Using Splicing Modulators in Hepatocellular Carcinoma	Arteaga, Carlos	The University of Texas Southwestern Medical Center	\$1,499,998
6	RP200669	ECI	1.8	CPRIT Early Clinical Investigator Award: Chad Tang	Draetta, Gulio	The University of Texas M. D. Anderson Cancer Center	\$1,499,996
7	RP200532	HIHRRRA	1.9	Targeted Proteolysis of Glucocorticoid Receptor (GR) as a Therapeutic Strategy to Enhance Antitumor Immunity	Lissanu Deribe, Yonathan	The University of Texas M. D. Anderson Cancer Center	\$249,992
8	RP200604	HIHRRRA	2.0	Targeting Plasma Membrane Spatial Dynamics to Suppress Obesity-Induced Colon Cancer	Chapkin, Robert	Texas AgriLife Research	\$250,000
9	RP200520	HIHRRRA	2.1	Developing Single-Cell RNAseq-Based Genetic Screens to Identify Novel Targets for Cancer Immunotherapy	Peng, Weiyi	University of Houston	\$250,000

Rank	ID	Award*	Score	Title	PI	PI Organization	Budget
10	RP200573	HIHRRRA	2.2	Low-Cost Nonconventional Ultralow-Field MRI Scanner for the Next-Generation MR-Guided Radiation Therapy	Jia, Xun	The University of Texas Southwestern Medical Center	\$250,000
11	RP200504	CFSA	2.3	Comprehensive Cancer Epigenomics Core Facility	Chen, Rui	Baylor College of Medicine	\$3,999,943
12	RP200670	ECI	2.5	Early Clinical Investigator Award: Nicolas Palaskas	Draetta, Gulio	The University of Texas M. D. Anderson Cancer Center	\$1,491,551
13	RP200614	HIHRRRA	2.5	Novel Betabody-Drug Conjugates Targeting Phosphatidylserine for the Selective Delivery of Potent, Small-Molecule Payloads	Pinney, Kevin	Baylor University	\$250,000
14	RP200655	HIHRRRA	2.5	A Novel Organoid Platform to Modulate Human Neural Networks Integrated With Glioblastoma Stem Cells	Krencik, Robert	The Methodist Hospital Research Institute	\$249,372
15	RP200574	HIHRRRA	2.6	Targeting B Cells to Enhance Responses to Immune Checkpoint Blockade	Wargo, Jennifer	The University of Texas M. D. Anderson Cancer Center	\$249,755
16	RP200509	HIHRRRA	2.7	Genome-Wide DNA Methylation Markers for Predicting the Risk of Liver Cancer in Nonalcoholic Fatty Livers	Tsai, Robert	Texas A&M University System Health Science Center	\$250,000
17	RP200595	HIHRRRA	2.7	SERBP1, Epigenetic Regulation and	Penalva, Luiz	The University of Texas Health Science	\$249,968

Rank	ID	Award*	Score	Title	PI	PI Organization	Budget
				Glioblastoma Targeting		Center at San Antonio	
18	RP200633	CAP-RA	2.8	Reducing Disparities in the Risk of Hepatocellular Cancer	Kanwal, Fasiha	Baylor College of Medicine	\$2,434,495
19	RP200537	CAP-RA	2.9	Genetic Epidemiology of Hepatocellular Carcinoma in Hispanics	Thrift, Aaron	Baylor College of Medicine	\$2,473,314
20	RP200657	HIHRRRA	2.9	Screening for Melanoma Genes Using Natural Hybrid Incompatibilities	Schartl, Manfred	Texas State University - San Marcos	\$248,458
21	RP200617	HIHRRRA	2.9	Pathological Role of Neuronal Cell Cycle Reentry in the Development of Chemotherapy-Induced Peripheral Neuropathy	Lee, Hyoung-gon	The University of Texas at San Antonio	\$250,000
22	RP200650	HIHRRRA	2.9	Characterization of Salmonella Tumor-Targeting Mechanisms and Oncolytic Potential	Kenney, Linda	The University of Texas Medical Branch at Galveston	\$250,000
23	RP200612	HIHRRRA	3.1	Elucidating Premetastatic Niches at Single-Cell Resolution	Giancotti, Filippo	The University of Texas M. D. Anderson Cancer Center	\$249,996
24	RP200620	HIHRRRA	3.2	Targeting Fatty Acid Synthesis in NAFLD-Related HCC	Dong, Bingning	Baylor College of Medicine	\$250,000
25	RP200615	HIHRRRA	3.4	Small RNA Nanovector-Based Targeted Immunotherapy for Glioblastoma	Lee, Tae Jin	The University of Texas Health Science Center at Houston	\$250,000

Rank	ID	Award*	Score	Title	PI	PI Organization	Budget
26	RP200572	CFSA	3.6	From Whole-Animal Imaging to Superresolution Microscopy: An Imaging Core for the TTUHSC Campus at Amarillo	Bickel, Ulrich	Texas Tech University Health Sciences Center	\$2,831,213
27	RP200593	HIHRRRA	3.6	High-Throughput Nondestructive Enumeration and Characterization of CTCs in Whole Blood by a Thin Film "Tactile" Microfluidics and Holographic Interferometry	Sheng, Jian	Texas A&M University - Corpus Christi	\$247,703
28	RP200526	HIHRRRA	3.7	Development of Artificial Intelligence Framework for Assessment of Responses to Treatment and Automated Tumor Volume Measurement in Glioblastoma	Zhu, Jay-Jiguang	The University of Texas Health Science Center at Houston	\$249,794

HIHRRRA – High Impact/High Risk Research Award, ECI – Early Clinical Investigator, CFSA – Core Facility Support Award, CAP-RA - Collaborative Action Program to Reduce Liver Cancer Mortality in Texas: Investigator-Initiated Research Awards

FY20.1 PIC Deferred Applications

ID	Award*	Score	Application Title	PI	PI Organization	Budget
RP200472	IIRA	2.8	Rational Combination Therapy for Aggressive Double-Hit Lymphoma	Li, Yulin	The Methodist Hospital Research Institute	\$899,985
RP200464	IIRA	2.8	Arming an Oncolytic Herpes Simplex Virus to “BiTE” Tumor Cells	Zhang, Xiaoliu	University of Houston	\$702,581
RP200242	IIRA	2.9	Role of HOTTIP lncRNA in Leukemogenesis	Mingjiang Xu	The University of Texas Health Science Center at San Antonio	\$900,000
RP200254	IIRA	2.9	Interrogating the Senescence-Associated Secretory Phenotype	Tanya Paull	The University of Texas at Austin	\$754,398

ID	Award*	Score	Application Title	PI	PI Organization	Budget
			and Its Dependence on the ATM Protein Kinase			
RP200392	IIRACT	2.9	Harnessing Aurora Kinase Inhibition–Induced Cell Death to Enhance Immunotherapy in HPV-Driven Cancers	Jagannadha Sastry	The University of Texas M. D. Anderson Cancer Center	\$1,199,997
RP200327	IIRA	3.0	Immune Checkpoint Regulation by the Integrated Stress Response Pathway in Lung Cancer	Kathryn O'Donnell	The University of Texas Southwestern Medical Center	\$900,000
RP200058	IIRACCA	3.0	Enhancing Cytarabine Response Through SAMHD1 Inhibition	Dmitri Ivanov	The University of Texas Health Science Center at San Antonio	\$1,198,659
RP200383	IIRAP	3.0	Improving Risk Prediction for Li-Fraumeni Syndrome: A Practical Tool for Clinical Health Care Providers	Banu Arun	The University of Texas M. D. Anderson Cancer Center	\$896,896
RP200135	IIRACCA	3.0	Targeting the CXCL10-CXCR3 Axis in Metastatic Osteosarcoma	Tsz-Kwong Man	Baylor College of Medicine	\$1,200,000
RP200385	IIRA	3.0	Predicting Response and Improving Efficacy of CAR T-cell Therapy in DLBCL	Linghua Wang	The University of Texas M. D. Anderson Cancer Center	\$899,020
RP200166	IIRA	3.1	Targeted Inhibition of Autophagy for Treatment of Dormant Ovarian Cancer	Steven Millward	The University of Texas M. D. Anderson Cancer Center	\$900,000
RP200240	IIRA	3.1	A Hippo Pathway–Sensitized Genetic Screen for Regulators of Yap/Taz-Driven Hepatocellular Carcinoma	Randy Johnson	The University of Texas M. D. Anderson Cancer Center	\$899,999
RP200025	IIRAP	3.1	Establishment of a Prospective Cohort at Risk for HPV-Related Cancers: Using HPV Testing at Mucosal Sites and Blood-Based	Erich Sturgis	The University of Texas M. D. Anderson Cancer Center	\$1,483,470

ID	Award*	Score	Application Title	PI	PI Organization	Budget
			Assays for Risk Stratification in Men			

* IIRA – Individual Investigator Research Award, IIRAP – Individual Investigator Research Award for Prevention and Early Detection, IIRACCA – Individual Investigator Research Award for Cancer in Children and Adolescents, IIRACT – Individual Investigator Research Award for Clinical Translation

Recruitment Cycle FY 20.10, 20.11 and 20.12 Recommendations

Rank	ID	Award *	Score	Candidate	Organization	Budget
1	RR200079	RFTFM	1.0	Di Stefano, Bruno	Baylor College of Medicine	\$2,000,000
2	RR200080	RFTFM	1.0	Huang, Pengxiang	Baylor College of Medicine	\$2,000,000
3	RR200084	RFTFM	1.0	Zeng, Xing	The University of Texas Southwestern Medical Center	\$2,000,000
4	RR200076	RFTFM	1.0	Pillon, Monica	Baylor College of Medicine	\$2,000,000
5	RR200095	RFTFM	1.0	Chen, Jin	The University of Texas Southwestern Medical Center	\$2,000,000
6	RR200093	REI	1.0	Pollard, Jeffrey	The Methodist Hospital Research Institute	\$5,997,660
7	RR200090	RFTFM	1.3	Gruber, Joshua	The University of Texas Southwestern Medical Center	\$2,000,000
8	RR200063	RFTFM	2.0	Li, Hongjie	Baylor College of Medicine	\$2,000,000
9	RR200089	RFTFM	2.0	Zhao, Peng	The University of Texas Health Science Center at San Antonio	\$2,000,000
10	RR200108	RFTFM	2.0	Sandstrom, Andrew	The University of Texas Southwestern Medical Center	\$2,000,000
11	RR200112	REI	2.0	Gius, David	The University of Texas Health Science Center at San Antonio	\$6,000,000

*REI - Recruitment of Established Investigators, RFTFM - Recruitment of First-Time Tenure Track Faculty Members

Compliance Certification

Presiding Officer Margo reminded members that Mr. Burgess previously certified compliance of the academic research awards process.

Conflict of Interest Notification

Presiding Officer Margo noted for the record that no Oversight Committee member reported a conflict of interest with any proposed academic research awards.

Approval Process – Academic Research Awards

After no Oversight Committee member objected to considering the 10 slates in one vote, Presiding Officer Margo called for a vote on the 52 academic research awards recommended by the PIC.

MOTION:

On a motion made by Dr. Rice and seconded by Dr. Patel, the Oversight Committee members voted unanimously to approve the PIC's recommendations for the 10 academic research award slates.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee members voted to approve the delegation of contract negotiation authority to CPRIT's CEO and staff and authorized the CEO to sign the contracts on behalf of CPRIT.

Award Supplementation for RP160015

Dr. Willson presented the proposed award supplement of \$172,601 for CPRIT award RP160015.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee members voted unanimously to approve an award supplement not to exceed \$172,601 for CPRIT grant award RP160015.

Chief Prevention Officer Report and Grant Award Recommendations – Agenda Item 9, Tab 6

Presiding Officer Margo recognized Ms. Magid to present the Chief Prevention Officer's Report. Ms. Magid updated members on the Prevention Program activities before presenting the eight prevention program projects totaling \$14,063,333 that the Prevention Review Council and PIC recommended for awards. Ms. Magid reported that all the recommended applications address one or more of the Prevention Program activities.

Prevention Program Cycle FY2020 Cycle 2 Recommended Awards

Rank	ID	Award*	Score	Application Title	PI	PI Organization	Budget
1	PP200048	EPS	2.0	Expanding a successful postpartum HPV vaccination project to women in the Rio Grande Valley	Abbey Berenson	The University of Texas Medical Branch at Galveston	\$1,999,991
2	PP200066	EPS	2.0	Expanding Mailed Stool Test-Based Colorectal Cancer Screening in Vulnerable Populations in Central Texas	Michael Pignone	The University of Texas at Austin	\$1,999,227

Rank	ID	Award*	Score	Application Title	PI	PI Organization	Budget
3	PP200064	EPS	2.1	A Regional Expansion of Cervical Cancer Screening and Patient Navigation in North Texas (E-XSPAN)	Keith Argenbright	The University of Texas Southwestern Medical Center	\$1,999,996
4	PP200075	EPS	2.1	Establish a Comprehensive Cancer Prevention and Support Program among Asian-American Communities in Houston, Dallas/Fort Worth and Austin Areas of Texas	Helen Sun	Light and Salt Association	\$1,467,728
5	PP200057	EPS	2.2	School-based Human Papillomavirus Vaccination Program in the Rio Grande Valley: Continuation and Expansion in Starr, Zapata, and Jim Hogg County	Ana Rodriguez	The University of Texas Medical Branch at Galveston	\$1,993,140
6	PP200071	TCL	2.6	Promoting access to maternal smoking cessation and smoke-free home services among low-income rural pregnant women and their household smokers	Lei-Shih Chen	Texas A&M University	\$1,000,000
7	PP200070	EPS	3.1	EXPANSION OF TEXAS A&M'S CANCER PREVENTION PROGRAM TO RURAL AND MEDICALLY UNDERSERVED WOMEN	Anna Lichorad	Texas A&M University System Health Science Center	\$1,656,478
8	PP200068	EPS	3.4	Expanding Colorectal Cancer Prevention and Education Through Community-Based Outreach and Information Technology	Luis Rustveld	Baylor College of Medicine	\$1,947,073

* EPS – Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations, TCL – Tobacco Control and Lung Cancer Screening

There were no questions for Ms. Magid.

Compliance Certification

Presiding Officer Margo reminded members that Mr. Burgess previously certified compliance of the prevention awards process.

Conflict of Interest Notification

Presiding Officer Margo noted for the record that no Oversight Committee member reported a conflict of interest with any of the proposed prevention awards.

Approval Process – Prevention Grant Awards

After no member of the Oversight Committee objected to considering the two slates together, Presiding Officer Margo called for a vote on the eight proposed award recommendations.

MOTION:

On a motion made by Dr. Rice and seconded by Dr. Cummings, the Oversight Committee unanimously voted to approve the PIC's recommendation for the eight prevention awards.

MOTION:

On a motion made by Mr. Montgomery and seconded by Dr. Rice, the Oversight Committee unanimously voted to approve the delegation of contract negotiation authority to CPRIT's CEO and authorized the CEO to sign the contracts on behalf of CPRIT.

Award Supplementation for RP170094

Ms. Magid presented a request for a \$125,000 award supplement for CPRIT award PP170094.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve an award supplement not to exceed \$125,000 for CPRIT grant award PP170094.

Chief Product Development Officer Report and Award Recommendations – Agenda Item 10, Tab 7

Presiding Officer Margo recognized Chief Product Development Officer Dr. Cindy WalkerPeach to present the proposed product development research award recommendations and to provide an update on the product development program.

Dr. WalkerPeach updated the Oversight Committee regarding the anticipated timeline for release of requests for applications for the upcoming FY 2021 application cycle.

Dr. WalkerPeach presented the PIC's two product development award recommendations and award

contingencies for review cycle 20.2, totaling \$25,421,133: ImmunoGenesis, Inc. and OncoNano Medicine, Inc.

Product Development Research FY20.2 Recommendations

Rank	ID	Award	Score	Company Name	Project	Budget
1	DP200081	Texas Company	2.1	OncoNano Medicine	Image-guided Surgical Detection of Metastatic Disease to the Peritoneum, Lymph Nodes and Pleural Surfaces	\$ 9,965,273
2	DP200094	Texas Company	2.4	ImmunoGenesis, Inc.	Cytoreductive bispecific PD-L1/PD-L2 antibodies active across immune hot and cold cancers	\$ 15,455,860

Compliance Certification

Presiding Officer Margo reminded members that Mr. Burgess previously certified compliance of the product development awards process.

Conflict of Interest Notification

Presiding Officer Margo noted for the record that no Oversight Committee member reported a conflict of interest with the two proposed product development awards.

Approval Process – Product Development Research Awards

MOTION:

On a motion made by Mr. Montgomery and seconded by Dr. Rice, the Oversight Committee unanimously voted to approve the PIC's recommendations for the two applications totaling \$25,421,133 in award funding.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve the delegation of contract negotiation authority to CPRIT's CEO and staff and authorized the CEO to sign the contracts on behalf of CPRIT.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve the disbursement of grant funds via advance payments to the two companies approved for awards upon execution of the award contracts and the successful completion of tranches.

Resolution Transferring Management Authority to the Texas Treasury Safekeeping Trust Company – Agenda Item 11, Tab 8

Dr. WalkerPeach presented CPRIT's recommendation to explore non-standard revenue-sharing

options for CPRIT's overall investment in OncoNano Medicine, Inc., explaining that this is the first time CPRIT has approved three product development awards for the same company.

Mr. Roberts recommended using the Texas Treasury Safekeeping Trust Company to assist CPRIT in negotiations with OncoNano Medicine pursuant to the authority in Texas Health & Safety Code § 102.256. He explained the proposed resolution authorizing the transfer of management and disposition authority to the Texas Treasury Safekeeping Trust Company and the payment of a fee for management of the asset.

MOTION:

On a motion made by Dr. Rosenfeld and seconded by Dr. Cummings, the Oversight Committee unanimously voted to approve the resolution transferring management and disposition authority for OncoNano Medicine to the Texas Treasury Safekeeping Trust Company and for the payment of a fee.

Internal Auditor Report – Agenda Item 12, Tab 9

Presiding Officer Margo recognized Dan Graves, a partner with Weaver & Tidwell, CPRIT's internal audit contractor. Mr. Graves updated the members on status of current internal audit activities. He noted that Weaver closed the *Internal Audit Follow-Up Procedures over State Reporting* and reported that CPRIT had fully remediated the findings from the original audit. He explained that issues arising from the COVID-19 pandemic delayed several audits when the agency converted to full-time telework.

Mr. Graves presented a summary of the FY 2021 and 2022 internal audit plans. He also noted that the State Auditor's Office (SAO) issued guidance for the FY 2020 annual internal audit report on August 13. He indicated that Weaver would present the report at the next Oversight Committee meeting. CPRIT will submit it to the SAO, Legislative Budget Board and Governor's Office in November.

MOTION:

On a motion made by Mr. Montgomery and seconded by Dr. Rice, the Oversight Committee unanimously voted to approve the *Internal Audit Follow-Up Procedures Report over State Reporting*.

MOTION:

On a motion made by Dr. Cummings and seconded by Dr. Rice, the Oversight Committee unanimously voted to approve the FY 2021 Internal Audit Plan.

Scientific Research and Prevention Program Committee Appointments – Item 13, Tab 10

Presiding Officer Margo recognized Mr. Roberts to discuss his appointment of Clark Chen, Ph.D., M.D., to CPRIT's Scientific Research and Prevention Program Committees.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve the appointment of Dr. Chen to CPRIT's Scientific Research and Prevention Program Committees.

FY 2021 Honoraria Policy - Agenda Item 14, Tab 11

Presiding Officer Margo recognized Mr. Roberts to present CPRIT's FY 2021 Honoraria Policy. Mr. Roberts explained that CPRIT revised the FY 2021 honoraria policy to reflect the workload changes for Review Council members due to the continuing effects of the COVID-19 pandemic. Although the proposed FY 2021 honoraria payment structure remains the same as approved for FY 2020, he noted that CPRIT projects an estimated \$500,000 reduction in overall peer review costs in FY 2021 due to the Academic Research and Product Development Research programs each holding one cycle of review instead of two cycles.

MOTION:

On a motion made by Dr. Rosenfeld and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve CPRIT's FY 2021 Honoraria Policy.

Health & Safety Code Section 102.1062 Waivers – Agenda Item 15, Tab 12

Presiding Officer Margo recognized Mr. Roberts to present the Health & Safety Code § 102.1062 waivers. He presented four proposed waivers for FY 2021 for Don Brandy, Dr. John Hellerstedt, Dr. Jim Willson, and a standing waiver for review council members under the specific circumstances described in the waiver. Mr. Roberts explained that the waivers are the same as ones previously approved by the Oversight Committee for FY 2020.

MOTION:

On a motion made by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve the four proposed Health and Safety Code Section 102.1062 waivers.

Amendments to 25 T.A.C. Chapter 703 – Item 18, Tab 14

Presiding Officer Margo recognized CPRIT assistant general counsel Cameron Eckel to present the proposed rule change. Ms. Eckel reviewed the proposed rule change relating to budget transfer and change requests by grantees.

MOTION:

On a motion by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve the publication of the proposed change to Texas Administrative Code Chapter 703 in the *Texas Register*.

Chief Operating Officer Report – Agenda Item 17, Tab 14

Presiding Officer Margo recognized Chief Operating Officer Heidi McConnell to present the Chief Operating Officer's Report. Ms. McConnell reviewed the FY 2021 operating budget and explained

the \$2.5 million transfer to move money from the Award Research Grants budget line item to the Grant Review and Award Operations budget line item to support the FY 2021 \$2 million increase to the budgeted base grant management support contract with GDIT, ongoing increased honoraria costs for the peer review councils, and an interagency contract with the Texas Treasury Safekeeping Trust Company for grant asset management services. She noted that the Legislative Budget Board must approve the transfer between budget line items.

Contract Approvals – Agenda Item 22, Tab 18

Presiding Officer Margo recognized Ms. McConnell to present the contract approvals. She reviewed the seven contracts requiring approval by the Oversight Committee. Ms. McConnell noted that the Office of the Attorney General must approve the outside legal services contract renewals prior to contract execution and that the contract with Weaver & Tidwell will require the State Auditor's Office to provide audit delegation authority to CPRIT prior to contract execution. She reiterated that CPRIT will include the interagency contract with the Texas Treasury Safekeeping Trust Company contract in a letter to be sent to the Legislative Budget Board requesting authority to transfer the funds between agency budget line items to support the contract .

MOTION:

On a motion by Dr. Cummings and seconded by Dr. Rice, the Oversight Committee unanimously voted to approve the contracts with ICON Clinical Research, Hahn Public Communications, Baker Botts, Yudell Isidore, The Perryman Group, Weaver and Tidwell, and the Texas Treasury Safekeeping Trust Company.

Communications Report – Agenda Item 19, Tab 16

Presiding Officer Margo recognized Senior Communications Specialist Chris Cutrone to present the communications update. Mr. Cutrone provided a brief overview of media highlights from the last quarter and a summary of current Communications projects and social media statistics. There were no questions for Mr. Cutrone.

Subcommittee Business – Agenda Item 23

Presiding Chair Margo presented the proposed subcommittee assignments.

MOTION:

On a motion by Dr. Rice and seconded by Mr. Montgomery, the Oversight Committee unanimously voted to approve the new subcommittee assignments for FY 2021.

Compliance Investigation Pursuant to Health & Safety Code § 102.2631 – Agenda Item 21 Consultation with General Counsel – Agenda Item 22

The Oversight Committee did not take up these two items.

Future Meeting Dates and Agenda Items – Agenda Item 23, Tab 18

Presiding Officer Margo presented the proposed dates for the Oversight Committee’s regular quarterly meetings and subcommittee meetings in FY 2021. The next regular Oversight Committee meeting will occur on November 18, 2020, by videoconference.

MOTION:

On a motion by Dr. Rice and seconded by Dr. Hernandez, the Oversight Committee unanimously voted to approve the FY 2021 meeting dates for the regular meetings of the Oversight Committee and its subcommittees.

Adjournment – Agenda Item 24

MOTION:

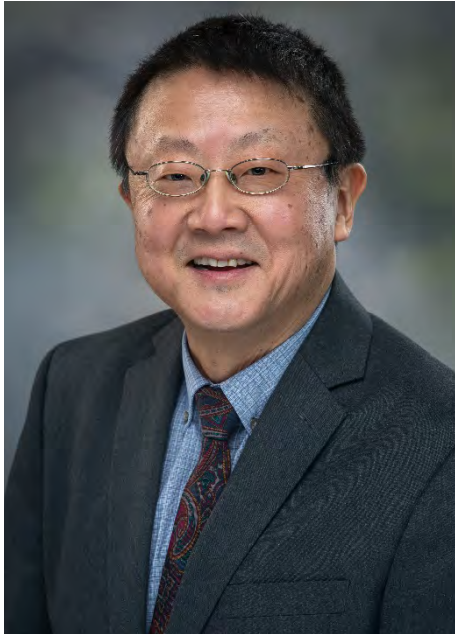
There being no further business, the Oversight Committee unanimously voted to approve a motion to adjourn made by Presiding Officer Margo and seconded by Mr. Montgomery.

Meeting adjourned at 11:08 a.m.

Signature

Date

Patrick Sung, Ph.D.



Professor, Biochemistry & Structural Biology, The University of Texas Health Sciences Center San Antonio

Cancer biologist Patrick Sung was among the first to understand the roles of BRCA1 and 2 in DNA repair, and now that he is at The University of Texas Health Sciences Center San Antonio, he is translating that knowledge into better clinical care for patients.

Sung was recruited back to Texas in 2019 from Yale University School of Medicine with a Recruitment of Established Investigator Award from CPRIT. He joined the faculty as Professor of Biochemistry and Structural Biology, Associate Dean for Research and the Robert A. Welch

Distinguished Chair of Biochemistry. He also serves as co-leader of the Cancer Development and Progression Program in the National Cancer Institute–designated Mays Cancer Center.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: **Sung, Patrick**

eRA COMMONS USER NAME (credential, e.g., agency login): **patsung**

POSITION TITLE: **Professor, Biochemistry & Structural Biology**

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Liverpool	B.Sc.	05/1981	Biochemistry
Oxford University	D/ Phil.	03/1985	Biochemistry
University of Rochester	Postdoctoral	06/1993	Genetics & Biochemistry

A. Personal Statement As a doctoral student at Oxford University, I received training in protein biochemistry and enzymology while focusing on the role of the vitamin K-dependent carboxylase in blood coagulation. My training at Oxford has enabled me to make significant contributions toward delineating the mechanisms of conserved DNA repair pathways. Notably, when I was a postdoctoral fellow at the University of Rochester, I identified the biochemical properties of several key factors that function in nucleotide excision repair (NER), some of which play a dual role in RNA polymerase II transcription. Since establishing my own laboratory in 1993, I have maintained a strong commitment toward understanding how cells engage homologous recombination (HR) as tool in eliminating DNA breaks and crosslinks. The efficiency of HR catalyzed by the RAD51 recombinase is regulated by the tumor suppressors BRCA1, BARD1, BRCA2, PALB2, and BLM and by components of the Fanconi anemia (FA) pathway of DNA damage response/repair in humans, providing compelling evidence for a key role of HR in cancer avoidance. Our studies have already led to many original findings and provided much-needed conceptual and experimental frameworks for the continual dissection of HR and FA mechanisms. To date, I have published 280 articles, with 234 of them being original research papers. According to Scopus, my *h-index* is 77 with >20,250 citations. I have played a leading role in teaching, advising, and mentoring undergraduate and graduate students at Yale University and the University of Texas. Many of my former trainees are now academic faculty in the United States and abroad, and several are already tenured.

1. Sung P. (1994) Catalysis of ATP-dependent homologous DNA pairing and strand exchange by yeast RAD51 protein. **Science** 265:1241-1243.
2. Tarsounas, M and Sung, P. (2020) The antitumorigenic roles of BRCA1-BARD1 in DNA repair and replication. **Nature Rev. Mol. Cell. Biol.** doi: 10.1038/s41580-020-0218-z.

B. Appointments

1993-1997 **Assistant Professor**, University of Texas Medical Branch, Galveston.
 1997-2001 **Associate Professor**, University of Texas Health Science Center at San Antonio (UTHSCSA).
 2001-2003 **Professor**, Department of Molecular Medicine, UTHSCSA.
 1997-2001 **Chair**, Graduate Program in Molecular Medicine, UTHSCSA.
 2010-2013 **Co-director** (with Alan Tomkinson), NCI-sponsored predoctoral and postdoctoral "Training Program in DNA Repair".
 2001-2003 **Deputy Chair**, Department of Molecular Medicine, UTHSCSA
 2002-2003 **Zachry Distinguished Professor of Molecular Medicine**, UTHSCSA
 2003-2018 **Professor**, Department of Molecular Biophysics & Biochemistry, Yale University
 2006-2012 **Co-leader**, Yale Cancer Center Radiation Biology and Radiotherapy Program

2015- **Instructor in charge**, MB&B/MCDB 105b, "Issues Approach to Biology"; this is introductory biology course with an enrollment of >100 Yale undergraduates.

2007-2009 **Vice Chair**, Department of Molecular Biophysics & Biochemistry, Yale University

2009-2015 **Chair** (two 3-year terms), Department of Molecular Biophysics & Biochemistry, Yale University

2019 - **Professor & Chair (Interim)**, Department of Biochemistry & Structural Biology, UTHSCSA

2018 (Sept) - **Robert A. Welch Distinguished Chair in Chemistry**, UTHSCSA

2018 (Sept) - **Scholar of the Cancer Prevention and Research Institute of Texas (CPRIT)**, UTHSCSA

2018 (Sept) - **Co-leader**, Cancer Development and Progression Program, Mays Cancer Center, UTHSCSA

Professional Activities & Honors:

2000-2008 **Editor**, "DNA and Chromosome Dynamics" section, *Molecular & Cellular Biology*

2004- **Associate Editor**, *Genes to Cell*

1998-2000 **Member**, Editorial Board of *Molecular & Cellular Biology*.

2001- **Member**, Editorial Board of *DNA Repair*

2003- **Member**, Editorial Board of *Genes & Development*

2013-2014 **Member**, Editorial Board of *J. Biol. Chem.*

2014- **Associate Editor**, "DNA and Chromosomes" section, *J. Biol. Chem.*

2000-2003 **Charter Member**, NIH Radiation Biology (RAD) Study Section

2003-2004 **Charter Member**, NIH Radiation Therapeutics and Biology (RTB) Study Section

2003-2004 **Member**, NIH Cell Development and Function 2 (CDF2) Special Emphasis Panel

2006-2008 **Charter Member**, NIH Cancer Etiology (CE) Study Section

2008-2010 **Chair**, NIH Cancer Etiology (CE) Study Section

2012- **Ad hoc assignments** (as member or chair) on various NIH grant reviewing panels, such as the Cancer Etiology and Molecular Genetics B study sections, and the NCI Outstanding Investigator Award reviewing panel.

1999 **Ray Wu Award in Basic Research**, Society for Chinese Bioscientists in America.

2010 **William H. Bell lectureship**, Oklahoma Medical Research Foundation

2013 **Chair of Nominations Committee**, Society for Chinese Bioscientists in America

American Society for Biochemistry and Molecular Biology, Co-chair (with Carol Fierke of the University of Michigan), Annual Meeting of the Society in Boston.

2014 **Distinguished Lecturer**, Cancer Institute of New Jersey

2014 **Elected Member**, The Connecticut Academy of Science and Engineering

2017 **Member**, National Advisory Environmental Health Sciences Council, NIH

2016 **Keynote Speaker**, Annual Graduate Student Symposium, New York Medical College

2018 **Keynote Speaker**, UNIST Symposium on Genome Integrity & Cell Cycle, Busan, Korea.

2019 **Keynote Speaker**, CINVESTAV Science Days, Irapuato, Mexico

2020 **Keynote Speaker**, Cold Spring Harbor Asia Meeting on DNA Metabolism, Genome Stability , and Human Disease. Suzhou, China.

2018 **Mendel Lecture**, the International Clinical Research Center of St. Anne's University, Brno, the Czech Republic. Supported by the European Union's ICRC-ERA-HumanBridge project.

2018 **Yale Cancer Center Conclave (Basic Science) Award**

2018 **Distinguished Lectureship**, Institute of Biosciences & Biotechnology, Texas A&M Health Science Center

2019 **National Cancer Institute Outstanding Investigator Award**

1993- **Regular Reviewer** for *Genes & Dev.*, *J. Biol. Chem.*, *PNAS*, *Science*, *Cell*, *Molecular Cell*, *Cell Rep.*, *Nature*, *Nature Struct. & Mol. Biol.*, *Nature Genetics*, *Nature Cell Biol.*, *Nature Comm.*, *PLOS Genetics*, *PLOS Biol.*, *EMBO J*, etc.

C. Contribution to Science. Radiation, chemicals, and obstacles that impede DNA replication induce DNA double-strand breaks (DSBs). Failure to remove these breaks leads to cell death, genetic mutations, gross chromosome rearrangements, and to cell transformation and cancer in mammals. Homologous recombination (HR) represents a major, conserved tool for the elimination of DSBs. Moreover, programmed HR events in meiosis produce chromosome arm crossovers that tie the homologous chromosome pairs, to prepare them for proper disjunction in the first meiotic cell division. HR entails several mechanistically distinct steps, namely, nucleolytic DNA end resection, assembly of a helical recombinase protein filament on ssDNA derived from resection, DNA strand invasion, repair DNA synthesis, and resolution of DNA intermediates to yield recombinants of distinct types. Moreover, HR is subject to tight control to minimize genome alterations and rearrangements. Below, I document some of the contributions my laboratory has made in understanding the mechanisms of the HR machinery [and](#) its regulation in eukaryotic cells since becoming faculty in 1993.

1. DNA End Resection in Homologous Recombination

Starting from a DSB, HR entails the 5' to 3' nucleolytic resection of the DNA ends to yield ssDNA tails, which then serve as the substrate to recruit the Rad51 recombinase and associated factors. The genetic requirement of DNA end resection was first defined in *S. cerevisiae* by the Symington, Ira, and Jackson laboratories. With highly purified *S. cerevisiae* and human factors, we have devised reconstituted systems to examine how end resection is mediated by protein complexes encompassing the DNA helicase Sgs1/BLM, the nuclease Dna2, and the ssDNA binding protein RPA (**a, d**). Moreover, how the yeast Mre11-Rad50-Xrs2 complex and the Top3-Rmi1 (Topo III α -RMI in humans) complex influence the efficiency of the resection reaction has been defined (**a, b**). Genetics studies in yeast have revealed that little resection of DSBs occur in G1 cells, and that end resection in the S and G2 phases requires the action of cyclin-dependent kinase (Cdk1). In collaboration with Greg Ira's group at Baylor, we have shown Cdk1-dependent phosphorylation of Dna2 in yeast cells and that this serves to recruit Dna2 to DSBs (**b**). Moreover, we have provided mechanistic evidence to explain the role of the DNA helicase activity of Dna2 in resection (**c**). The experimental systems that we have devised will be invaluable for dissecting the action mechanisms of enzymes and protein ensembles concerned with DNA end resection.

a. Niu, H, Chung, W.H., Zhu, Z., Kwon, Y.H., Zhao, W.X., Chi, P., Prakash, R. Seong, C.H., Liu, D.Q., Lu, L., Ira, G. and Sung, P. (2010) Mechanism of the ATP-dependent DNA Double-stranded Break Resection Machinery from *S. cerevisiae*. **Nature** 467:108-11. PMID: PMC2955862

b. Chen, X.F., Niu, H.Y., Chung, W.H., Zhu, Z., *Sung, P. and Ira, G. (2011) Cell cycle regulation of double-strand break end resection by Cdk1-dependent Dna2 phosphorylation. **Nature Struct. Mol. Biol.** 18:1015-9. *Sung is a corresponding author. PMID: PMC3168961

c. Miller AS, Daley JM, Pham NT, Niu H, Xue X, Ira G, Sung P. (2017) A novel role of the Dna2 translocase function in DNA break resection. **Genes & Development** 31:503-510. PMID: PMC5393064

d. Daley, JM, Tomimatsu, N, Hooks, G, Wang, WB, Miller, AS, Xue, XY, Nguyen, KA, Kaur, H, Williamson, W, BMukherjee, B, Hromas, R, Burma, S, and Sung, P. (2020) Specificity of End Resection Pathways for Double-Strand Break Regions Containing Ribonucleotides and Base Lesions. **Nature Communications**, 11:3088. PMID: PMC7303207

2. Action Mechanism of the Conserved Recombinases RAD51 and DMC1.

During HR, a recombinase enzyme (Rad51 in mitotic cells; Rad51 or Dmc1 in meiotic cells) polymerizes on the ssDNA tails derived from DNA end resection to form a right-handed, helical filament referred to as the "presynaptic filament". The presynaptic filament engages duplex DNA and is responsible for conducting the three-dimensional search process that results in the location of a homologous target in the latter. Once homology is located, DNA strand invasion occurs, to create a nascent heteroduplex DNA joint called the displacement loop, or "D-loop". The ensemble of recombinase filament and the three-stranded DNA structure is called the synaptic complex (see **Section 4**). Our studies have been instrumental in uncovering the recombinase activity in Rad51 and Dmc1 and defining their salient attributes (**a-c**). Moreover, in collaboration with Eric Greene's group at Columbia, single molecule analyses employing nanofabricated DNA curtains coupled with total internal reflection fluorescence microscopy, mechanistic details of the DNA homology search and homologous DNA pairing processes are being elucidated (**d**).

a. Sung P. (1994) Catalysis of ATP-dependent homologous DNA pairing and strand exchange by yeast RAD51 protein. **Science** 265:1241-1243.

b. Sung P. and Robberson D. (1995) DNA strand exchange mediated by a RAD51-ssDNA nucleoprotein filament with polarity opposite to that of RecA. **Cell** 82:453-461.

c. Sehorn, M.G. Sigurdsson, S., Bussen, W., Unger, V.M. and Sung, P. (2004) The Human Meiotic Recombinase Dmc1 Promotes ATP-dependent Homologous DNA Strand Exchange. **Nature** 429:433-37.

d. Lee JY, Terakawa T, Qi Z, Steinfeld JB, Redding S, Kwon Y, Gaines WA, Zhao W, Sung P, and Greene EC. (2015) Base triplet stepping by the Rad51/RecA family of recombinases. **Science** 349:977-81. PMID: PMC4580133

3. Recombination Mediators that Promote Rad51 Presynaptic Filament Assembly.

Owing to its abundance and high affinity for ssDNA, Replication Protein A (RPA) promptly engages the DNA tails stemming from DSB resection. The bound RPA molecules must be displaced to allow for the assembly of the Rad51 presynaptic filament. The handoff from RPA to Rad51 is facilitated by specific "recombination mediators". In *S. cerevisiae*, Rad52 protein functions in conjunction with a group of Rad51-related proteins, called the Rad51 paralogs, to nucleate Rad51 onto RPA-coated ssDNA to seed the assembly of the presynaptic filament (**a, d**). However, RAD52 plays only a subsidiary role in RAD51 presynaptic filament assembly in human cells. Instead, the tumor suppressor BRCA2 has assumed the functional role of yeast Rad52 in presynaptic filament assembly.

BRCA2 synergizes with the small acidic protein DSS1 in the mediation of RPA-RAD51 exchange on the ssDNA substrate (**d**), and emerging evidence has implicated the RAD51 paralogs in the BRCA2-dependent pathway of RAD51 presynaptic filament assembly.

- a. Sung, P. (1997) Function of yeast Rad52 protein as a mediator between replication protein A and the Rad51 recombinase. **J. Biol. Chem.** 272:28194-97.
- b. Sung, P. (1997) Yeast Rad55 and Rad57 proteins form a heterodimer that functions with replication protein A to promote DNA strand exchange by Rad51 recombinase. **Genes & Development** 11:1111-21.
- c. Sigurdsson S, Van Komen S, Bussen W, Schild D, Albala JS, and Sung P. (2001) Mediator function of the human Rad51B-Rad51C complex in Rad51/RPA-catalyzed DNA strand exchange. **Genes & Development** 15:3308-18.
- d. Zhao WX, Vaithiyalingam S, San Filippo J, Fontenay GV, Kwon YH, Jimenez-Sainz J, Lu, L, Jensen RB, Chazin WJ, Wiese C, Sung P. (2015) Promotion of BRCA2-dependent Homologous Recombination by DSS1 via RPA Targeting and DNA Mimicry. **Molecular Cell**, 59:176-87. PMID: PMC4506714 *Our paper is featured on the Journal Cover.

4. HR Factors that Facilitate DNA Strand Invasion

Work done by us has contributed to the definition of two distinct classes of factors that enhance DNA strand invasion mediated by Rad51 and/or Dmc1. Factors belonging to the first class have a requirement for ATP hydrolysis in their action, and are aptly represented by the *S. cerevisiae* RAD54-encoded protein that geneticists in the field have shown to be indispensable for HR in both mitotic and meiotic cells. Rad54 physically interacts with Rad51 and Dmc1 and, at the expense of ATP hydrolysis, translocate on dsDNA. This DNA translocase activity generates supercoiled domains in the DNA, and the negative supercoils that accumulate can lead to DNA strand opening to facilitate the efficiency of Rad51-mediated DNA strand invasion (**a**, **b**). Factors of the second category, e.g. RAD51AP1-UAF1 and the tumor suppressors BRCA1-BARD1 and PALB2, work by physically interacting with the recombinase presynaptic filament, helping capture the incoming duplex DNA, and facilitating the DNA homology search process. We have termed the three-stranded nucleoprotein ensemble harboring the presynaptic filament and these enhancer proteins the “synaptic complex” **c**, **d**). Our studies provide the experimental framework for defining the functional relation among the aforementioned factors.

- a. Petukhova G, Stratton S, and Sung P. (1998) Catalysis of homologous DNA pairing by yeast Rad51 and Rad54 proteins. **Nature** 393: 91-94.
- b. Crickard JB, Moevus CJ, Kwon Y, Sung P, Greene EC. (2020) Rad54 drives ATP hydrolysis dependent sequence alignment during homologous recombination. **Cell**, 181:1380-1394. PMID: PMC7418177
- c. Dray, E, Etchin J, Wiese C, Saro D, Williams G, Hammel M, Yu X, Galkin VE, Liu D, Tsai MS, Sy S, Schild D, Egelman E, Chen JJ, and Sung P. (2010) Enhancement of the RAD51 Recombinase Activity by the Tumor Suppressor PALB2. **Nature Struct. Mol. Biol.** 17:1255-9. PMID: PMC2950913
- d. Zhao W, Steinfeld JB, Liang FS, Chen XY, Maranon DG, Ma CJ, Kwon YH, Rao T, Wang WB, Sheng C, Song XM, Deng YH, Jimenez-Sainz J, Lu L, Jensen RB, Xiong Y, Kupfer GM, Wiese C, Greene EC, Sung P. (2017) Promotion of RAD51-mediated homologous DNA pairing by BRCA1-BARD1. **Nature**, 550:360-365.

5. Helicases that Function in Repair DNA Synthesis or Regulation of Crossover Formation

Our studies have made important contributions toward deciphering the mechanistic underpinnings of the repair DNA synthesis reaction and the mechanisms by which HR-mediated DNA break repair is regulated to favor the formation of non-crossover recombinants to avoid deleterious chromosome rearrangements. Others found that DNA synthesis initiated from the primer end in the Rad51-made D-loop is catalyzed by DNA polymerase δ , and our collaborative work with Greg Ira's group led to the identification of the conserved helicase Pif1 in helping drive Pol δ -mediated repair synthesis via a migrating D-loop mechanism (**a**). Also in collaboration with the Ira group, we have discovered a remarkable attribute of the Mph1 helicase in dissociating D-loops made by Rad51, thus providing a satisfactory explanation for the anti-crossover role of this conserved helicase (**b**). Our collaborative studies with the Klein group and Guangbin Luo's laboratory (Case Western Reserve University) have shed mechanistic light on the anti-recombinase activity of the Srs2 and the human RECQ5 helicases, by revealing their ability to dismantle the presynaptic filament (**c**, **d**).

- a. *Wilson MA, #Kwon Y, Xu Y, Chung WH, Chi P, Niu H, Mayle R, Chen X, Malkova A, *Sung P, Ira G. Pif1 helicase and Pol δ promote recombination-coupled DNA synthesis via bubble migration. (2013) **Nature**, 502:393-6. #Wilson of the Ira group and Kwon of the Sung laboratory contributed equally. *Sung is a corresponding author. PMID: PMC3915060
- b. Prakash R, Satory D, Dray E, Papusha A, Scheller J, Kramer W, Krejci L, Klein H, Haber JE, *Sung P, Ira G.

(2009) Yeast Mph1 helicase dissociates Rad51-made D-loops: implications for crossover control in mitotic recombination. **Genes & Develop.** 23:67-79. *Sung is a corresponding author. PMID: PMC2632165

c. Krejci L, Van Komen S, Li Y, Villemain J, Reddy MS, Klein H, Ellenberger T, Sung P. (2003) DNA helicase Srs2 disrupts the Rad51 presynaptic filament. **Nature**, 423:305-9.

d. #Hu Y, #Raynard S, Sehorn MG, Lu X, Bussen W, Zheng L, Stark JM, Barnes EL, Chi P, Janscak P, Jasin M, Vogel H, *Sung P, Luo G. (2007) RECQL5/Recql5 helicase regulates homologous recombination and suppresses tumor formation via disruption of Rad51 presynaptic filaments. **Genes & Develop.** 21:3073-84. #Hu of the Luo group and Raynard of the Sung laboratory contributed equally. *Sung is a corresponding author. PMID: PMC2081974

Complete List of Published Work in MyBibliography:

<http://www.ncbi.nlm.nih.gov/sites/myncbi/patrick.sung.1/bibliography/40712342/public/?sort=date&direction=ascending>

D. Research Support

5RO1 ES007061-21 Sung (PI) 07/01/2016-6/30/2021

DNA Repair Genes and Proteins of the RAD52 Group

We will continue to define the hierarchy of physical and functional interactions among the RAD51 recombinase and RAD51 paralogs of the homologous recombination machinery in the budding yeast *Saccharomyces cerevisiae*.

5RO1 CA168635-09 (MPI) Sung & Kupfer (PIs) 03/01/2017-02/28/2022

Mechanistic Dissection of the Fanconi Anemia Pathway of DNA Damage Response

Role in Project: Co-PI with Gary Kupfer

We will use a combination of genetics and biochemistry to delineate the functional significance of the FANCI-FANCD2 complex in the Fanconi anemia pathway of DNA damage response and repair.

5R35 CA241801-02 Sung (PI) 09/01/2019-08/31/2026

Chromosome Damage Repair via the BRCA1/2 Axis

In this NCI Outstanding Investigator Project, a combination of biochemistry, cell-based approaches, biophysics and structural biology will be applied to continue dissecting the mechanisms of BRCA1/2-dependent chromosome damage repair that is mediated by the RAD51 recombinase and its cohort of accessory factors including nucleases, DNA helicases, and DNA polymerases. We will apply knowledge gained for isolating lead chemical compounds to use as chemical biology tools and for preclinical studies.

5PO1 CA92584-19 John Tainer (PI) 09/01/2016-08/31/2021

Structural Cell Biology of DNA Repair Machine

Role in Project: Leader of Project 3

Project 3 of this program project will employ structural (SAXS, X-ray crystallography, and NMR) approaches to address the mechanism of action of protein complexes in homologous recombination reactions in human cells, with a specific focus on the BRCA2-associated acidic protein DSS1 and on the multi-functional DNA repair protein XPG.

5R01 CA221858-01 Eric Greene (PI) 02/01/2020-01/31/2025

Defining the contributions of BRCA1, BRCA2 and RAD52 to genome stability

Role in Project: Subcontract PI

The Sung laboratory will construct fluorescently tagged HDR proteins, test them for biological activity in vitro. Then, the Greene laboratory at Columbia will study these tagged HDR factors for their ability to promote the assembly of RAD51 presynaptic filaments on ssDNA, to help maintain presynaptic filament stability, and to protect the presynaptic filaments against the disruptive action of anti-recombinases such as RECQ5 and FBH1.

Gray Foundation - Bassett BRCA Initiative Patrick Sung (PI) 07/01/2019-6/30/2023

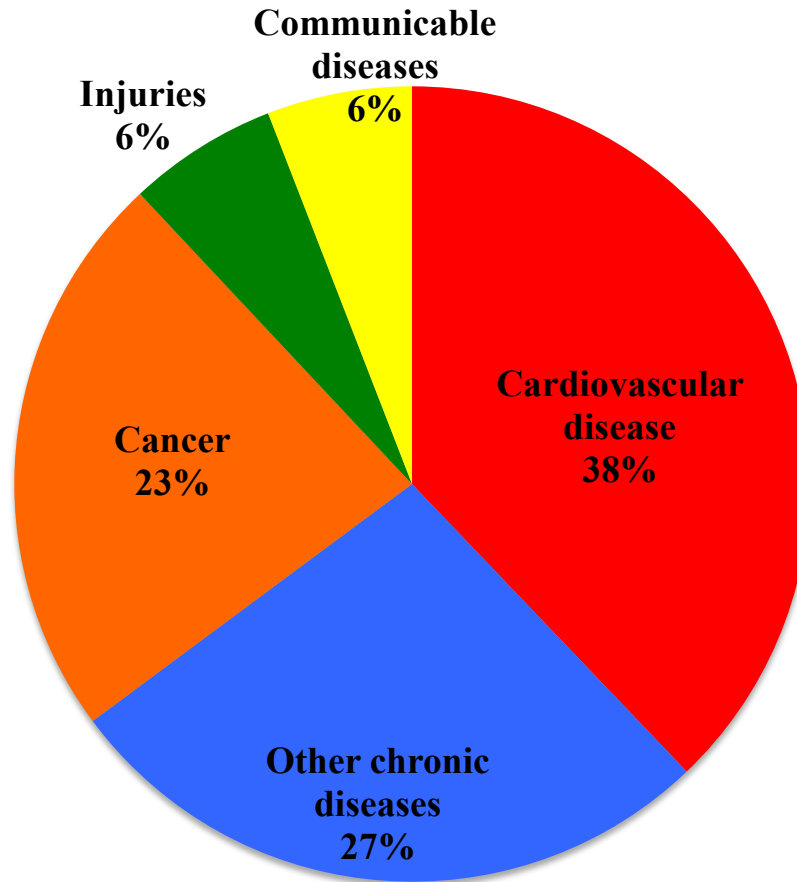
Dissection of BRCA-mediated Tumor Suppression Pathways

In this Team Science Project with Roger Greenberg (Penn Medicine) Dipanjan Chowdhury, and Alan D'Andrea, (Dana Farber Cancer Institute), we will identify key regulators of the canonical BRCA1/2-dependent DNA break repair pathway and define the non-canonical pathways of break repair and elucidate mechanisms of action by genetics, cell biology, biochemistry, and structural biology and ovarian tumor organoids.

DNA Repair, Chromosome Stability, and Cancer

**Patrick Sung, D. Phil.
Biochemistry & Structural Biology
UT Health San Antonio**

Cancer is a leading cause of death



- **Cancer accounts for nearly 1 of 4 deaths**
- **In 2019, more than 1,640 people a day died from cancer in the United States (CDC)**

Cancer can be caused by:

DNA damage, mutations & chromosome instability

Viruses & bacteria

Changes in hormone levels and types

Obesity & chronic inflammation

DNA damage is induced continuously by radiation, chemicals in our environment, and reactive metabolites.

Still, mutations & chromosome aberrations seldom arise – why?

Our genetic material is kept intact by DNA repair!

DNA damage and repair

DNA DAMAGING AGENTS

Ionizing radiation
X-rays
Anti-tumor drugs

UV-light
chemicals

DNA LESIONS

Double strand breaks
Single strand breaks
Intrastrand crosslinks
Interstrand crosslinks

Bulky adducts
Pyrimidine dimers

DNA REPAIR PATHWAYS

Non Homologous
End Joining (NHEJ)

Homologous
Recombination (HR)

Nucleotide
Excision
Repair (NER)

~1,000,000 lesions per cell per day

Oxygen radicals
Hydrolysis
Alkylating agents

Replication
errors

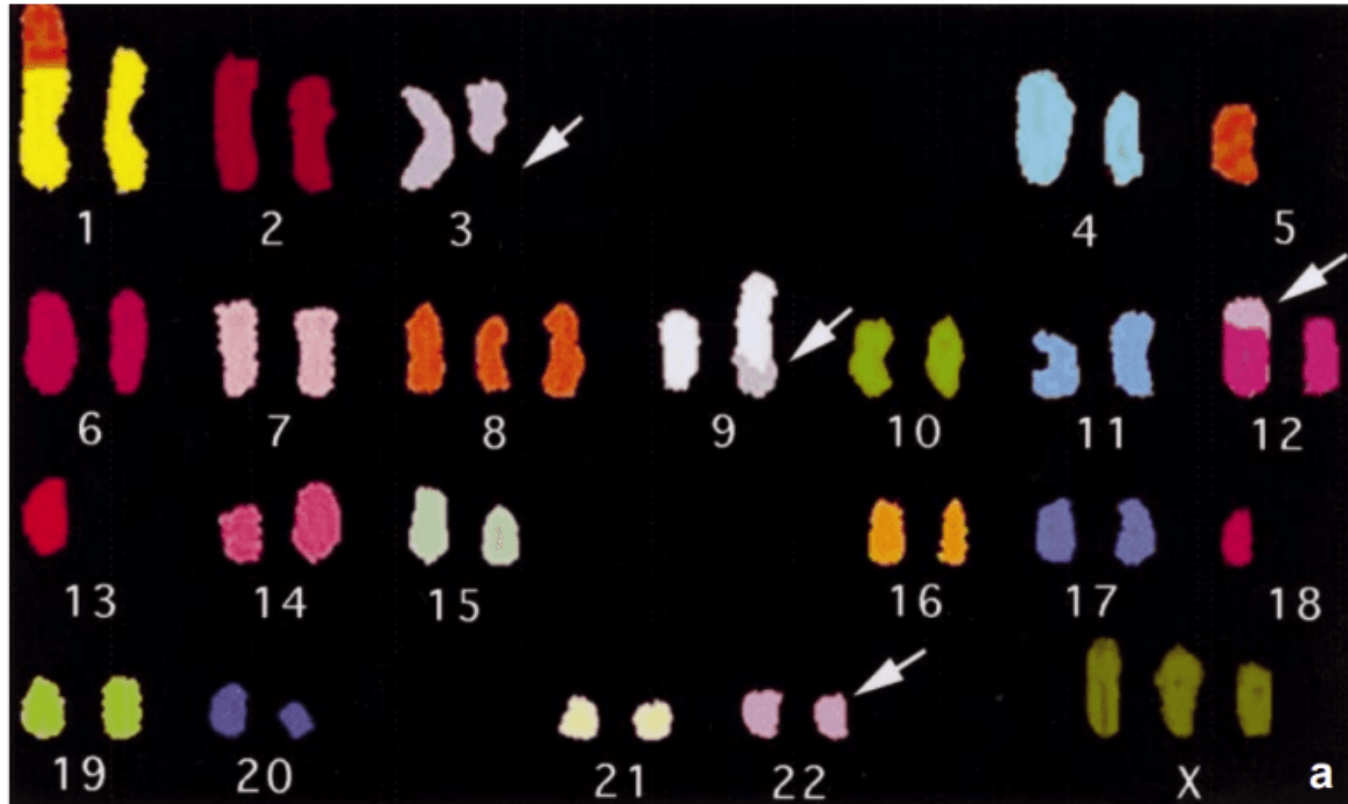
Abasic sites
Single strand breaks
8-oxoguanine lesions

Bases mismatch
Insertions
Deletions

Base Excision
Repair (BER)

Mismatch
Repair (MMR)

Chromosome aberrations in cancer



Human cells have 22 pairs of chromosomes plus one pair of sex chromosomes = **karyotype**

DNA Repair Mechanisms

Double-strand break repair

Nucleotide excision repair

DNA mismatch repair

Base Excision Repair

DNA Crosslink Repair

Replication Fork Repair

Transcriptional-coupled Repair

Resolution of R-loops

Translesion DNA Synthesis

DNA single-strand Break Repair

Mitochondrial repair pathways

****DNA damage checkpoints***

****Apoptosis***

DNA Double-strand Breaks

- High energy radiation (X-ray & ionizing radiation)
- Cancer drugs, e.g. platinum salts, topoisomerase inhibitors.....
- When DNA is being replicated
- Intermediate of DNA repair reactions



BRCA1 (BReast CAncer 1) Gene, was
identified by **Mary Claire King**

Recipient of the **National Medal of
Science** and **Lasker-Koshland Award**

BRCA1 and BRCA2 play a crucial role in
DNA Double-strand Break Repair

BRCA Gene Mutations and Cancer Risk

Cancer Type	General Population Risk	Risk for Malignancy	
		<i>BRCA1</i>	<i>BRCA2</i>
Breast	12%	46%-87%	38%-84%
Ovarian	1%-2%	39%-63%	16.5%-27%
Male breast	0.1%	1.2%	Up to 8.9%
Prostate	6% through age 69	8.6% by age 65	15% by age 65 20% lifetime
Pancreatic	0.50%	1%-3%	2%-7%

Petrucelli et al, 2016 GeneReviews



"My doctors estimated that I had an 87% risk of breast cancer and a 50% risk of ovarian cancer."

Double mastectomy and oophorectomy to reduce the risk of breast and ovarian cancer

SCIENCE • VOL. 265 • 26 AUGUST 1994

Catalysis of ATP-Dependent Homologous DNA Pairing and Strand Exchange by Yeast RAD51 Protein

Patrick Sung

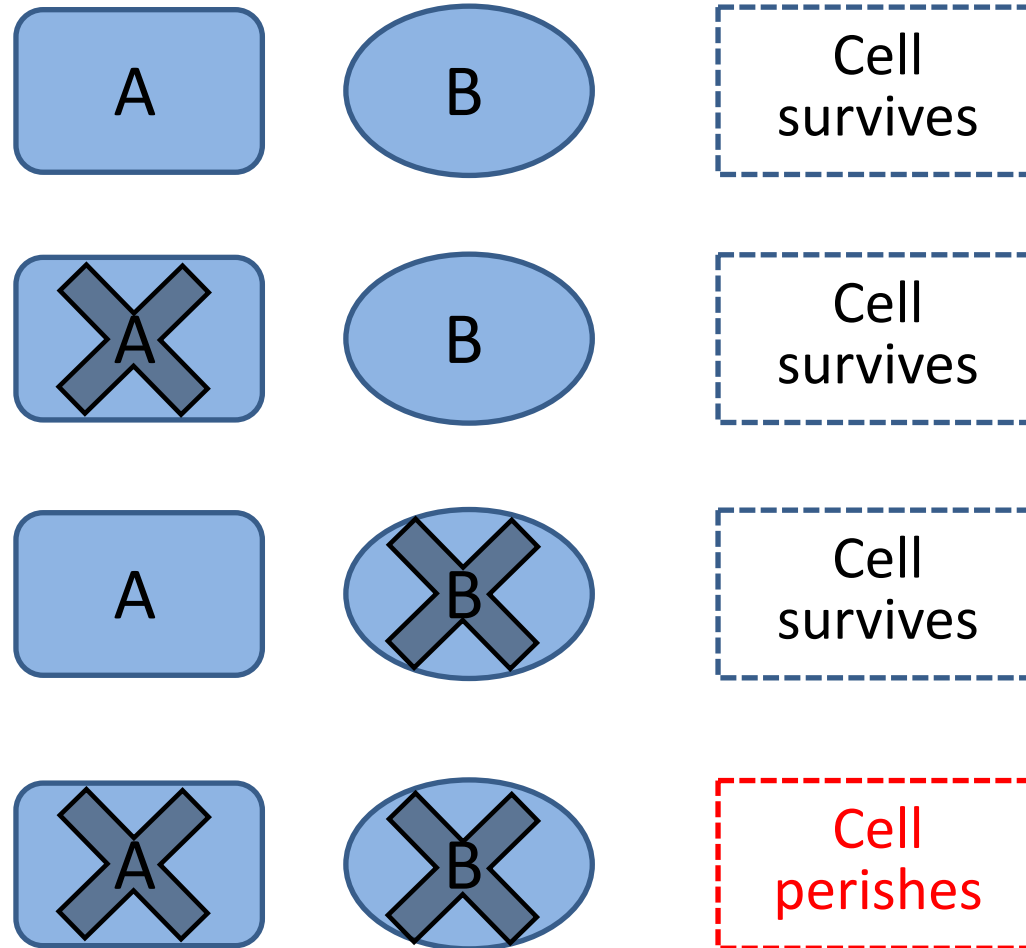
| NATURE | VOL 550 | 19 OCTOBER 2017

BRCA1–BARD1 promotes RAD51– mediated homologous DNA pairing

Weixing Zhao¹, Justin B. Steinfeld², Fengshan Liang^{1,3,4}, Xiaoyong Chen^{3,4}, David G. Maranon⁵, Chu Jian Ma², Youngho Kwon¹,
Timsi Rao¹, Weibin Wang¹, Chen Sheng^{1,†}, Xuemei Song⁶, Yanhong Deng⁶, Judit Jimenez-Sainz⁷, Lucy Lu¹, Ryan B. Jensen⁷,
Yong Xiong¹, Gary M. Kupfer^{3,4}, Claudia Wiese⁵, Eric C. Greene² & Patrick Sung^{1,7}

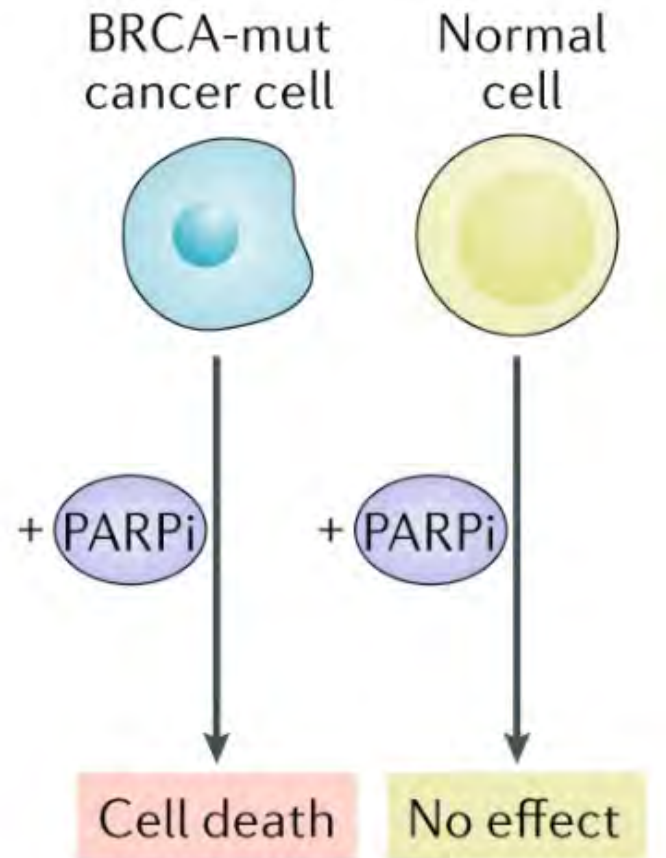
Principle Behind Drug Development Effort

Concept of Synthetic Lethality



Action of DNA Repair Inhibitors in Cancer Treatment

PARPi are DNA repair inhibitors



Huang A. et al., Nat Rev Drug Discov. 2019

Our Goals at UT Health San Antonio:

Dissect BRCA-dependent DNA repair mechanisms

Understand basis of drug resistance

Develop cancer therapeutics for BRCA tumors

**Work with colleagues in our National Cancer Institute-designated
Mays Cancer Center in community outreach and education**

Mentor Junior Faculty in career development

Mentor students and fellows of the highest caliber



Mei Wang, Ph.D., CEO and Co-Founder of Instapath Inc. She is a biomedical engineer whose career has been focused on the development and translation of fluorescence microscopy technologies for improving management of patients. She obtained her doctorate, master's and bachelor's degrees in biomedical engineering from Tulane University. Her work is highly interdisciplinary; she collaborates closely with clinicians, scientists, and engineers from various backgrounds. Her company Instapath is building a fully automated digital pathology system for rapid on-site diagnosis.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Mei Wang

eRA COMMONS USER NAME (credential, e.g., agency login): MWANG03

POSITION TITLE: CEO of Instapath Inc.

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
Tulane University, New Orleans, LA	B.S.	05/2012	Biomedical Engineering
Tulane University, New Orleans, LA	M.S.	05/2013	Biomedical Engineering
Tulane University, New Orleans, LA	Ph.D.	12/2017	Biomedical Engineering

A. Personal Statement

I am a biomedical engineer whose career has been focused on the development and translation of florescence microscopy technologies for improving management of patients. I work on using imaging techniques to improve patient care for biopsy procedures and to detect positive surgical margins. My focus is on developing and improving structured illumination microscope (SIM) for this purpose. My Ph.D. research uses SIM to rapidly scan of biopsies at the bedside as quality insurance for diagnosis and personalized medicine. Our work is highly interdisciplinary; I collaborate closely with clinicians, scientists, and engineers from various backgrounds. My experience working with the above technology and our diverse team makes me well qualified to support this effort.

B. Positions and Honors**Positions and Employment**

2017-Present CEO and Co-founder, Instapath Inc.,
2013-2017 Research Assistant, Dept. of Biomedical Engineering, Tulane University (Advisor Jonathon Quincy Brown)
2016-2017 Teaching Assistant, Dept. of Biomedical Engineering, Tulane University

Leadership and Other Experience

2009-10 Scholar, Kern Innovation & Entrepreneurship Academy (KIEA)
2009- Member, Tau Beta Pi
2014-17 Honor Board member, School of Science and Engineering, Tulane University
2016 Finalists, 3 minute thesis competition, Tulane University
2016 Entrepreneurial lead, NSF Innovation Corps (I-Corps™)
2018 VentureWell ASPIRE program
2018 Masschallenge accelerator
2018 TMCx accelerator
2018-2019 Y-combinator

Honors

2017	Cox Communications Get Started Pitch Competition, First Place Winner and Audience Favorite. Instapath Inc, \$6,000.
2017	Tulane University Novel Technology Challenge, First Place Winner. Instapath Inc., \$12,000.
2017	Tulane University Business Model Competition, Second Place Winner. Instapath Inc., \$10,000.
2017	International Business Model Competition, First Place Winner and World Champion. Instapath Inc., \$30,000.
2018	Rice Business Plan Competition, TMCx accelerator award winner Instapath Inc. \$25,000 and Women's Health award winner Instapath Inc. \$15,000
2018	Jefferson Parish Economic Development Commission (JEDCO) Annual pitch competition, First Place Winner. Instapath Inc, \$20,000
2018	IGNITE Fire Pitch, Second Place Winner. Instapath Inc, \$1,000 and 6 months JLABs residency

C. Contribution to Science

1. High throughput ex vivo microscopy for point-of-procedure pathology. Histopathology is the gold standard for surgical pathology. Pathologists have been using histopathology to diagnose cancer and other diseases for over a hundred year. However, it has limited the ability to provide real-time information for the pathologists in a number of clinical situations such as biopsy procedures and surgeries. We have developed structured illumination microscopy (SIM), which is a high-throughput ex vivo fluorescence microscopy that can potentially address this need. We have demonstrated that SIM can image the surface of entire surgical resection specimens in the kidney and prostate in less than an hour. SIM samples almost the entire margin with much less resources compared to frozen section analysis. We have also demonstrated the potential of SIM for rapid on-site evaluation of diagnostic biopsies. SIM can potentially reduce the false negative biopsy rate in organs such as the prostate and kidney. This technology also has implications in the screening of biopsy quality for downstream molecular and genomic testing for personalized medicine.

- a. Schlichenmeyer TC, **Wang M**, Elfer KN, Brown JQ. (2014). Video-rate structured illumination microscopy for high-throughput imaging of large tissue areas, *Biomedical Optics Express*, 5(2): 366-377. PMID: 24575333
- b. **Wang M**, Kimbrell HZ, Sholl AB, Tulman DB, Elfer KN, Schlichenmeyer TC, Lee BR, Lacey M, Brown JQ. (2015). High-resolution rapid diagnostic imaging of whole prostate biopsies using video-rate fluorescence structured illumination microscopy, *Cancer Research*, 75(19): 4032-4041. PMID: 4592466
- c. Elfer KN, Sholl AB, **Wang M**, Tulman DB, Mandava SH, Lee BR, Brown JQ. (2016). "DRAQ5 and eosin ('D&E') as an analog to hematoxylin and eosin for rapid fluorescence histology of fresh tissues," *PLoS One*, 11(10) e0165530. PMID: 27788264
- d. **Wang M**, Tulman DB, Sholl AB, Kimbrell HZ, Mandava SH, Elfer KN, Luethy S, Maddox MM, Lai W, Lee BR, Brown JQ. (2016). Gigapixel surface imaging of radical prostatectomy specimens for comprehensive detection of cancer-positive surgical margins using structured illumination microscopy. *Scientific Reports*, 6:27419. PMID: 27257084
- e. Liu J, **Wang M**, Tulman D, Mandava SH, Elfer KN, Gabrielson A, Lai W, Abshire C, Sholl AB, Brown JQ, Lee BR. Nondestructive Diagnosis of Kidney Cancer on 18-gauge Core Needle Renal Biopsy Using Dual-color Fluorescence Structured Illumination Microscopy. *Urology*. Dec; 98:195-199. PMID: 27597632.
- f. **Wang M**, Tulman DB, Sholl AB, Mandava SH, Maddox MM, Lee BR, Brown JQ. Partial nephrectomy margin imaging using structured illumination microscopy. *J Biophotonics*. 2017 Aug 21. doi: 10.1002/jbio.201600328.

D. On-going Research Support

IIP-1820258 (Wang, PI)

07/01/2018 – 06/30/2019

National Science Foundation

STTR Phase I: An automated digital pathology lab for rapid on-site processing and imaging of tissue biopsies

The goal of this project is to develop an automated digital pathology system for fresh biopsy tissues at the point of care, to enable rapid-on-site review and analysis of biopsy tissues in clinical oncology applications. 2-24

Role: PI

Cancer Prevention & Research Institute of Texas

Seed Awards for Product Development Research: Rapid pathology evaluation system for biopsies

The goal of this project is to develop an Automated Digital Pathology Lab (ADPL) imaging system that updates the traditional histology workflow, for the first time enabling users to go from the fresh sample directly to the histology image automatically and quickly. By making tissue adequacy testing fast, non-destructive, and fully automated, doctors can verify sample adequacy in less time with fewer personnel during the procedure, while there is still time to collect more tissue if needed.

Role: PI



INSTAPATH

Automated Digital Pathology Lab

Summary

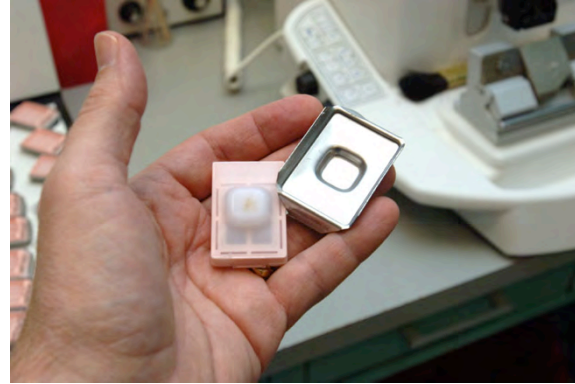
- Introduction of Instapath
- Development since funded by CPRIT
- What's next
- Q&A

**Analyzing a biopsy takes
over 1 week**

Permanent pathology ~ 1 week



**1. Formalin fixation
>24 hrs**



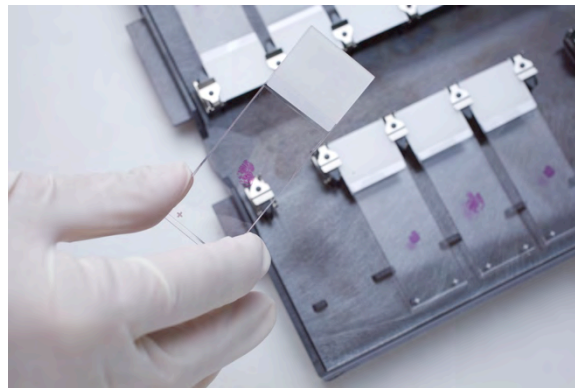
**2. Embed in paraffin or
optimal cutting temperature
compound (OCT)**



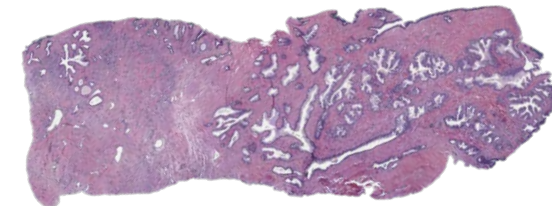
**3. Cut into thin slices
(4 to 10 micron)**



**4. Pass through staining
solutions**



5. Coverslip completed slide



6. Diagnosis with microscopy

Frozen Section~ 20 mins



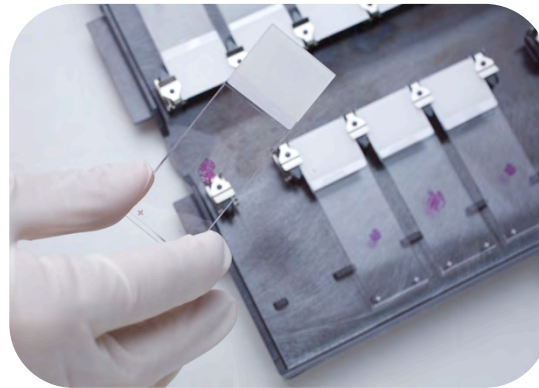
Freeze



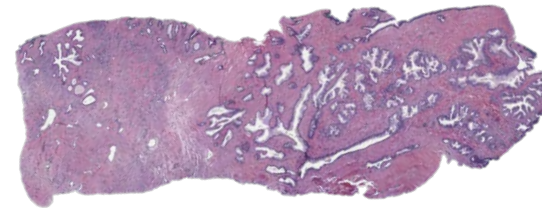
Cut into thin slices



Stain



Coverslip



Diagnosis with microscopy

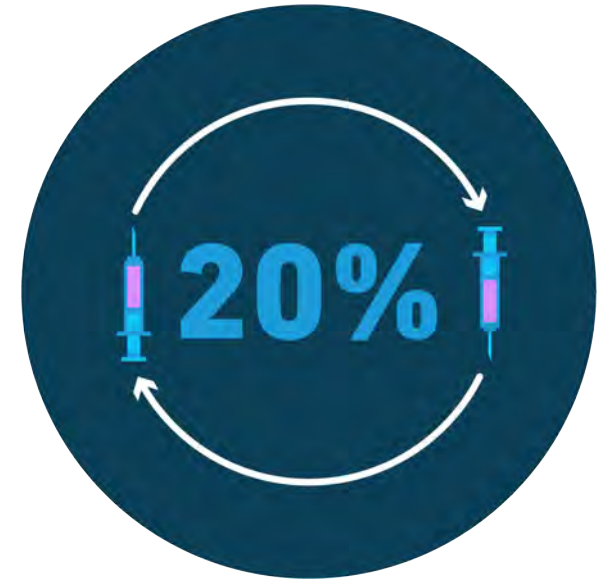
Problem



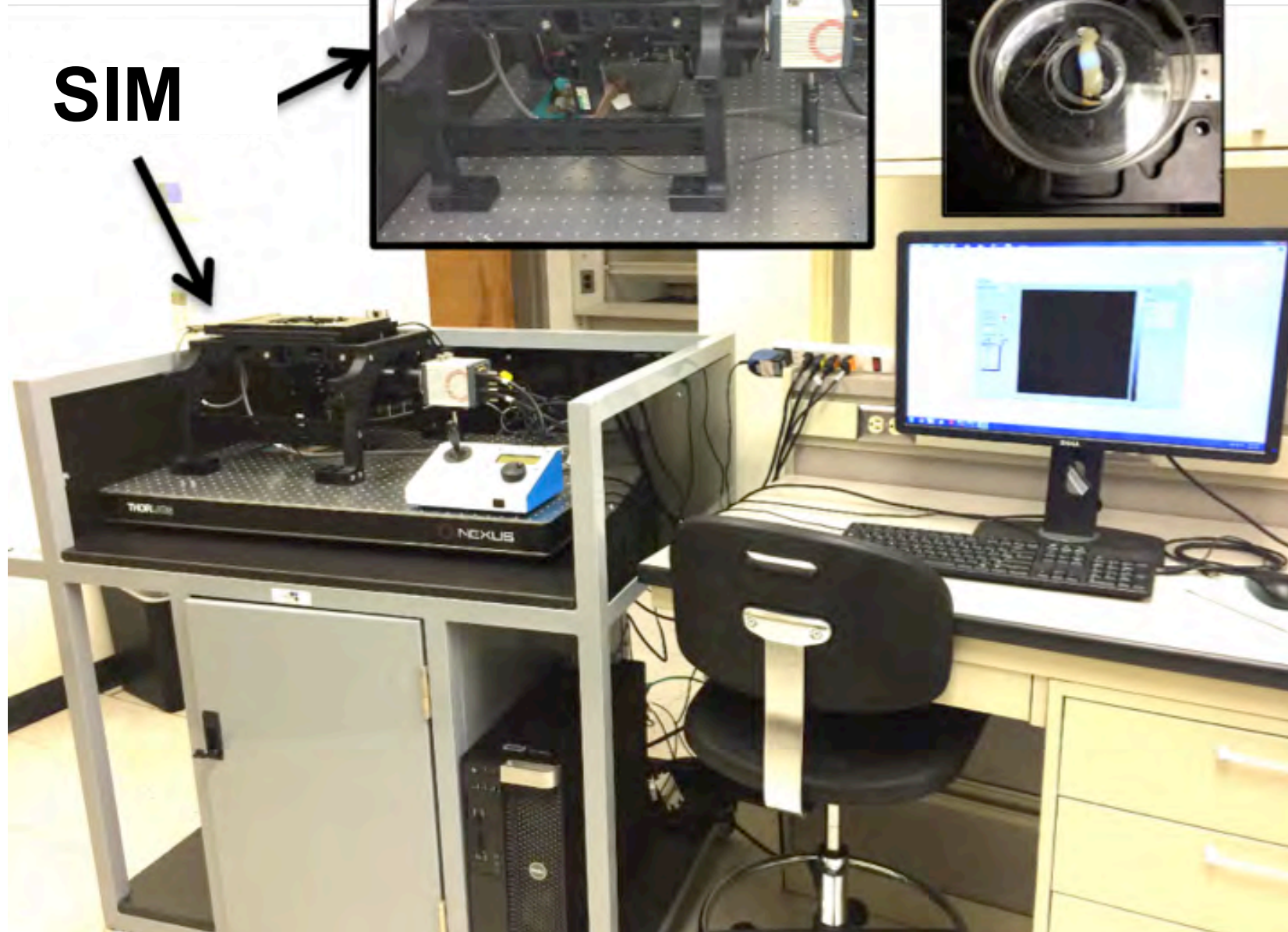
Every year more than 15 million biopsies procedure or surgeries are performed in the US

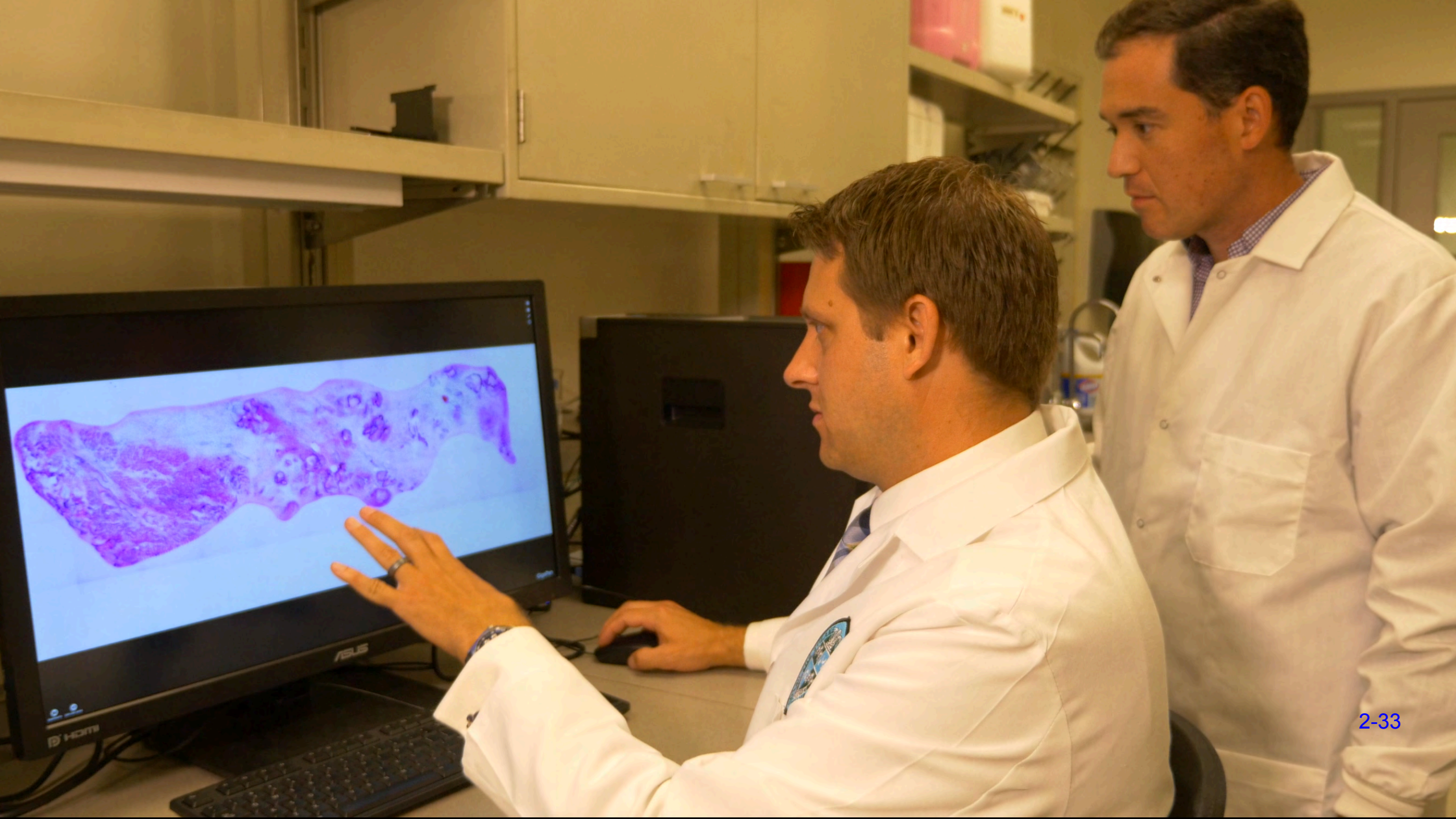


The current tools for pathology diagnosis are slow and inefficient



20% patients have to come back for repeat biopsies or surgeries





312 samples

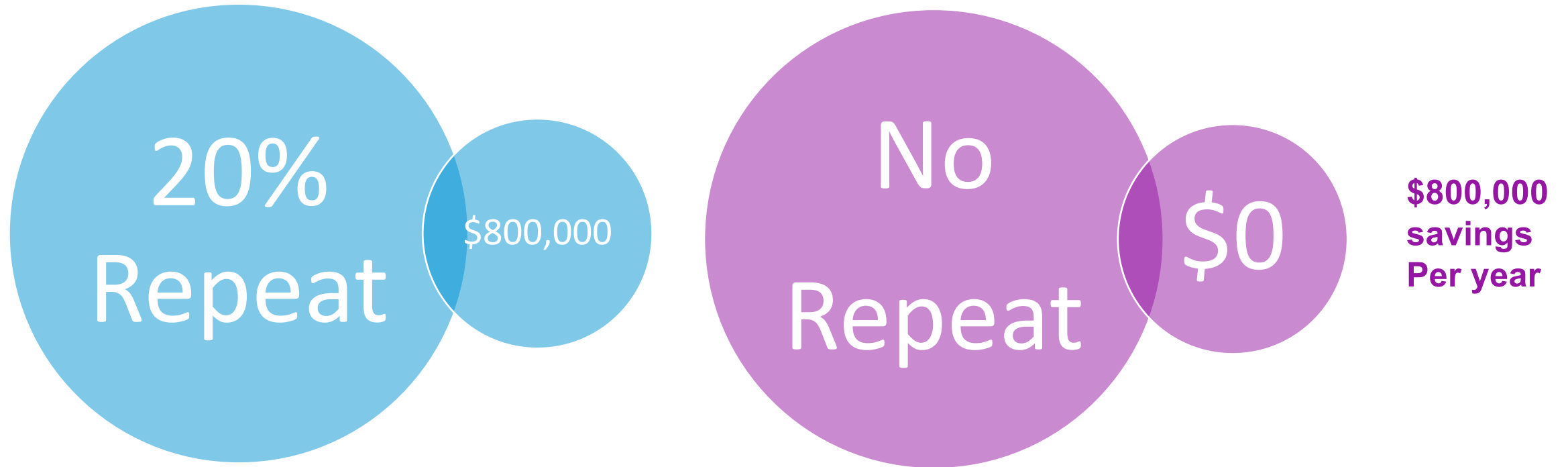
95% accuracy

7 publications

Cancer Research



Value Analysis for Hospitals



Assuming 2000 biopsies per year
Cost per biopsy: \$2,000

Development since funded by
CPRIT

Fundraising

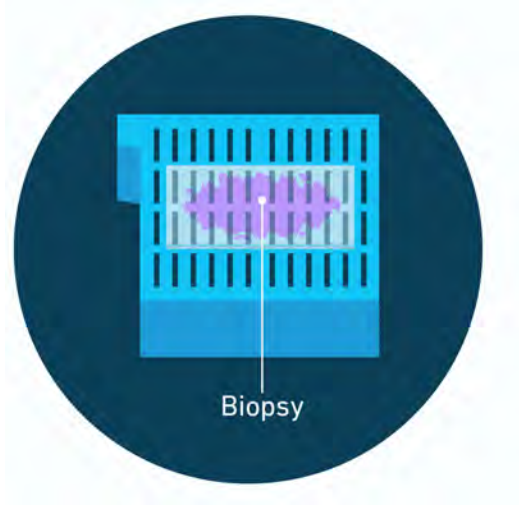
\$1.7 Million equity investment



Our System- Luci

Disposables

(IP filed)



User friendly 1 step tissue handling

Hardware

(IP granted 2018)



Fast and accurate imaging

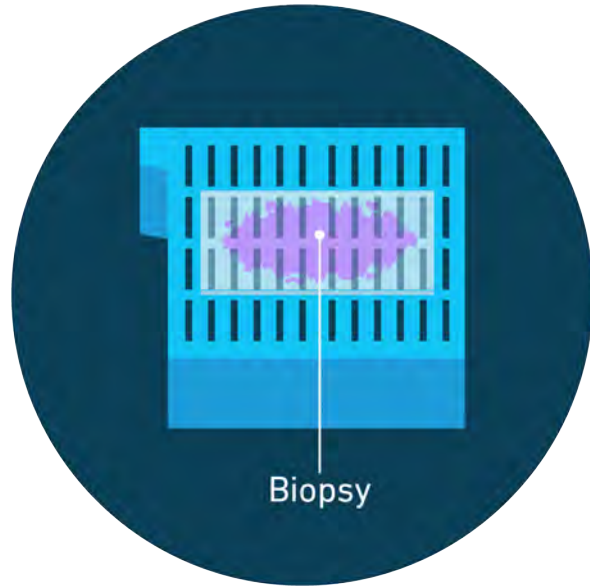
Software

(IP filed)



Machine-learning assisted remote viewing

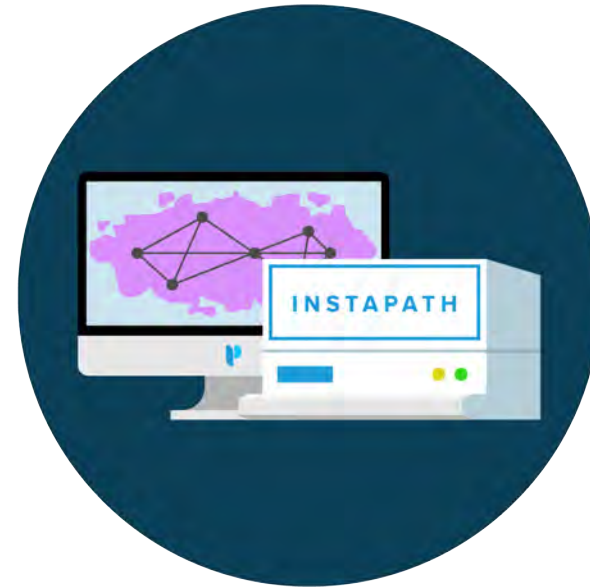
Revenue Model



Biopsy

\$100 per Procedure

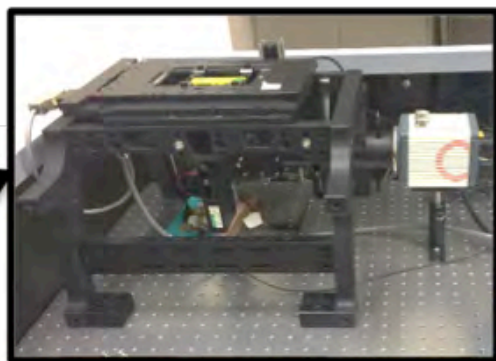
+



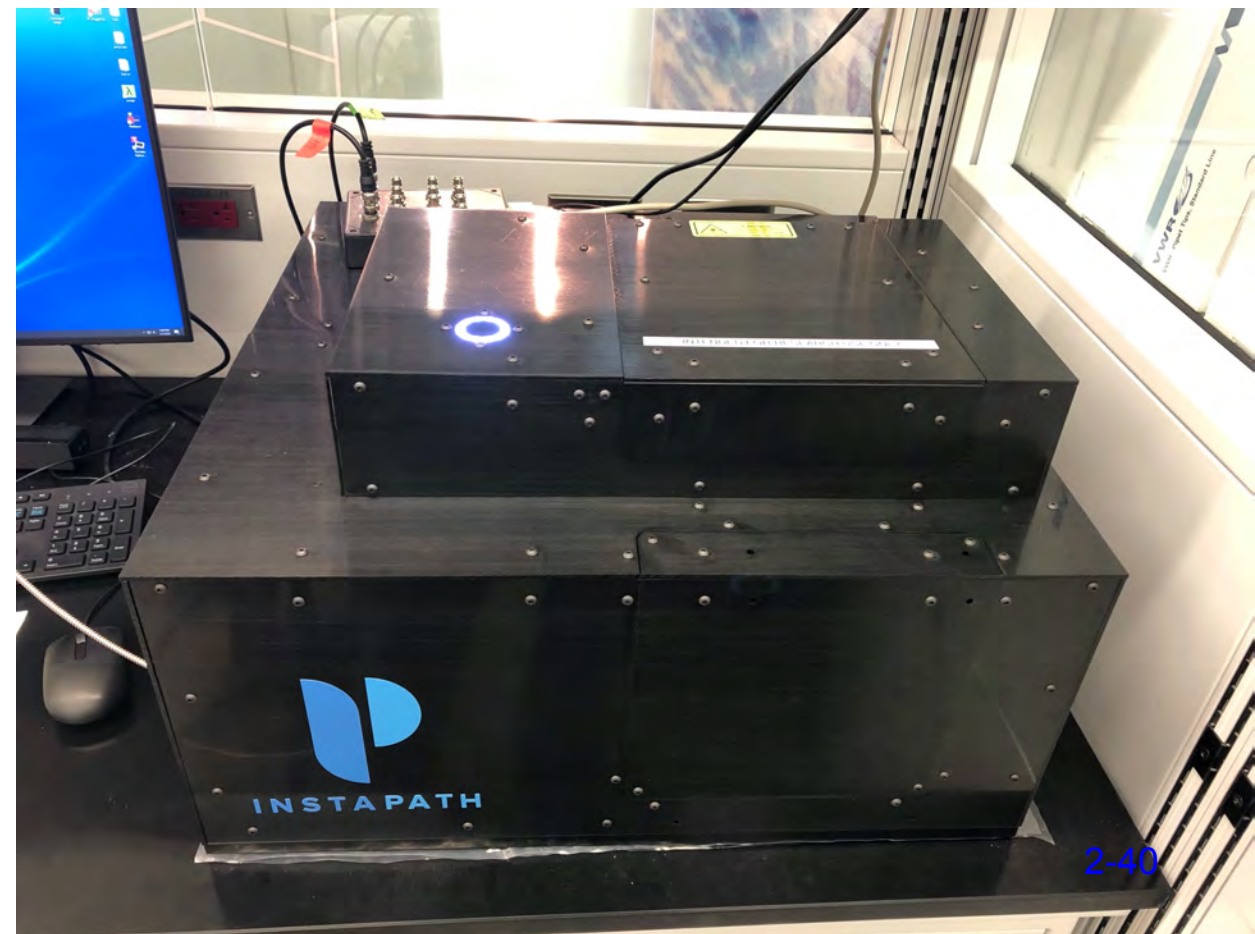
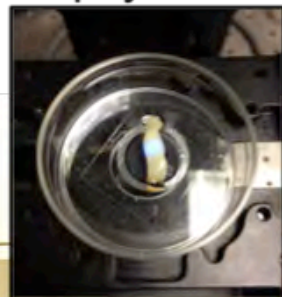
\$10,000 per year

Luci

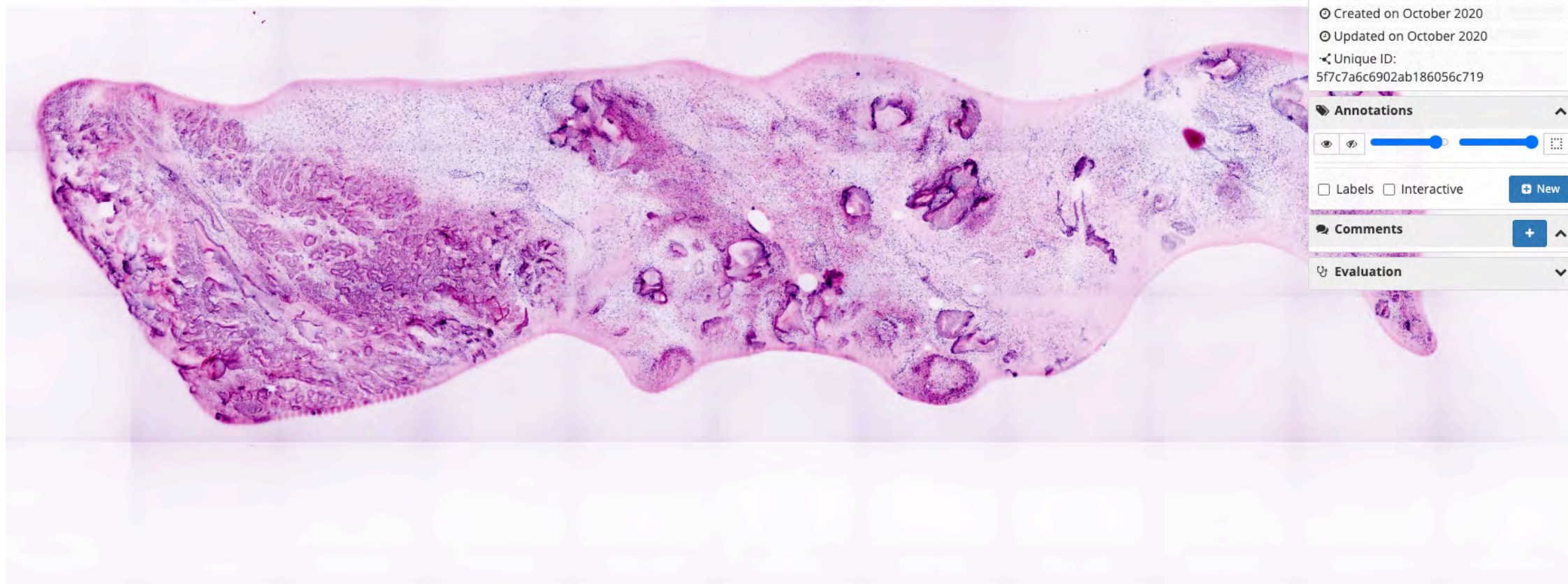
SIM



Biopsy on stage



Luci-VIEW



Zoom ▴

0.8

Fit 1 2.5 5 10

Download View Download Area

i Info ▴

156.9 MB (164484205 bytes)

Created on October 2020

Updated on October 2020

Unique ID: 5f7c7a6c6902ab186056c719

Annotations ▴

☐ Labels ☐ Interactive [New](#)

Comments [+](#) ▴

Evaluation ▾



Team



Mei Wang

CEO

PhD
Dissertation on
the technology



David Tulman

CCO

PhD
FDA and Clinical trials



Quincy Brown

CRO

Tulane Professor
Inventor with previous
startup experience

Current Team



Mei Wang, Ph.D.

Chief Executive Officer



David Tulman, Ph.D.

Chief Clinical Officer



J. Quincy Brown, Ph.D.

Chief Research Officer



Tom Szymczyk

Embedded Systems Engineer



Sam Luethy

Product Engineer



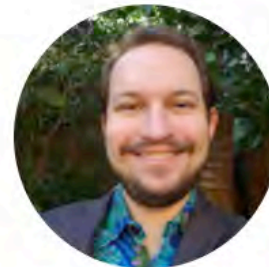
Kristin Mitchener

Marketing Coordinator



Brad Day

Product Engineer



Christopher Andrews

Product Engineer



Dawson Klein

Research Associate

What's Next ?

Product Roadmap

2021



FDA Class I

- Aid in visualization

2022-2023



FDA Class II 510(k)

- Computer aided diagnosis

2026



FDA de novo

- Primary diagnosis



INSTAPATH



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: WAYNE ROBERTS, CHIEF EXECUTIVE OFFICER
SUBJECT: AGENDA ITEM 7, CHIEF EXECUTIVE OFFICER REPORT
DATE: NOVEMBER 11, 2020

As of this writing, the Chief Executive Officer Report for the November 18 Oversight Committee meeting will consist of the items listed below. Other items may be added. In addition to my report, a copy of the September and October 2020 CPRIT Activity Updates are included at the end of this tab for your reference. CPRIT provides these activity reports in the months in which the Oversight Committee does not meet.

FY 2020 Grant Awards Funds Available (Attachment 1)

Prior to any action at the November 18 Oversight Committee, over \$277 million is available from FY 2021 appropriations for grant awards. The Program Integration Committee (PIC) recommends \$26 million in awards for Academic Research Recruitment. Therefore, sufficient funds are available to cover the PIC's recommendations.

CPRIT's Response to COVID-19 Related Issues

CPRIT continues its mandatory remote work policy. Unless directed differently by state leadership, CPRIT will maintain this policy and reassess our status at the end of December.

CPRIT grant accounting staff processed \$1.3 million in COVID-related expenses in September. Of the 177 Financial Status Reports (FSRs) with COVID-19 expenses processed by CPRIT in September, 99 reported \$1,246,564 of personnel/fringe expenses for employees who could not work or worked at reduced effort during the March-May 2020 quarterly reporting period, 4 FSRs included \$1,746 of cancelled travel expenses, and 6 documented \$23,831 of other COVID-19 related expenses, e.g., computer laptop equipment, personal protective equipment, or COVID-19 test purchases. CPRIT reported this information to the Legislative Budget Board and Office of the Governor.

The amount reviewed and approved in September is in addition to the \$423,421 in COVID-related expenses already reported on 42 FSRs that CPRIT processed through the end of FY 2020 (August 31). With 550 active grant projects, CPRIT still expects to process more than 250 FSRs covering the March-May 2020 fiscal quarter that may include COVID-19 expenses.

CPRIT has awarded **1,576** grants totaling **\$2.641 billion**

- 244 prevention awards totaling \$277.7 million
- 1,332 academic research and product development research awards totaling \$2.363 billion

Of the \$2.363 billion in academic research and product development research awards,

- 30.9% of the funding (\$730.0 million) supports clinical research projects
- 24.8% of the funding (\$586.0 million) supports translational research projects
- 27.9% of funding (\$659.6 million) supports recruitment awards
- 13.9% of the funding (\$327.7 million) supports discovery stage research projects
- 2.5% of funding (\$60.0 million) supports training programs.

CPRIT has 15 open Requests for Applications (RFAs)

- 3 Research Recruitment
- 6 Academic Research
- 4 Prevention

**CPRIT MANAGEMENT DASHBOARD
FISCAL YEAR 2020**

	SEPT	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	CUMULATIVE (ANNUAL)	CUMULATIVE (TO DATE)
ACCOUNTABILITY														
Announced Grant Awards			10			55			14			62	141	
New Grant Contracts Signed	10	22	24	4	12	5	12	21	7	6	3	4	130	
New Grant Contracts In Negotiation			5			24			15			7	51	
Grant Reimbursements Processed (#)	232	140	140	177	187	172	146	111	183	131	97	121	1837	
Grant Reimbursements Processed (\$)	\$ 18,835,002	\$ 14,356,017	\$ 8,250,650	\$ 21,894,162	\$ 21,691,394	\$ 12,091,756	\$ 22,774,078	\$ 11,710,923	\$ 19,773,115	\$ 13,674,941	\$ 15,419,693	\$ 12,987,802	\$ 193,459,533	
Revenue Sharing Payments Received	\$ -	\$ 11,820	\$ 17,896	\$ 1,000	\$ 128,166	\$ 107,366	\$ 1,033	\$ 8,661	\$ 633,232	\$ 15,000	\$ 23,031	\$ -	\$ 947,206	\$ 4,664,499
Grants Awarded (#)/ Applications Rec'd (#)	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	17%	18%		
Grantee Compliance Trainings	0	2	2	0	3	4	3	3	1	1	0	0	19	
Grantee Compliance Monitoring Visits	1	2	4	2	4	4	0	0	0	0	0	0	17	
Awards with Delinquent Reimbursement Submission (FSR)			1			0			0			20		
Awards with Delinquent Matching Funds Verification			1			0			0			9		
Awards with Delinquent Progress Report Submission			2			0			1			1		
MISSION														
Open RFAs	7	8	11	14	14	7	10	3	3	3	4	5		
Prevention Applications Received	0	0	0	5	0	18	0	0	0	0	0	0	23	869
Product Development Applications Received	0	0	0	0	28	0	0	0	0	0	0	0	28	561
Academic Research Applications Received	5	3	3	5	155	13	13	8	12	10	4	2	233	7,545
Help Desk Calls/Emails	168	210	81	119	270	196	138	109	92	119	68	101	1,671	
Number of Research Grants Announced (Annual)	0		10			41			13			52	116	
Recruited Scientists Contracted														202
Number of Product Development Grants Announced (Annual)			0			4			1			2	7	
Life Science Companies Recruited (in TX)													2	11
Number of Product Development Jobs Created & Maintained														726
Number of Prevention Grants Announced (Annual)			0			10			0			8	18	
Total Number of Education, Navigation and Training Services			179,679			135,435			121,990			135,998	573,102	
Total Number of Clinical Services			99,188			84,356			35,980			37,791	257,315	
Published Articles on CPRIT-Funded Projects (#)													967	
Clinical Studies (#)														160
Number of Patent Applications													44	
Number of Patents Resulting from Research													7	
TRANSPARENCY														
Total Website Hits (Sessions)	8,447	11,842	11,887	6,445	10,164	12,049	7,999	8,207	7,847	8,396	7,076	10,410		
Total Unique Visitors to Website (Users)	5,206	7,736	8,418	4,084	6,520	8,428	5,875	5,954	5,783	6,661	5,458	7,473		

FY 2021 GRANT AWARD FUNDS AVAILABLE

General Obligation Bond Proceeds

	Prevention	Academic / Product Development Research	1% Grant Funding Buffer	Operating Budget	Total Appropriations
Available Appropriated Funds	\$ 28,035,081	\$ 254,738,136		\$ 17,226,783	\$ 300,000,000
Unapproved Adjustment to Operating Budget		\$ (2,484,576)		\$ 2,484,576	
Appropriations Transfer to DSHS		\$ (3,118,032)		\$ 3,118,032	
Adjusted Appropriations	\$ 28,035,081	\$ 249,135,528		\$ 22,829,391	\$ 300,000,000
Total Available for All Grants			\$ 277,170,609		
1% of Total Available Grant Funding			\$ 2,771,706		
Adjusted Grant Award Funding	28,035,081	\$ 246,363,822			\$ 274,398,903

	Prevention Grants	Academic Research Grants	PD Research Grants	
Total Available for Grant Awards (Total GO Bond Proceeds Less Operating Budget)	\$ 28,035,081	\$ 174,394,870	\$ 74,740,658	\$ 277,170,609
Total Available for Grant Awards Incorporating 1% Grant Funding Buffer	\$ 28,035,081	\$ 172,454,675	\$ 73,909,147	\$ 274,398,903

Announced Grant Awards

	\$ -		\$ -	
	\$ -	\$ -		
	\$ -	\$ -	\$ -	
	\$ -	\$ -		
Announced Grant Award Subtotal	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	
Grant Award Adjustments				
	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -
	\$ -	\$ -	\$ -	\$ -
Revised Grant Award Subtotal	\$ -	\$ -	\$ -	\$ -
Available Funds as of September 1, 2020	\$ 28,035,081	\$ 172,454,675	\$ 73,909,147	\$ 274,398,903

Pending Grants-PIC Recommendations

Recruitment Awards	\$ -	\$ 26,000,000	\$ -	
Pending Award Subtotal	\$ -	\$ 26,000,000	\$ -	\$ 26,000,000
Total Potential Grant Funding Committed	\$ -	\$ 26,000,000	\$ -	\$ 26,000,000
Available Funds as of November 18, 2020	\$ 28,035,081	\$ 146,454,675	\$ 73,909,147	\$ 248,398,903
1% Grant Funding Buffer	\$ -	\$ 1,940,194	\$ 831,512	\$ 2,771,706
Total Remaining Funds	\$ 28,035,081	\$ 148,394,870	\$ 74,740,658	\$ 251,170,609

Operating Budget Detail

Indirect Administration	\$ 4,380,053
Grant Review & Award Operations	\$ 15,331,306
Subtotal, CPRIT Operating Costs	\$ 19,711,359
Cancer Registry Operating Cost Transfer	\$ 3,118,032
Total, Operating Costs	22,829,391



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: WAYNE R. ROBERTS, CHIEF EXECUTIVE OFFICER
SUBJECT: CPRIT ACTIVITIES UPDATE FOR JULY, AUGUST AND SEPTEMBER
DATE: SEPTEMBER 30, 2020

Topics in this memo include CPRIT activities in July, August, and September as well as recent milestones in our fight against cancer, a staffing summary, outreach efforts, University Advisory Committee appointments, and updates from Compliance, Programs, and Operations.

Recent Milestones in the Fight Against Cancer

CPRIT Grantees in the News

- CPRIT Scholar Todd Aguilera, M.D., Assistant Professor of Radiation Oncology at The University of Texas Southwestern Medical Center, received a Damon Runyon Clinical Investigator Award for his work in immunotherapy. The \$600,000 award supports his research investigating patients' immune response to the combination of an immunotherapy drug with chemotherapy and radiation for advanced rectal cancer. Damon Runyon will also repay up to \$100,000 of Dr. Aguilera's medical school debt.
- The American Association for Cancer Research (AACR) honored CPRIT Established Investigator Christopher Amos, Ph.D., with the 2020 AACR-American Cancer Society Award for Research Excellence in Cancer Epidemiology and Prevention. The award recognizes Dr. Amos, director of the Institute for Clinical and Translational Research at Baylor College of Medicine, for his seminal contributions to the understanding of how genetic and environmental factors can cause complex diseases such as cancer. Baylor College of Medicine recruited Dr. Amos to Texas from Dartmouth in 2017 based on his unique expertise in biostatistics and bioinformatics, genetics, and cancer epidemiology.
- Pope Francis appointed Rice University physicist and CPRIT Established Investigator José Onuchic, Ph.D. to the Pontifical Academy of Sciences. The academy has operated under its present name since 1936 but has its roots in the Academy of the Lynxes, founded in Rome in 1603. According to the Vatican, it was the first exclusively scientific academy in the world, with Galileo Galilei as an early member. This academy advises the church on major scientific issues and knowledge and their benefits to society. Topics include, health, climate change, energy, the impacts of poverty and genetic engineering. Dr. Onuchic joined Rice in 2011 with a CPRIT recruitment grant.

- The Cancer Research Institute awarded Dr. Zhijian “James” Chen, Professor of Molecular Biology and Director of the Center for Inflammation Research at The University of Texas Southwestern Medical Center, its 2020 William B. Coley Award for Distinguished Research in Basic and Tumor Immunology. Dr. Chen is one of five scientists receiving the Coley Award for their individual contributions to the discovery and characterization of the cGAS-STING pathway, a key component of the innate immune system that scientists are using to develop novel immunotherapies against cancer. The Cancer Research Institute named the award in honor of Dr. Coley, widely regarded as the father of cancer immunology. Dr. Chen also received the 2019 Breakthrough Prize in Life Sciences for his 2012 discovery of cGAS. CPRIT has awarded Dr. Chen numerous research grants.
- The University of Texas Southwestern Medical Center’s Postdoctoral Association has selected CPRIT Scholar Dr. Sean Morrison, director of Children’s Medical Center Research Institute, to receive the 2020 Excellence in Postdoctoral Mentoring Award. The award recognizes extraordinary mentorship and honors faculty members who have provided outstanding commitment, guidance, and support to postdoctoral researchers. Throughout his career, Dr. Morrison has mentored 38 Ph.D. students or postdoctoral fellows who have completed their training, nearly all of whom have stayed in science. Most have gone on to tenure-track faculty positions and many others have taken leadership positions in biotechnology companies or private research institutes.
- The National Cancer Institute renewed the Specialized Programs of Research Excellence (SPORE) program in breast cancer at Baylor College of Medicine and awarded more than \$11 million to support the SPORE over the next five years. CPRIT Established Investigator Matthew Ellis, MB, BChir, Ph.D., leads the SPORE, which focuses on projects addressing treatment barriers in advanced breast cancer. Each project includes a clinical trial.
- The Rice University-based Center for Theoretical Biological Physics (CTBP), co-led by CPRIT Established Investigator José Onuchic, has won a five-year extension from the National Science Foundation to pursue its investigation of mysteries at the intersection of biology and physics. The NSF grant provides \$12.9 million to continue sophisticated computational analysis showing how interactions at the atomic scale relate to the behavior of cells. CTBP scientists pursue answers to a number of big questions, including immune response mechanisms, the structural maintenance of DNA and other cancer-related studies. The center was founded in 2001 at the University of California, San Diego, and came to Rice in 2011 when Rice brought Dr. Onuchic to Houston with a CPRIT recruitment award.
- The National Cancer Institute renewed the Mays Cancer Center at The University of Texas Health Science Center at San Antonio as a National Cancer Institute-designated cancer center for the next five years. The designation recognizes the cancer center for its cutting-edge cancer research, clinical trials, patient-centered cancer care, and the training of biomedical cancer researchers and health care providers to decrease the burden of cancer in their communities, across the nation and the world. The NCI review concluded that *“A major strength of the center (Mays Cancer Center) is the profound commitment shown to the needs of its catchment area, which has a predominantly Hispanic population...Increased*

investments in research infrastructure, strong program leadership and robust institutional support indicate a center on an upward trajectory.”

- The *U.S. News & World Report* ranked University of Texas M.D. Anderson Cancer Center No. 1 for cancer care in its annual “Best Hospitals” survey. M.D. Anderson has topped this list in 14 of the last 17 years. Also listed among the top fifty hospitals for cancer care in the survey were the Houston Methodist Hospital (#17), the Dan Duncan Comprehensive Cancer Center affiliated with Baylor College of Medicine (#27), and The University of Texas Southwestern Medical Center (#32). This is the first time the *U.S. News & World Report* has recognized four different Texas hospitals among the nation’s top cancer hospitals.
- AlloVir, Inc. raised \$276 million in an upsized initial public offering to fund development of allogeneic T-cell treatments for viral diseases. The money will equip AlloVir to embark on a broad clinical development program for a phase 3-ready cell therapy that targets five viruses. The Houston-based company, formerly known as ViraCyte, received \$1.5 million in CPRIT Product Development award funds in 2017 to develop a T-cell therapy designed to safely treat severe viral infections in cancer patients after stem cell transplants.
- Aravive, Inc. successfully completed a Phase 1b trial evaluating AVB-500 in platinum resistant ovarian cancer. In addition, FTSE Russell, a subsidiary of the London Stock Exchange Group, added the Houston-based company to its Russell 2000® and Russell 3000® Indexes. Aravive received a \$20 million CPRIT Product Development award in 2015 to develop an engineered AXL decoy receptor for the treatment of ovarian cancer.
- Formation Biologics, Corp. (also known as Forbius) announced a deal with Bristol Myers Squibb to acquire its portfolio of TGF-beta inhibitors. The purchase will give Bristol Myers control of a clinical-phase inhibitor of TGF-beta 1 and 3 that Formation developed to increase the activity of immune checkpoint inhibitors. The Austin-based company, formerly Armada Pharmaceuticals, received CPRIT Product Development awards in 2015 (\$12.8 million) and 2018 (\$18.9 million) to develop their lead therapeutic AVID100.
- Shareholders of Immatics Biotechnologies GmbH, the parent company of Houston-based Immatics US, Inc., and Arya Sciences Acquisition Corp. approved a merger in March. The combined company, known as Immatics N.V., initiated trading of shares under the symbol “IMTX.”

Immatics N.V. extended its cell therapy manufacturing collaboration with The University of Texas Health Science Center at Houston (UTHealth). The continued collaboration grants Immatics access to UTHealth’s state-of-the-art cGMP manufacturing infrastructure at the Evelyn H. Griffin Stem Cell Therapeutics Research Laboratory, enabling continued production and supply of Immatics’ specialized, cell-based product candidates for testing in multiple clinical trials.

Immatics US received a \$19.7 million CPRIT Product Development award in 2015 to develop personalized cellular therapies targeting multiple cancer types.

- Molecular Templates, Inc. raised \$43 million through its At-the-Market facility with participation based on interest received from Consonance Capital Management. The Austin-based company received two CPRIT Product Development awards to date, including a \$10.6 million award in 2011 to develop the targeted Engineered Toxin Bodies to treat lymphoma, and a \$15.2 million award in 2016 to develop a novel compound to treat multiple myeloma.
- Perimeter Medical Imaging, Corp. will become a public company on the TSX Venture Exchange in Toronto and will list its common shares on the Frankfurt Stock Exchange under the trading symbol "4PC." The Dallas-based company installed their OTIS™ device at The University of Texas M.D. Anderson Cancer Center to further develop the ImgAssist AI technology, marking an important milestone in this collaboration and Perimeter's ATLAS AI Project. Perimeter received a \$7.4 million CPRIT Product Development award to develop an optical tissue imaging system for breast-conserving surgery.
- The Nasdaq Capital Market approved Medicenna Therapeutics' common shares for listing on the Nasdaq. The Houston-based company received a \$14.1 million CPRIT Product Development award in 2014 to support the development of a novel immunotherapy for the treatment of recurrent glioblastoma and other brain cancers.
- Fujifilm Diosynth, Inc. agreed to manufacture bulk drug substance for NVX-CoV2373, Novavax's COVID-19 vaccine candidate. Fujifilm Diosynth acquired CPRIT grantee Kalon Biotherapeutics in 2014. College Station-based Kalon received a \$7.9 million CPRIT Product Development award in 2012 to support novel process developments for the manufacturing of cancer drugs. The College Station manufacturing facility is one of four biologics manufacturing locations operated by Fujifilm Diosynth. U.S. Surgeon General Dr. Jerome Adams toured the College Station facility September 28.
- Houston's KPRC NBC TV 2 [interviewed Dorothy Gibbons](#), co-founder and CEO of The Rose, a CPRIT Prevention program grantee continuously since 2010. She discussed the need for women to continue their regular mammography screenings during the pandemic.
- *El Paso, Inc.* [featured Dr. Jessica Calderon-Mora](#) of Texas Tech University Health Sciences Center El Paso, co-director of "Tiempo de Vacunarte," a CPRIT-funded program to prevent HPV-related cancers in border and rural communities.
- Dr. Lindy McGee, Baylor College of Medicine pediatrician and leader of e-cigarette education on the CPRIT-funded prevention project "Expanding a Community Network for Cancer Prevention to Increase HPV Vaccine Uptake and Tobacco Prevention in a Medically Underserved Pediatric Population," wrote an [op-ed](#) published in the *Galveston County Daily News* and *DFW Child* on the importance of speaking to teens about vaping before the start of the new school year. A television interview with Dr. McGee about vaping will air soon.

The American Academy of Pediatrics (AAP) named Dr. McGee a “Texas E-cigarette Chapter Champion.” The AAP awarded her a grant to develop additional e-cigarette education sessions in 2021.

- The members of the CDC Foundation elected Dr. Amelie Ramirez, professor and chair of the Department of Population Health Sciences, director of the Institute for Health Promotion Research, and associate director of cancer outreach and engagement at the Mays Cancer Center at The University of Texas Health Science Center at San Antonio, to a five-year term on the Foundation’s Board of Directors. The CDC Foundation facilitates more than 1,700 partnerships, launched 1,000+ programs, and raised over \$900 million to help the CDC improve health around the world. CPRIT has awarded multiple grants to Dr. Ramirez, an internationally recognized health disparities researcher, supporting projects such as breast cancer disparities research on quality of life and survivorship issues and a bilingual tobacco-cessation service, Quitxt, for young adult Latinos using mobile-phone text messages.

Notable Research and Prevention Grantee Accomplishments

- Researchers at Baylor College of Medicine, Texas Children’s Hospital, and Houston Methodist Hospital report that a child with rhabdomyosarcoma, a form of muscle cancer, showed no detectable cancer following treatment on a clinical trial evaluating chimeric antigen receptor (CAR) T cells engineered to target the HER2 protein on the surface of the cancer cells. Because 75 percent of the tumor cells in the child displayed the HER2 protein, the scientists reprogrammed the child’s T cells to target the HER2 protein. Although cancer returned six months after first stopping the T cell infusions, the child achieved a second remission after re-treatment with HER2-CAR T cells. At the time of the report this summer in *Nature Communications*, the child last received T cell treatment 19 months ago and remains healthy and cancer free. CPRIT Multi Investigator Research Award RP101335 and a CPRIT Core Facility Support Award supported the clinical trial and CAR T cell treatment preparation.
- In a report in *Nature*, a team led by CPRIT Established Investigator Sean Morrison, professor of pediatrics at UT Southwestern, found melanoma cells passing through lymph nodes pick up a protective coating of oleic acid. This allows the cells to survive high levels of oxidative stress in the blood. Scientists know that many kinds of cancer cells often spread first to lymph nodes before other organs. The protective coating of oleic acid may assist the cancer cells’ transit through the bloodstream to other parts of the body where they form metastatic tumors. These findings raise the possibility of treating patients with drugs that target protective mechanisms in the lymph to inhibit the initial stages of metastasis. CPRIT Individual Investigator Research Award RP170114 and a Multi Investigator Research Award RP180778 awarded to Dr. Morrison supported this research.
- Scientists already know that the immune protein STING helps protect against viruses and tumors by signaling the immune molecule interferon. In a study published in the journal *Immunity*, Nan Yan, Ph.D., The University of Texas Southwestern Medical Center associate professor of immunology and microbiology, found that STING also activates a

separate pathway that directly kills tumor-fighting immune cells without interferon. The finding is important because it may lead to development of longer-lasting immunotherapies to fight cancer. CPRIT Investigator-Initiated Research Award RP180288 supports Dr. Yan's research.

- Iterion Therapeutics, Inc. started enrolling patients with desmoid tumors in its multicenter Phase 2a dose expansion clinical study of Tegavivint, a novel, potent and selective nuclear β -catenin inhibitor. The Phase 2a trial builds on a recently completed open-label, non-randomized Phase 1 study that established safety and initial clinical efficacy of Tegavivint in patients with progressive desmoid tumors. The Houston-based company, formerly known as BetaCat, received a \$15.9 million CPRIT Product Development award in 2014 to develop Tegavivint for desmoid tumors and acute myeloid leukemia.
- OncoNano Medicine, Inc. published Phase 1 clinical trial data in *Nature Communications* featuring OncoNano's intraoperative tumor imaging product candidate, ONM-100. The study evaluated safety, pharmacokinetics and feasibility of ONM-100 in image-guided surgery, occult tumor detection and visualization of tumor margins in four different cancer types. Following tumor resection, ONM-100 detected residual tumor positive margins in 9 of 9 patients in whom histology confirmed tumor positive margins, as well as detecting occult lesions in an additional 5 patients whose tumors were undetected by standard of care.

OncoNano received a \$6 million CPRIT Product Development award in 2014 and a \$10 million award in 2020 to develop ONM-100 to detect breast, head and neck, and skin cancers. In addition, the Southlake-based company received a \$15.4 million CPRIT Product Development award in 2019 to develop a novel T-cell activating cancer vaccine for solid tumors.

- ESSA Pharma, Inc. dosed the first patient in a Phase 1 clinical trial designed to demonstrate the safety and tolerability of EPI-7386 in metastatic castration-resistant prostate cancer patients who failed standard of care treatments, including second generation anti-androgens. The Houston-based company received a \$12 million CPRIT Product Development award in 2014 to develop androgen receptor N-terminus blocker to treat prostate cancer.
- Dr. David Gerber of The University of Texas Southwestern Medical Center and project director of "Integrated Lung Cancer Screening and Tobacco Cessation in an Urban Safety-Net System," reports that the Parkland Hospital System has put into place significant changes related to multiple CPRIT projects serving Parkland patients. Parkland Hospital System leadership appointed a Director of Global Oncology Programs to organize cancer-related services and programming across the system. This will integrate existing resources and personnel to support sustainable continuation of cancer prevention services and will assume responsibility for oversight of system processes to provide evidence-based patient navigation and referral coordination services. Dr. Gerber and Dr. Simon Craddick Lee, the co-project director, are confident that these adjustments and Parkland's administrative commitment will ensure both the success of CPRIT's prevention grants and increase the likelihood of long-term sustainability of disseminated best practices.

- In a [commentary published by the *Journal of General Internal Medicine*](#), Michael Pignone, M.D., contends that the 600,000-strong postal workforce offers exciting wide-reaching opportunities to re-imagine how the US Postal Service can play a critical role in improving health care, while also providing financial benefit to the agency. Dr. Pignone contends that the mailed FIT testing program funded by CPRIT would not be cost-effective without the infrastructure of the USPS.

Personnel

CPRIT has filled 34 of our 36 full-time equivalent (FTE) positions.

CPRIT Outreach

Staff outreach activities during July, August and September include:

- Chief Product Development Officer Cindy WalkerPeach, Ph.D., attended the virtual American Cancer Society Cancer Action Network National Forum on the Future of Healthcare held July 22.
- On July 30 I updated the membership of the Texas Healthcare and Bioscience Institute via videoconference on CPRIT's activities. This included a discussion on how the COVID-19 pandemic has affected CPRIT's programs and release of FY 2021 RFAs.
- I addressed the Greater Houston Partnership Health Care Advisory Committee via videoconference on August 10 on CPRIT's activities, with a special emphasis on the Greater Houston metropolitan area.
- Dr. WalkerPeach and Senior Program Manager for Product Development Rosemary French attended the National Cancer Institute's virtual event *Small Business Funding Opportunities* on August 11.
- Ms. French attended the virtual event Innovation in the time of COVID-19: The Grant Process hosted by the Temple Health and Bioscience District, on August 25.
- I was part of a virtual panel on September 8 that discussed the role of science and the Texas economy at the 54th Annual Texas Legislative Conference held in New Braunfels.
- Senior Program Manager for Academic Research Dr. Patty Moore attended a State Agency Council and Executive Women in Texas Government virtual training conference on September 15.
- On September 22 Deputy Executive Officer and General Counsel Kristen Doyle and I updated the American Cancer Society Cancer Action Network and other members of the

Texas Cancer Coalition by videoconference on CPRIT activities and the FY 2021 RFA schedule.

- Ms. Doyle attended the virtual Texas Digital Government Conference on September 23 – 24.
- Chief Prevention Officer Ramona Magid represented CPRIT at the quarterly meeting of the Texas Public Health Coalition meeting held September 24.
- Ms. Magid attended the virtual “Healthier Texas Summit” series in August and September.
- Throughout September Ms. Doyle and I attended via videoconference numerous sessions of the 2020 Tribfest sponsored by the *Texas Tribune*. Topics of interest included expectations for the 87th Texas Legislature that convenes this January; discussions and forecasts related to the November general election; the state’s revenue picture; and the impact of COVID-19 on higher education and health care around the nation.

Compliance Program Update

Submission Status of Required Grant Recipient Reports

CPRIT has \$1.4 billion in active grants under management, with 560+ grants that are either active or wrapping up grant activities. We receive an average of 560 grantee reports each month. As of September 17, seven entities had not filed 24 Academic Research reports, two Prevention reports, and two Product Development Research reports. CPRIT’s grant accountants and compliance specialists review and process incoming reports and reach out to grantees to resolve filing issues. In most cases, CPRIT does not disburse grant funds until the grantee files the required reports. In some instances, grantee institutions may be ineligible to receive a future award if the grantee does not submit the required reports.

Financial Status Report Reviews

CPRIT’s compliance specialists performed 346 second-level reviews of grantee Financial Status Reports (FSRs) for the month of July, August, and September. Fifty-six FSRs (16%) required resubmission due to insufficient or inaccurate documentation submitted by the grantee. CPRIT’s grant accounting staff completes the initial review of the FSRs and supporting documentation before routing them to the compliance specialists for final review and disposition.

Single Audit Tracking

Compliance specialists track the submission of grantees’ independent audit reports and the resolution of issues identified in these reports. Grantees who expend \$750,000 or more in state awards in the grantee’s fiscal year must submit a single independent audit, a program specific audit, or an agreed upon procedures engagement. The grantee submits the independent audit

report with findings to CPRIT within 30 days of receipt, but no later than nine months after the grantee's fiscal year end.

Currently, all grantees have submitted required audits. Grantees are unable to receive reimbursements or advances if they are delinquent in filing the required audit and corrective action plan unless the grantee requests additional time by the due date of the required audit and CPRIT's CEO approves the request.

Desk Reviews

Compliance specialists performed 25 desk-based financial monitoring reviews for July, August, and September. Desk reviews verify that grantees expend funds in compliance with specific grant requirements and guidelines and may target an organization's internal controls, current and past fiscal audits, and timely submission of required reports. Compliance specialists are working with four grantees to remediate desk review findings. Compliance staff has revised the desk review protocol for FY 2021, considering such areas as previous desk review findings and remediation, salary cap testing, and matching compliance certification.

Onsite Reviews

Onsite reviews examine the grantee's financial and administrative operations, subcontract monitoring, procurement and contracting procedures, inventory procedures, personnel policies and procedures, payroll and timesheet policies, travel policies and records, and single audit compliance. Compliance staff revised the onsite protocol to account for a remote/virtual review and is currently scheduling remote onsite reviews with grantees for FY 2021.

Annual Compliance Attestation

CPRIT requires grantees to submit an annual Attestation Form, demonstrating compliance with statutory and administrative grant requirements, CPRIT's policies and procedures, grant contract terms, and the Uniform Grant Management Standards. This opportunity to self-report, in the form of a checklist, provides a baseline of grantee compliance and allows compliance specialists to proactively work with grantees towards full compliance prior to a desk review or on-site review. As of September 17, all grantees have submitted their annual Compliance Attestations.

Training and Support

Compliance has scheduled a series of Annual Compliance Training webinars for October 7-8. Trainings are specific to each program area (Academic Research, Product Development Research, and Prevention) and allow for an interactive experience and opportunity to focus on topics relevant to each program. The trainings cover grant reporting requirements, administrative rule changes, grant closeout, and an overview of the compliance program including fraud, waste, and abuse reporting. This will be the third and final training series offered this year for the annual compliance training requirement, which requires the Authorized Signing Official and at

least one other employee from each grantee organization to attend an annual compliance training by December 31 of each year.

Academic Research Program Update

FY 2021 Recruitment Applications

The Scientific Review Council (SRC) met August 13 and September 9 to review recruitment applications for the first quarter of FY 2021 (cycles 21.01 and 21.02). Dr. Willson will present the SRC's recommendations to the Program Integration Committee and the Oversight Committee in November.

FY 21.01 and 21.02 Mechanism	Received	Funds Requested	Approved by SRC	Funds Approved
Recruitment Established Investigators	2	\$12,000,000	2	\$12,000,000
Recruitment of Rising Stars	1	\$4,000,000	0	N/A
Recruitment of First-Time, Tenure Track Faculty Members	4	\$8,000,000	3	\$6,000,000
TOTAL	7	\$24,000,000	5	\$18,000,000

FY 2021 RFAs

In addition to three FY 2021 recruitment RFAs and the Research Training Award RFA published in late June, CPRIT released six academic research RFAs in early August. The Oversight Committee approved the RFAs, described below, at its July 31 meeting. Applicants may submit proposals from September 16 through January 27, 2021. After peer review in the spring, Dr. Willson will present the SRC's recommended awards to the Program Integration Committee and the Oversight Committee in August 2021.

- *Core Facility Support Awards*
Solicits applications from institutions of higher learning to establish or enhance core facilities (laboratory, clinical, population-based, or computer-based) that will directly support cancer research programs to advance knowledge of the causes, prevention, and/or treatment of cancer or improve quality of life for patients with and survivors of cancer.
Award: Up to \$4,000,000 (total costs); Maximum duration: 5 years.
- *High Impact/High Risk Research Awards*
Provides short-term funding to explore the feasibility of high-risk projects that, if successful, would contribute major new insights into the etiology, diagnosis, treatment, or prevention of cancers.
Award: Up to \$250,000 (total costs); Maximum duration: 2 years.

- Early Clinical Investigator Award*

Solicits applications from institutions of higher learning to provide cancer physicians early in their academic career the opportunity to develop clinical research skills and to gain experience in advanced methods and experimental approaches needed to become clinical investigators. The award will protect time from clinical responsibilities to allow the early clinical investigator to develop and conduct investigator initiated clinical trials and to establish a partnership with a laboratory-based collaborator in order to design and conduct correlative studies needed to interpret the outcome of an interventional trial. The overall goal of this mechanism is to increase the pool of clinical investigators at Texas academic institutions who are conducting patient-oriented studies that capitalize on basic discoveries and translating them through conduct of innovative clinical trials involving cancer patients or individuals at risk for cancer.

Award: Up to \$1,500,000 (total costs); Maximum duration: 5 years
- Clinical Trials Network Award*

CPRIT will approve Clinical Trials Network Awards to Lead Institutions (LI) to develop and oversee a network of two cancer care facilities (Network Affiliates), (Stage 1) to extend access to a select group of LI cancer clinical trials. Once the LI satisfactorily demonstrates an initial network, the LI will be eligible to receive additional CPRIT funding to expand its network to two additional facilities that must be located outside the LI current catchment (Stage 2). Institutions, organizations, or other entities (including physician groups) that conduct clinical research are eligible to be a LI or Network Affiliate.

Award: Up to \$600,000 annually for stage 1 and up to \$900,000, annually for stage 2.

Maximum duration: 4 years
- Texas Clinical Trials Participation Program Award*

Solicits applications from institutions, organizations, or other entities (including physician groups) that conduct clinical research to establish programs to increase the number and diversity of subjects participating in therapeutic cancer clinical trials in Texas by removing nonclinical out of pocket costs as barriers to participation in cancer clinical trials for financially burdened subjects.

Award: Up to \$1,500,000 (total costs); Maximum duration: 3 years.
- Texas Regional Excellence in Cancer Award*

Solicits applications to strengthen cancer research at institutions of higher learning located in regions of Texas that have historically received low levels of peer reviewed cancer research funding. CPRIT limits eligibility to Texas institutions located more than 100 miles from an NCI Designated Cancer Center. This award will support an established investigator to lead a program with a cohesive theme relevant to the cancer problems of the region, 3 to 5 research projects (the majority must be led by junior faculty), recruitment of new junior faculty, shared resources, and partnerships with established Texas cancer research programs to provide mentorship and access to facilities and/or expertise

Award: Up to \$6,000,000 (total costs); Maximum duration: 5 years.

Product Development Research Program Update

FY 2021 Product Development Research RFAs

CPRIT will release Product Development RFAs seeking applications for Texas Company, Relocation Company, and Seed Company awards on November 9. Dr. WalkerPeach and Ms. French will host a webinar for potential applicants on November 19. Applicants may submit proposals beginning December 2 through January 27, 2021. Dr. WalkerPeach will present the Product Development Review Council's award recommendations to the Program Integration Committee and the Oversight Committee in August 2021.

New Product Development RFA Concept In Development

Product Development is developing a new RFA with the working title "BRIDGE Award." Dr. WalkerPeach provided an early concept overview of the BRIDGE RFA to the Product Development Subcommittee in August and held a series of meetings with Product Development Advisory Committee members in September to solicit input on the concept.

Prevention Program Update

FY 2021 Cycle 1 (21.1) Prevention Review Cycle

Prevention released the *Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations* RFA on August 3 for the first review cycle of FY 2021. Applications are due on October 5, with peer review occurring January 19-20, 2021, by teleconference. Ms. Magid will present the Prevention Review Council's (PRC) 21.1 recommendations to the Program Integration Committee and the Oversight Committee in May 2021.

FY 2021 Cycle 2 (21.2) Prevention RFAs

The Oversight Committee approved four 21.2 RFAs, which CPRIT will release on October 16. Applications are due on February 10, 2021. CPRIT has scheduled peer review for April 26-29, 2021. Ms. Magid will present the PRC's 21.2 recommendations to the PIC and the Oversight Committee in August 2021.

FY 2021 Prevention Program RFAs

- *Evidence-Based Cancer Prevention Services*
Seeks projects that will deliver evidence-based cancer prevention and control clinical services. CPRIT will give priority to projects that propose to address CPRIT areas of emphasis and serve areas of the state not well addressed by current CPRIT funded projects. Award: Up to \$1 million over 36 months.

- Tobacco Control and Lung Cancer Screening*
 Seeks programs on tobacco prevention and cessation, as well as screening for early detection of lung cancer. Through release of this RFA, CPRIT's goal is to stimulate more programs across the state, thereby providing greater access for underserved populations and reducing the incidence and mortality rates of tobacco-related cancers. This RFA seeks to promote and deliver evidence-based programming designed to significantly increase tobacco cessation among adults and/or prevent tobacco use by youth.
 New Award: Up to \$1 million over 36 months.
 Expansion Award: Up to \$2.5 million over 3 years.
- Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations*
 Seeks to support coordination and expansion of evidence-based services to prevent cancer in underserved populations who do not have adequate access to cancer prevention interventions and health care, bringing together networks of public health and community partners to carry out programs tailored for their communities. Projects should identify cancers that cause the most burden in the community and use evidence-based models shown to work in similar communities to prevent and control these cancers. Currently funded CPRIT projects should propose to expand their programs to include additional types of prevention clinical services and/or an expansion of current clinical services into additional counties. In either case, the expansion must include delivery of services to nonmetropolitan and medically underserved counties in the state.
 Initial Expansion Award: Up to \$2 million over 3 years.
 Subsequent Expansion Award: Up to \$2.5 million over 5 years.
- Dissemination of CPRIT-Funded Cancer Control Interventions*
 Seeks to fund projects that will facilitate the dissemination and implementation of successful CPRIT-funded, evidence-based cancer prevention and control interventions across Texas. The proposed project should be able to develop one or more "products" based on the results of the CPRIT-funded intervention. The proposed project should also identify and assist others to prepare to implement the intervention and/or prepare for grant funding.
 Award: Up to \$300,000 over 24 months.
- Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations*
 Seeks to support coordination and expansion of evidence-based services to prevent cancer in underserved populations who do not have adequate access to cancer prevention interventions and health care, bringing together networks of public health and community partners to carry out programs tailored for their communities. Projects should identify cancers that cause the most burden in the community and use evidence-based models shown to work in similar communities to prevent and control these cancers. Currently funded CPRIT projects should propose to expand their programs to include additional types of prevention clinical services and/or an expansion of current clinical services into additional counties. In either case, the expansion must include delivery of services to nonmetropolitan and medically underserved counties in the state.
 Initial Expansion Award: Maximum of \$2 million over three years.
 Subsequent Expansion Award: Maximum of \$2.5 million over five years.

- *Dissemination of CPRIT-Funded Cancer Control Interventions*
Seeks to fund projects that will facilitate the dissemination and implementation of successful CPRIT-funded, evidence-based cancer prevention and control interventions across Texas. The proposed project should be able to develop one or more "products" based on the results of the CPRIT-funded intervention. The proposed project should also identify and assist others to prepare to implement the intervention and/or prepare for grant funding.
Award: Maximum of \$300,000 over 24 months.

Advisory Committees

The University of Texas System appointed two people to serve on the University Advisory Committee (UAC). Giulio Draetta, M.D., Ph.D., Senior Vice President, Chief Scientific Officer, Sewell Family Chair, Department of Genomic Medicine at The University of Texas M.D. Anderson Cancer Center, and Subhash C. Chauhan, Ph.D., Chair, Department of Microbiology and Immunology, Director of the Institute of Cancer Immunotherapy at The University of Texas Rio Grande Valley will join the UAC.

The Product Development Advisory Committee held a series of meetings in September to discuss the new BRIDGE RFA concept. The PDAC plans to meet in October to discuss the Texas business location criteria policy applicable to Product Development grantees.

Operations, Audit and Finance Update

CPRIT finance staff prepared CPRIT's Legislative Appropriations Request (LAR) for the 2022-23 biennium according to the instructions released by the Governor's Office and Legislative Budget Board on August 18. The LAR includes two exceptional items that the Oversight Committee approved July 31. CPRIT submitted the LAR on September 24 to the Governor's Office of Budget & Policy, the Lieutenant Governor's Office, the Speaker's Office, the Legislative Budget Board, and several other legislative oversight agencies.

CPRIT staff and the Weaver audit team are continuing work on the governance audit and the consulting engagement to evaluate the risks and internal controls in place for CPRIT's disaster recovery and business continuity planning. Weaver plans to complete these items by the November Oversight Committee meeting.

As of the end of August, CPRIT grant accounting staff reviewed and approved 42 financial status reports (FSRs) from 10 different grant organizations for the March-May period, with 15 grants submitting reimbursable COVID-19 disaster grant expenses. Of these, eight grants reported \$410,000 in personnel/fringe expenses for employees not working or working at reduced effort during the March - May period, three grants submitted \$2,800 in cancelled travel expenses, and four grants documented \$10,800 of other COVID-19 related expenses such as purchases of computer laptops, personal protective equipment, or COVID-19 test purchases. The deadline for FSRs covering the March-May period was August 31, with an additional 30-day grace period, so CPRIT expects to review and approve additional COVID-19 expenses that we will report.

Communications Update

Media Highlights

Following the August Oversight Committee meeting, media coverage focused on awards to institutions and companies in Dallas and San Antonio. OncoNano received most of the Dallas-area coverage. The *Dallas Morning News* also published an interview with CPRIT Scholar Todd Aguilera when he received a Damon Runyon Clinical Investigator Award.

8/19/20 – “Texas cancer research agency puts nearly \$10 million more into Southlake startup OncoNano” – *Dallas Morning News*

<https://www.dallasnews.com/business/health-care/2020/08/19/texas-cancer-research-agency-puts-nearly-10-million-more-into-southlake-startup-onconano/>

8/19/20 – “These SA institutions to get over \$10M in cancer research” – *San Antonio Business Journal*

<https://www.bizjournals.com/sanantonio/news/2020/08/19/cpr-it-to-award-10m-for-cancer-research.html>

8/20/20 – “Southlake BioTech Startup Gets \$10M Grant from CPRIT for Technology That ‘Lights Up’ Cancer” – *Dallas Innovates*

<https://dallasinnovates.com/southlake-biotech-gets-10m-grant-from-cpr-it-for-new-approach-that-lights-up-cancer/>

8/24/20 – “State Sends Nearly \$25 Million to North Texas to Fight Cancer” – *D Magazine*

<https://www.dmagazine.com/healthcare-business/2020/08/state-sends-nearly-25-million-to-north-texas-to-fight-cancer/>

8/28/20 – “San Antonio’s Mays Cancer Center gets \$10.3 million in state funding” – *San Antonio Express-News*

<https://www.expressnews.com/business/health-care/article/San-Antonio-s-Mays-Cancer-Center-gets-10-3-15522374.php>

8/31/20 – “Doctor who survived cancer as a young adult understands his patients’ struggles” – *Dallas Morning News*

<https://www.dallasnews.com/news/inspired/2020/08/31/doctor-who-survived-cancer-as-a-young-adult-understands-his-patients-struggles/#:~:text=31%2C%202020%20CDT-.Dr.,age%20of%2019%20%E2%80%94and%20won>

Cancer Awareness Month Activities

In recognition of Childhood Cancer Awareness Month in September, CPRIT’s social media content focused on childhood cancer projects we have funded. Most of this content is also available on CPRIT’s childhood cancer page: <https://childhoodcancer.cpr-it.texas.gov/>.

We plan several activities for Liver Cancer Awareness Month in October to promote CPRIT's Liver Cancer Collaborative Action Program (CAP). We are developing a Liver Cancer CAP landing page on our website. We will coordinate media strategy promoting its launch with Baylor College of Medicine to coincide with the annual symposium that Dr. Hashem El-Serag, CAP lead investigator, is holding on October 17. CPRIT recently interviewed Dr. El-Serag about the CAP for a video that will accompany the page launch.

Digital Media Activities

CPRIT Communications and IT staff are updating content on CPRIT's website, including remaking the "Grantee Resources" landing page for easier grantee access to CPRIT's rules, policies and procedures, as well as compliance resources and webinars. We are also creating a new "Our Impact" landing page that will focus on successful CPRIT-funded projects.

Social Media

Our top Facebook post in September highlighted Childhood Cancer Awareness Month. The top posts on Twitter and LinkedIn congratulated Texas A&M University on their grant awards. TAMU's tweet announcing their CPRIT awards was our top mention on Twitter.

Social Media Statistics (August 24 – September 20)

- Facebook
Reach: 411 people
Engagement: 111 reactions/clicks
Page Views: 148
Top Post: Osteosarcomas, or bone cancers, disproportionately affect children and young adults. Dr. Benjamin Fregly, CPRIT Scholar and professor at Rice University is using computer models to help patients and their doctors choose treatments that are most likely to maintain their ability to walk after surgery. Learn more about how Dr. Fregly and our CPRIT scholars are helping in the fight against cancer: <https://cprit.us/3m3vTXC>
Post Reach: 216 people
Engagement: 8 clicks, 7 reactions
- Twitter
Total Tweets: 11
Tweet Impressions: 14,800
Profile Visits: 330
Mentions: 30
New Followers: 12 (2,637 total)

Top tweet: Congrats to @TAMU for their recent #CPRIT awards in research and prevention!
<https://cprit.us/34Ze7yV>
Impressions: 2,517
Engagements: 33

Top mention: @tamu - Texas A&M researchers will continue to advance cancer treatment and prevention in Texas and around the world with \$7.1 million in new funding from @CPRITTexas! tx.ag/CPRIT2020 #tamu pic.twitter.com/azR0slFwyh
Engagements: 439

- LinkedIn
Total Updates: 11
Post Impressions: 3,000
Reactions: 63
Shares: 5
Page views: 110
Unique Visitors: 53
New followers: 16 (1035 total)

Top Update: Congratulations to Texas A&M University System and Texas A&M Health Science Center on their recent awards for cancer research and prevention.
<https://cprit.us/34Ze7yV>
Impressions: 336
Clicks: 8
Reactions: 12
Engagement rate: 6.25%

Upcoming Subcommittee Meetings

Listed below are the subcommittee meetings in advance of the November 18 Oversight Committee meeting.

Board Governance	November 5 at 10:00 a.m.
Audit	November 9 at 10:00 a.m.
Academic Research	November 11 at 10:00 a.m.
Product Development	November 12 at 10:00 a.m.
Prevention	November 12 at 1:00 p.m.
Nominations	November 13 at 10:30 a.m.

The Department of Information Resources recently approved the use of the Zoom government platform for non-public meetings hosted by state agencies. CPRIT is procuring hosting licenses and plans to use the Zoom platform for the subcommittee meetings in November. We will send instructions for signing onto the Zoom platform. Please plan to join the subcommittee meeting early so we can address any technology issues before the meeting start time.

CPRIT will provide an agenda and supporting material to the subcommittees one week prior to the meeting date.

CPRIT has awarded **1,576** grants totaling **\$2.641 billion**

- 244 prevention awards totaling \$277.7 million
- 1,332 academic research and product development research awards totaling \$2.363 billion

Of the \$2.363 billion in academic research and product development research awards,

- 30.9% of the funding (\$730.0 million) supports clinical research projects
- 24.8% of the funding (\$586.0 million) supports translational research projects
- 27.9% of funding (\$659.6 million) supports recruitment awards
- 13.9% of the funding (\$327.7 million) supports discovery stage research projects
- 2.5% of funding (\$60.0 million) supports training programs.

CPRIT has 11 open Requests for Applications (RFAs)

- 3 Research Recruitment
- 7 Academic Research
- 1 Prevention



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: WAYNE R. ROBERTS, CHIEF EXECUTIVE OFFICER
SUBJECT: CPRIT ACTIVITIES UPDATE FOR OCTOBER
DATE: OCTOBER 30, 2020

Topics in this memo address preparations for the November 18 Oversight Committee meeting and CPRIT activities in October, including recent milestones in our fight against cancer, a staffing summary, outreach efforts, FY 2022 Program Priorities, and updates from Compliance, Programs, Operations, and Communications.

Planning for the November 18 Oversight Committee Meeting

The Oversight Committee will meet November 18 by videoconference. CPRIT will post the final agenda for the Oversight Committee meeting by November 10. Please notify me if you are unable to attend the November 18 meeting or have schedule constraints that require you to join the meeting after 9:00 a.m. or leave prior to 11:30 a.m. Oversight Committee members will receive an electronic copy of the agenda packet by November 11. We will also mail you hard copies of the agenda and proposed award packets.

You will receive an email from CPRIT by November 6 with a link and password to access the Program Integration Committee's recruitment award recommendations via the grant award portal. The portal has a summary of the award slate, as well as supporting documentation for each proposed award, including the application, CEO affidavit, summary statement, and grant pedigree. Please allow some time to complete the individual conflict of interest checks and review the supporting material.

CPRIT will hold the November 18 meeting using the Zoom platform. Although the Texas Open Meetings Act requires government officials and members of the public to be physically present at a specified meeting location, Governor Abbott eased enforcement of this restriction while the COVID-19 pandemic makes travel and meeting in large groups prohibitive.

You will receive an email from CPRIT with information unique to you for signing onto Zoom. (This is different than the sign-on information provided for the public that we will list on the Oversight Committee agenda.) Plan to sign on 15 – 30 minutes before the 9:00 a.m. start time so that we can address any connection issues without delaying the meeting.

Recent Milestones in the Fight Against Cancer

CPRIT Grantees in the News

- Dr. C. Kent Osborne stepped down as director of the Dan L. Duncan Comprehensive Cancer Center at Baylor College of Medicine on September 29 after 15 years in the role. He will stay at Baylor College of Medicine as founding director of the cancer center. Under Dr. Osborne's tenure the National Cancer Institute awarded the Duncan Cancer Center the prestigious designation as a Comprehensive Cancer Center, which the NCI renewed again this year. The NCI designation recognizes the center for its depth and breadth of clinical and basic science research, clinical research trials and service to cancer patients from diverse populations in the community. Since the initial NCI designation in 2007, the Duncan Cancer Center has increased annual research grant funding to \$170 million from \$99 million.

Dr. Osborne serves as Chair of the CPRIT University Advisory Committee and the CPRIT Clinical Trials Advisory Committee. Dr. Helen Heslop, director of the Center for Cell and Gene Therapy, will serve as interim director while the search for a new director is underway.

- The Texas Collaborative Center for Hepatocellular Cancer (TeCH) held its inaugural symposium on October 17 as a full day virtual meeting attended by Texas scientists, clinicians, community workers, healthcare administrators, and policy makers. CPRIT funded the creation of the TeCH at Baylor College of Medicine (RP190641) to promote collaboration among Texas scientists, clinicians, community workers, healthcare administrators, and policy makers.
- Dr. Ralph Deberardinis, a professor at the Children's Medical Research Institute at The University of Texas Southwestern Medical Center, chief of the division of pediatric genetics and metabolism, and a Howard Hughes Medical Institute investigator, was elected to the National Academy of Medicine. The distinction is one of the highest honors in the fields of health and medicine and recognizes Dr. Deberardinis for his significant discoveries in cancer metabolism and research into childhood conditions known as inborn errors of metabolism. His achievements include helping to pioneer a new way to study altered metabolism directly in cancer patients. This has allowed his team to uncover the mechanisms by which tumors use nutrients to produce energy and to identify metabolic pathways that allow tumors to grow and spread. The approach provides researchers with insights impossible to obtain in the laboratory and scientists are using the methodology to study metabolism in nearly a dozen forms of human cancer. Dr. Deberardinis is a four-time CPRIT grant award recipient, receiving more than \$2 million to support studies of lung and brain cancer metabolism.
- The National Cancer Institute's *Cancer Currents* blog interviewed Dr. Abbey Berenson of The University of Texas Medical Branch at Galveston for its feature [Large Study Confirms that HPV Vaccine Prevents Cervical Cancer](#). Dr. Berenson is the project director for eight CPRIT-funded HPV vaccination projects, as well as principal investigator for a CPRIT academic research project funding a randomized, controlled trial comparing the effectiveness of two doses versus three doses of the HPV vaccine in people 15-26 years old (RP190022.)

Notable Research and Prevention Grantee Accomplishments

- CPRIT Scholar Kyle Miller, Ph. D., associate professor of molecular biosciences at The University of Texas at Austin, reported in the journal *Molecular Cell* on a protein that may help doctors predict which patients will become resistant to a class of drugs frequently used to treat BRCA 1/2-deficient tumors. The protein, called PCAF, promotes DNA damage in BRCA 1/2-mutated cancer cells. Patients with low levels of PCAF are likely to have poor outcomes and develop resistance to PARP inhibitors, a type of drug doctors use to treat BRCA-deficient tumors.
- A team of researchers from The University of Texas Southwestern Medical Center, led by Dr. David Gerber, conducted a clinical trial in lung cancer that demonstrated drug level differences among patients can determine the success or failure of a cancer treatment in an individual patient. Dr. Gerber's trial is based on his team's earlier work indicating that the antifungal drug itraconazole shuts down pathways used by cancer cells to grow.

As reported in *Clinical Cancer Research*, the UT Southwestern team conducted a clinical trial of itraconazole in 13 patients with lung cancer. The team measured how much itraconazole ended up in the bloodstreams and tumors and found a sixfold variation in drug levels in tumor samples. The itraconazole levels in the patients' bodies also correlated with how effectively the drug shrank their tumors. Tissue analysis and imaging studies revealed that the patients' tumors with higher levels of itraconazole had greater reductions in tumor blood vessels and blood flow. Dr. William Trey Putnam, director of the CPRIT-supported North Texas Clinical Pharmacology Cancer Core (RP170003) at the Dallas campus of Texas Tech University Health Sciences Center, carried out the blood and tissue assays.

- Bryce Kyburz, Project Manager at Austin's Integral Care, conducted two virtual "fireside chats" training sessions hosted by the National Behavioral Health Network for Tobacco & Cancer Control and funded by the Substance Abuse and Mental Health Services Administration. Mr. Kyburz discussed implementing a comprehensive, multi-component tobacco-free program based on his experience as project manager for "Taking Texas Tobacco Free," a CPRIT-funded academic-community partnership addressing tobacco use among clients at mental health and substance use treatment centers in Texas (PP170070). He shared best practices and challenges encountered in taking behavioral health facilities tobacco-free, with health professionals from across the country.
- The FDA advised Medicenna Therapeutics to proceed with an open-label hybrid control design for a Phase 3 registration trial of their novel drug known as MDNA55 in recurrent glioblastoma patients with no mutation in 1DH1/1DH2 genes. The Houston-based company received a \$14.1 million CPRIT Product Development award in 2014 to support the development of MDNA55, a novel immunotherapy for the treatment of recurrent glioblastoma and other brain cancers.
- The FDA granted Austin-based Curtana Pharmaceuticals, Inc. a Rare Pediatric Disease (RPD) Designation for CT-179, the company's lead Olig2 inhibitor, for the treatment of

medulloblastoma. With the RPD designation, Curtana may be eligible for a Priority Review Voucher (PRV), which the company may sell, transfer, or use for a subsequent marketing application. The US Government Accountability Office reports that the sales price of a PRV ranged between \$80 million and \$130 million during 2017 - 2019.

Curtana received a \$7.6 million CPRIT Product Development award in 2014 to support the development of a novel small molecule targeting glioblastoma and other brain cancers.

- The FDA granted Allterum Therapeutics an Orphan Drug Designation and a Rare Pediatric Disease Designation for its monoclonal antibody therapy under development. The Houston-based company received a \$2.9 million CPRIT Product Development SEED award in 2019 to support development of the company's lead drug candidate.
- OncoNano Medicine, Inc. announced positive results from the company's ongoing Phase 2a study of ONM-100, a novel imaging agent used in intraoperative surgical resection of solid tumors. The data, presented at the *World Molecular Imaging Congress Virtual 2020*, demonstrate successful imaging of various solid tumors.

CPRIT awarded OncoNano a \$6 million CPRIT Product Development award in 2014 and a \$10 million award in 2020 to develop ONM-100 to detect breast, head, neck, and skin cancers. The Southlake-based company also received a \$15.4 million CPRIT Product Development award in 2019 for a novel T-cell activating cancer vaccine for solid tumors.

- The FDA approved AlloVir, Inc.'s Investigational New Drug application for ALVR109, an allogeneic, off-the-shelf virus-specific T cell therapy candidate designed to target SARS-CoV-2, the virus that causes COVID-19. The Houston-based company, formerly known as ViraCyte, received \$1.5 million in CPRIT Product Development award funds in 2017 to develop a T-cell therapy designed to safely treat severe viral infections in cancer patients after stem cell transplants.

Personnel

CPRIT has filled 34 of our 36 full-time equivalent (FTE) positions.

CPRIT Outreach

Staff outreach activities during late September and October include:

- Senior Program Manager for Academic Research Dr. Patty Moore attended the *Second Annual Implementation Science Consortium in Cancer* virtual meeting on September 22 - 23.
- Senior Program Manager for Product Development Rosemary French attended the *Inaugural Virtual Discussion: Women Leading in Connecticut's Life Science Ecosystem*, hosted by Executive Women in Bio on September 23.

- Chief Product Development Officer Dr. Cindy WalkerPeach and Ms. French virtually attended the *2020 Brazos Valley Business Summit*, an event hosted by the Brazos Valley Economic Development Corporation held at Texas A&M University on September 25.
- Dr. Cindy WalkerPeach virtually presented an overview of CPRIT and the Product Development Program to the THBI Academic Leadership Council Meeting on October 6.
- On October 15, Chief Operating Officer Heidi McConnell, Deputy Executive Officer and General Counsel Kristen Doyle and I briefed staff of State Senator Jane Nelson by teleconference on CPRIT's Legislative Appropriations Request (LAR) for Fiscal Biennium 2022-23.
- Dr. WalkerPeach and Ms. French attended a virtual BioTexas Café event *The Promise of Personalized Medicine: CAR T-Cell Therapy* held on October 15.
- Chief Prevention Officer Ramona Magid and Dr. Moore attended the inaugural *Texas Collaborative Center for Hepatocellular Cancer (TeCH) Annual Symposium* held virtually on October 17.
- On October 21, Ms. Magid virtually presented CPRIT's Prevention Program accomplishments and plans for FY 2022 and CPRIT 2.0 to the Texas Cancer Control staff of the American Cancer Society.
- Ms. French attended a webinar hosted by Texas A&M University, *Innovation and Entrepreneurial Mindset in Engineering Education*, held October 21.
- Dr. WalkerPeach delivered the virtual keynote address on CPRIT at the *Health Tech Austin Virtual Cancer Innovation Summit* on October 22.
- On October 26, Ms. McConnell, Ms. Doyle and I met by videoconference with CPRIT's new analyst with the Office of the Governor. We briefed him on CPRIT activities and our LAR for Fiscal Biennium 2022-23.
- Ms. McConnell, Ms. Doyle and I met by teleconference with Lieutenant Governor Dan Patrick's staff on October 28 for a briefing on CPRIT's LAR for Fiscal Biennium 2022-23.
- Dr. Willson served as a virtual keynote speaker, along with Kelvin K. Droegemeier, Ph.D., Director of the White House Office of Science & Technology Policy, at the *Computing Cancer in Texas* research symposium on October 29. The University of Texas System collaboration in Oncological Data and Computational Science hosted the virtual meeting. The UT institutions participating in the collaboration include MD Anderson Cancer Center and UT Austin's Oden Institute for Computational Engineering and Sciences and the Texas Advanced Computing Center. The collaboration brings together teams with oncology expertise and data with novel mechanism-based computational modeling techniques.

- Dr. WalkerPeach presented a virtual update on CPRIT, including upcoming funding opportunities, to the North Texas Venture Mentoring Service Group on October 29.
- Ms. Magid attended Healthier Texas Summit virtual events throughout October.

FY 2022 Program Priorities

The three program subcommittees will discuss program priorities for FY 2022 in their upcoming subcommittee meetings in preparation for the Oversight Committee's vote to adopt the priorities at the November 18 meeting. I also plan to update the Oversight Committee on CPRIT's future priority setting at the November meeting.

Compliance Program Update

Submission Status of Required Grant Recipient Reports

CPRIT has \$1.4 billion in active grants under management, with 560+ grants that are either active or wrapping up grant activities. We receive an average of 560 grantee reports each month. As of October 22, four entities had not filed seven Academic Research reports and one Product Development Research reports. CPRIT's grant accountants and compliance specialists review and process incoming reports and reach out to grantees to resolve filing issues. In most cases, CPRIT does not disburse grant funds until the grantee files the required reports. In some instances, grantee institutions may be ineligible to receive a future award if the grantee does not submit the required reports.

Financial Status Report Reviews

CPRIT's compliance specialists performed 155 second-level reviews of grantee Financial Status Reports (FSRs) in October. Seventeen FSRs (11%) required resubmission due to insufficient or inaccurate documentation submitted by the grantee. CPRIT's grant accounting staff completes the initial review of the FSRs and supporting documentation before routing them to the compliance specialists for final review and disposition.

Single Audit Tracking

Compliance specialists track the submission of grantees' independent audit reports and the resolution of issues identified in these reports. Grantees who expend \$750,000 or more in state awards in the grantee's fiscal year must submit a single independent audit, a program specific audit, or an agreed upon procedures engagement. The grantee submits the independent audit report with findings to CPRIT within 30 days of receipt, but no later than nine months after the grantee's fiscal year end.

Currently, all grantees have submitted required audits. Grantees are unable to receive reimbursements or advances if they are delinquent in filing the required audit and corrective

action plan unless the grantee requests additional time by the due date of the required audit and CPRIT's CEO approves the request.

Desk Reviews

Compliance staff completed a comprehensive review of the desk review monitoring protocol and finalized revisions to the tool in October. Compliance specialists performed two desk-based financial monitoring reviews during October using the revised protocol. Enhanced desk reviews verify that grantees expend funds in compliance with specific grant requirements and guidelines and may target an organization's internal controls, current and past fiscal audits, and timeliness of required grant report submissions. Compliance specialists are working with four grantees to remediate desk review findings.

Onsite Reviews

CPRIT has two virtual onsite reviews scheduled with grantees. CPRIT postponed all onsite reviews at the onset of the COVID-19 pandemic and staff is now actively working with grantees to schedule onsite reviews. Onsite reviews examine the grantee's financial and administrative operations, subcontract monitoring, procurement and contracting procedures, inventory procedures, personnel policies and procedures, payroll and timesheet policies, travel policies and records, and single audit compliance.

Training and Support

CPRIT staff conducted a series of Annual Compliance Training webinars on October 7-8. Trainings are specific to each program area (Academic Research, Product Development Research, and Prevention) and allow for an interactive experience and opportunity to focus on topics relevant to each program. The trainings cover grant reporting requirements, administrative rule changes, grant closeout, and an overview of the compliance program including fraud, waste, and abuse reporting. This was the final training series offered this year for the annual compliance training obligation, which requires the Authorized Signing Official (ASO) and at least one other employee from each grantee organization to attend an annual compliance training by December 31 of each year.

CPRIT held a new ASO training webinar October 26 with OncoNano. The training covered grant reporting requirements, administrative rule changes, grant closeout, and an overview of the compliance program including fraud, waste, and abuse reporting. Pursuant to Texas Administrative Code §703.22, CPRIT requires new ASOs to complete a compliance training within 60 days of the change.

Academic Research Program Update

FY 2021 Recruitment Applications

The Scientific Review Council (SRC) met August 13, September 10 and October 15 to review recruitment applications for the first quarter of FY 2021 (cycles 21.01 – 21.03). Dr. Willson will present the SRC's recommendations to the Program Integration Committee (PIC) and the Oversight Committee in November.

FY 21.01 and 21.02 Mechanism	Received	Funds Requested	Approved by SRC	Funds Approved
Recruitment Established Investigators	2	\$12,000,000	2	\$12,000,000
Recruitment of Rising Stars	1	\$4,000,000	0	N/A
Recruitment of First-Time, Tenure Track Faculty Members	8	\$16,000,000	7	\$14,000,000
TOTAL	11	\$32,000,000	9	\$26,000,000

FY 2021 RFAs

CPRIT issued a request for applications (RFAs) for the Research Training Award in late June. Applicants submitted 15 proposals by the October 28 deadline. Peer reviewers will evaluate the applications in February 2021 and Dr. Willson will present the SRC's award Training Award recommendations to the PIC and Oversight Committee in May 2021.

CPRIT released six academic research RFAs in early August. Dr. Willson and Dr. Moore hosted a webinar on October 19 to introduce and field questions regarding two new RFAs focused on clinical trials, the Clinical Trials Network Award and the Texas Clinical Trials Participation Program Award. Applicants may submit proposals for these six grant mechanisms from September 16 through January 27, 2021. After peer review in the spring, Dr. Willson will present the SRC's recommended awards to the PIC and Oversight Committee in August 2021.

Product Development Research Program Update

FY 2021 Product Development Research RFAs

CPRIT will release Product Development RFAs on November 9 for the Texas Company, Relocation Company, and Seed Company awards. Dr. WalkerPeach and Ms. French will host a webinar for potential applicants on November 19. Applicants may submit proposals beginning December 2, 2020, through January 27, 2021. Dr. WalkerPeach will present the Product Development Review Council's award recommendations to the PIC and the Oversight Committee in August 2021.

Prevention Program Update

FY 2021 Cycle 1 (21.1) Prevention Review Cycle

CPRIT released the *Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations* RFA on August 3. Applicants submitted 12 proposals requesting \$26,133,587 by the October 5 deadline. Peer reviewers will meet January 20 - 21, 2021, to evaluate these applications submitted for the first review cycle of FY 2021. Ms. Magid will present the Prevention Review Council's (PRC) cycle 21.1 recommendations to the Program Integration Committee and the Oversight Committee in May 2021.

FY 2021 Cycle 2 (21.2) Prevention RFAs

The Oversight Committee approved four 21.2 RFAs, which CPRIT released October 16. Applications are due on February 10, 2021. CPRIT has scheduled peer review for April 26-29, 2021. Ms. Magid will present the PRC's cycle 21.2 recommendations to the PIC and the Oversight Committee in August 2021.

FY 2021 Prevention Program RFAs

- *Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations*
Seeks to support coordination and expansion of evidence-based services to prevent cancer in underserved populations who do not have adequate access to cancer prevention interventions and health care, bringing together networks of public health and community partners to carry out programs tailored for their communities. Projects should identify cancers that cause the most burden in the community and use evidence-based models shown to work in similar communities to prevent and control these cancers. Currently funded CPRIT projects should propose to expand their programs to include additional types of prevention clinical services and/or an expansion of current clinical services into additional counties. In either case, the expansion must include delivery of services to nonmetropolitan and medically underserved counties in the state.
Initial Expansion Award: Up to \$2 million over 3 years.
Subsequent Expansion Award: Up to \$2.5 million over 5 years.
- *Evidence-Based Cancer Prevention Services*
Seeks projects that will deliver evidence-based cancer prevention and control clinical services. CPRIT will give priority to projects that propose to address CPRIT areas of emphasis and serve areas of the state not well addressed by current CPRIT funded projects.
Award: Up to \$1 million over 36 months.
- *Tobacco Control and Lung Cancer Screening*
Seeks programs on tobacco prevention and cessation, as well as screening for early detection of lung cancer. Through release of this RFA, CPRIT's goal is to stimulate more programs across the state, thereby providing greater access for underserved populations and reducing the incidence and mortality rates of tobacco-related cancers. This RFA seeks to promote and

deliver evidence-based programming designed to significantly increase tobacco cessation among adults and/or prevent tobacco use by youth.

New Award: Up to \$1 million over 36 months.

Expansion Award: Up to \$2.5 million over 3 years.

- *Dissemination of CPRIT-Funded Cancer Control Interventions*
Seeks to fund projects that will facilitate the dissemination and implementation of successful CPRIT-funded, evidence-based cancer prevention and control interventions across Texas. The proposed project should be able to develop one or more "products" based on the results of the CPRIT-funded intervention. The proposed project should also identify and assist others to prepare to implement the intervention and/or prepare for grant funding.
Award: Up to \$300,000 over 24 months.

Advisory Committees

- The Product Development Advisory Committee met in virtual meetings in October to discuss the Texas business location criteria policy with CPRIT staff and the Product Development Review Council.
- The University Advisory Committee will meet virtually on November 10.

Operations, Audit and Finance Update

CPRIT finance staff is finalizing the agency's Annual Financial Report (AFR) to submit to the Comptroller's Office by November 20. The Comptroller will incorporate CPRIT's AFR into the state's Comprehensive Annual Financial Report.

On October 1, CPRIT finance staff held a kickoff meeting with the McConnell and Jones (MJ) audit team for the annual audit of the agency's financial statements for the fiscal year ending August 31, 2020 (FY 2020). The MJ audit team is performing all audit field work remotely this year during the week of October 26 – October 30.

CPRIT staff and the Weaver internal audit team have completed the governance internal audit and the advisory engagement to evaluate the risks and internal controls in place for CPRIT's disaster recovery and business continuity planning. CPRIT will distribute the internal audit report and the advisory engagement results report to the Audit Subcommittee at the beginning of November for review at the subcommittee meeting on November 9. Following the audit subcommittee meeting, CPRIT will provide the reports to the entire Oversight Committee for action at the November 18 Oversight Committee meeting.

CPRIT grant accounting staff processed \$1.3 million in COVID-related expenses in September. Grantees included these COVID-19 related expenses on 177 grant financial status reports (FSRs) submitted by 27 different grantee organizations. Of the 177 FSRs with COVID-19 expenses processed by CPRIT in September, 99 FSRs reported \$1,246,564 of personnel/fringe expenses for employees who could not work or worked at reduced effort during the March-May 2020

quarterly reporting period, 4 FSRs included \$1,746 of cancelled travel expenses, and 6 grants documented \$23,831 of other COVID-19 related expenses (e.g. computer laptop equipment, personal protective equipment, or COVID-19 test purchases.) CPRIT reported this information to the Legislative Budget Board and Office of the Governor.

The amount reviewed and approved in September is in addition to the \$423,421 in COVID-related expenses already reported on 42 FSRs submitted by 10 grantee organization that CPRIT processed through the end of FY 2020 (August 31). With 550 active grant projects, CPRIT still expects to process more than 250 FSRs covering the March-May 2020 fiscal quarter that may include COVID-19 expenses.

Communications Update

Media Highlights

CPRIT grantee Dorothy Gibbons of The Rose in Houston was the subject of coverage in the Houston media market for Breast Cancer Awareness Month in October.

10/9/20 – “Houston nonprofit The Rose determined to help uninsured women receive breast cancer treatment” – Houston Chronicle

<https://www.chron.com/neighborhood/sugarland/news/article/Houston-nonprofit-The-Rose-determined-to-help-15631597.php>

10/23/20 – “Voices of Houston: Meet Dorothy Gibbons, a local leader helping more than 40K women annually” – KPRC Houston

<https://www.click2houston.com/features/2020/10/22/voices-of-houston-meet-dorothy-gibbons-a-local-leader-helping-more-than-40k-women-annually/>

Media Relations

Communications is working with the Will Maddox, editor of D CEO Magazine, for a feature to appear late 2020 or early 2021 on CPRIT-funded companies in North Texas and their connections to The University of Texas Southwestern Medical Center. Mr. Maddox plans to interview CPRIT Program Officers for the story.

Outreach Activities

Brazos Valley Economic Development Corporation is working with Communications to prepare a virtual stakeholder event planned for early December that will showcase CPRIT. We expect that research grantees from the Texas A&M System as well as CPRIT product development grantee Fujifilm Diosynth will participate.

Cancer Awareness Month Activities

In recognition of Breast Cancer Awareness Month and Liver Cancer Awareness Month, CPRIT's social media activities in October highlighted grantees and initiatives working on these cancers. CPRIT launched a new feature page, <https://livercancer.cprit.texas.gov/>, on CPRIT's website for the Liver Cancer Collaborative Action Program (CAP). We coordinated its release with Baylor College of Medicine to coincide with CAP lead investigator Dr. Hashem El-Serag's annual symposium on Oct. 17. The Liver Cancer CAP feature page includes a video CPRIT produced about the CAP. We have reached out to media outlets in several different markets around the state to pitch stories for liver cancer awareness.

Social Media

Twitter continues to be CPRIT's most effective social media channel for engaging with our institutional stakeholders and the cancer research community. Our partners are more active on Twitter and are easier to coordinate mentions and tagging. LinkedIn is also popular as more of CPRIT's stakeholders increase their presence there.

Social Media Statistics (September 29 – October 26)

- Twitter

Total Tweets: 19

Tweet Impressions: 26,100

Profile Visits: 376

Mentions: 35

New Followers: 24 (2,668 total)

Top tweet: We congratulate Dr. DeBerardinis (@RJDLab), recipient of multiple CPRIT awards, for his election to @theNAMedicine! He joins CPRIT #Scholar @SJMorrison_ as the second member of @CRI_UTSW to be awarded this honor.

Impressions: 3,590

Engagements: 45

Top mention: Hashem El-Serag (SeragHashem): @KanwalFasiha giving a talk on #nafld and hepatocellular carcinoma. The first annual symposium for TeCH (Texas Collaborative Center for HCC) @CPRITTexas. >120 attendees! pic.twitter.com/iO8lJp3dbR

Engagements: 379

- LinkedIn

Total Updates: 11

Post Impressions: 6,300

Reactions: 89

Shares: 1

Page views: 183

Unique Visitors: 70

New followers: 25 (1061 total)

Top Update: As #ChildhoodCancer Awareness Month winds down, we'd like to focus on the work of C. Patrick Reynolds at the Texas Tech University Health Sciences Center COG-ALSF Repository. CPRIT provides core funding for the repository which serves as a resource laboratory for the Children's Oncology Group(COG) by providing validated cell lines and cryopreserved patient-derived xenografts (PDXs). Today, the repository serves over 600 labs across the country and worldwide. Read more: <https://cprit.us/3cENf98> #CCAM

Impressions: 1,823

Clicks: 28

Reactions: 21

Engagement rate: 2.69%

- Facebook

Reach: 530 people

Engagement: 111 reactions/clicks

Page Views: 108

Top Post: Meet Matthew Ellis, CPRIT Scholar and Professor at Baylor College of Medicine. Dr. Ellis is known for his pioneering research in the pre-surgical treatment of #breastcancer; he has developed treatment regimens that are being increasingly used worldwide. Learn more about Dr. Ellis' research aimed at fighting breast cancer: <https://cprit.us/2SwQ0QC>

Post Reach: 145 people

Engagement: 2 clicks, 5 reactions

Upcoming Subcommittee Meetings

Listed below are the subcommittee meetings in advance of the November 18 Oversight Committee meeting.

Board Governance	November 5 at 10:00 a.m.
Audit	November 9 at 10:00 a.m.
Academic Research	November 11 at 10:00 a.m.
Product Development	November 12 at 10:00 a.m.
Prevention	November 12 at 1:00 p.m.
Nominations	November 13 at 10:30 a.m.

The Department of Information Resources recently approved the use of the Zoom government platform for non-public meetings hosted by state agencies. CPRIT is procuring hosting licenses and plans to use the Zoom platform for the subcommittee meetings in November. We will send instructions for signing onto the Zoom platform. Please plan to join the subcommittee meeting early so we can address any technology issues before the meeting start time.

CPRIT will provide an agenda and supporting material to the subcommittees one week prior to the meeting date.

CPRIT has awarded **1,576** grants totaling **\$2.641 billion**

- 244 prevention awards totaling \$277.7 million
- 1,332 academic research and product development research awards totaling \$2.363 billion

Of the \$2.363 billion in academic research and product development research awards,

- 30.9% of the funding (\$730.0 million) supports clinical research projects
- 24.8% of the funding (\$586.0 million) supports translational research projects
- 27.9% of funding (\$659.6 million) supports recruitment awards
- 13.9% of the funding (\$327.7 million) supports discovery stage research projects
- 2.5% of funding (\$60.0 million) supports training programs.

CPRIT has 13 open Requests for Applications

- 3 Research Recruitment
- 6 Academic Research
- 4 Prevention



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: VINCE BURGESS, CHIEF COMPLIANCE OFFICER
SUBJECT: COMPLIANCE PROGRAM UPDATE
DATE: NOVEMBER 9, 2020

The Chief Compliance Officer is responsible for apprising the Oversight Committee and the Chief Executive Officer of institutional compliance functions and activities, and assuring the Oversight Committee that controls are in place to prevent, detect and mitigate compliance risk. The required reporting includes quarterly updates to the Oversight Committee on CPRIT's compliance with applicable laws, rules, and agency policies. In addition, the Compliance Officer is responsible for monitoring the timely submission status of required grant recipient reports and notifying the Oversight Committee and General Counsel of a grant recipient's failure to meaningfully comply with reporting deadlines.

Submission Status of Required Grant Recipient Reports

CPRIT has \$1.4 billion in active grants under management, with 560+ grants that are either active or wrapping up grant activities. We receive an average of 560 grantee reports each month. As of October 26, three entities had not filed four Academic Research reports and one Product Development research report. CPRIT's grant accountants and compliance specialists review and process incoming reports and engage grantees to resolve filing issues. In most cases, CPRIT does not disburse grant funds until the grantee files the required reports. In some instances, grantee institutions may be ineligible to receive a future award if the grantee does not submit the required reports.

Financial Status Report Reviews

CPRIT's compliance specialists performed 572 second-level reviews of grantee Financial Status Reports (FSRs) for the months of August, September, and October. Eighty-one FSRs (14%) required resubmission due to insufficient or inaccurate documentation submitted by the grantee. CPRIT's grant accounting staff completes the initial review of the FSRs and supporting documentation before routing them to the compliance specialists for final review and disposition.

Single Audit Tracking

Compliance specialists track the submission of grantees' independent audit reports and the resolution of issues identified in these reports. Grantees who expend \$750,000 or more in state awards in the grantee's fiscal year must submit a single independent audit, a program specific

audit, or an agreed upon procedures engagement. The grantee submits the independent audit report with findings to CPRIT within 30 days of receipt, but no later than nine months after the grantee's fiscal year end.

Grantees are unable to receive reimbursements or advances if they are delinquent in filing the required audit and corrective action plan unless the grantee requested additional time by the due date of the required audit and CPRIT's CEO approved the request. Currently, all grantees have submitted the required audits.

Desk Reviews

Compliance staff completed a comprehensive review of the desk review monitoring protocol and finalized revisions to the tool in October. Compliance specialists performed 21 desk-based financial monitoring reviews during August, September, and October. Enhanced desk reviews verify that grantees expend funds in compliance with specific grant requirements and guidelines and may target an organization's internal controls, current and past fiscal audits, and timeliness of required grantee report submission. Compliance specialists are working with four grantees to remediate prior desk review findings.

Onsite Reviews

CPRIT has scheduled two onsite reviews for November and an additional two have been scheduled for December. Onsite reviews examine the grantee's financial and administrative operations, subcontract monitoring, procurement and contracting procedures, inventory procedures, personnel policies and procedures, payroll and timesheet policies, travel policies and records, and single audit compliance.

Training and Support

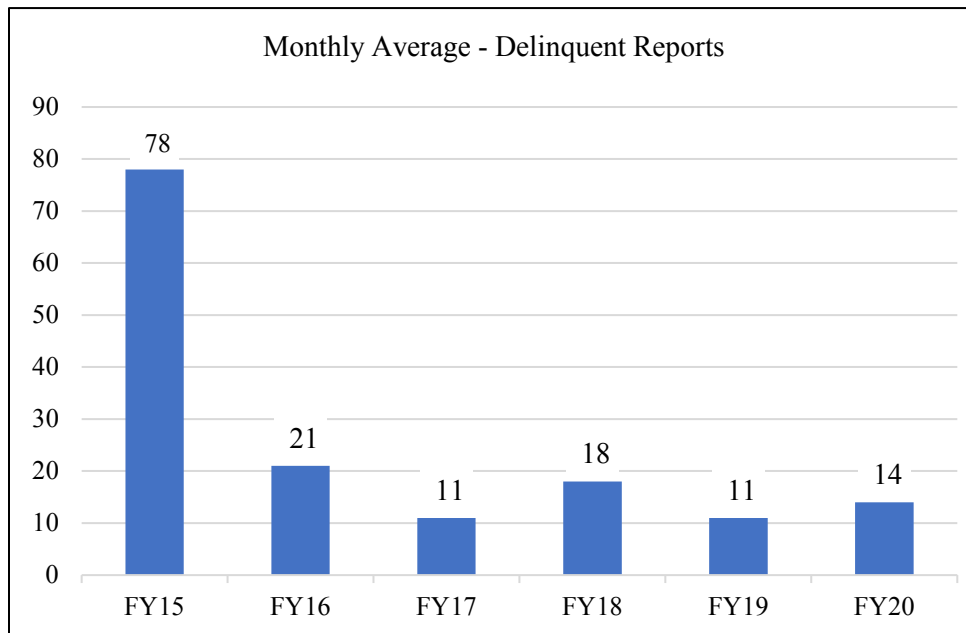
CPRIT staff conducted a series of Annual Compliance Training webinars on October 7-8. Trainings are specific to each program area (Academic Research, Product Development Research, and Prevention) and allow for an interactive experience and opportunity to focus on topics relevant to each program. The trainings cover grant reporting requirements, administrative rule changes, grant closeout, and an overview of the compliance program including fraud, waste, and abuse reporting. This was the final training series offered this year for the annual compliance training obligation, which requires the Authorized Signing Official (ASO) and at least one other employee from each grantee organization to attend an annual compliance training by December 31 of each year.

CPRIT staff conducted a new ASO training webinar on October 26 with OncoNano. The training covers grant reporting requirements, administrative rule changes, grant closeout, and an overview of the compliance program including fraud, waste, and abuse reporting. Pursuant to Texas Administrative Code §703.22, CPRIT requires new ASOs to complete a compliance training within 60 days of the change.

FY20 Compliance Program Activities Summary

CPRIT's Compliance Program functions are designed to actively support the integrity and transparency of CPRIT's agency processes. FY20 Compliance Program highlights include:

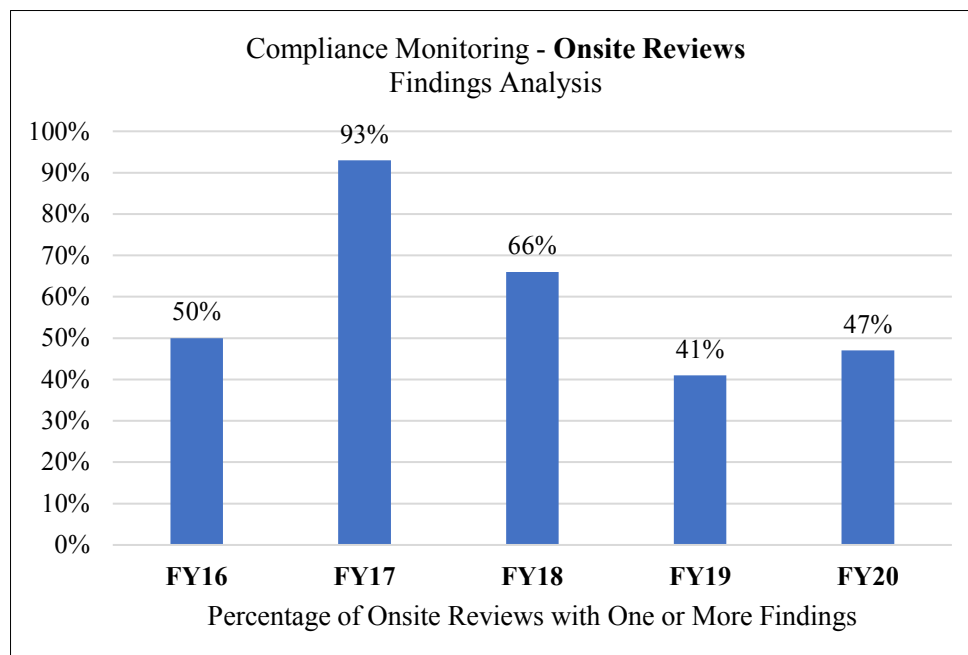
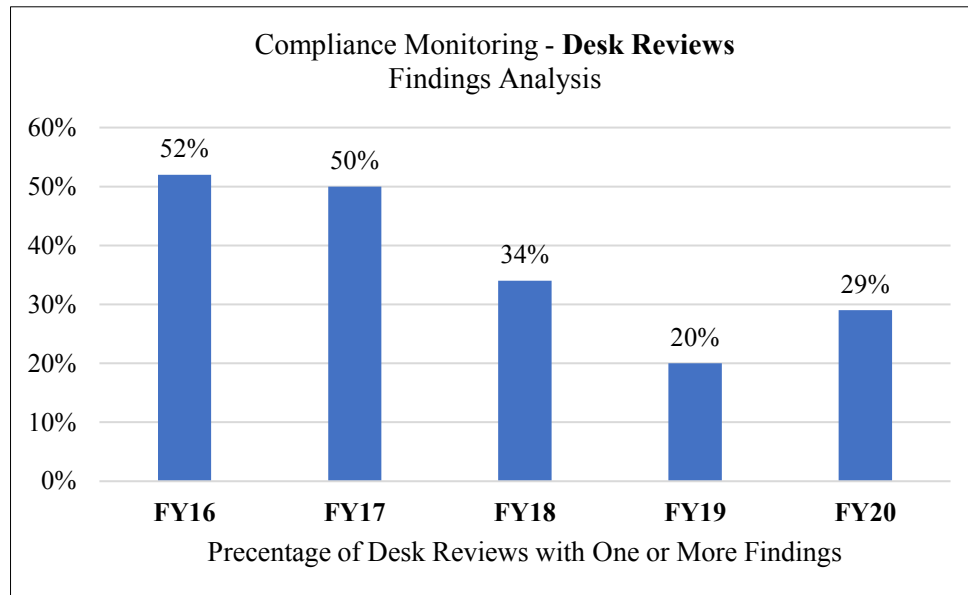
- Grant Recipient Report Monitoring – CPRIT receives approximately 560 required grantee reports each month. The number of delinquent reports in FY20 increased slightly from FY19, to an average of 14 reports per month. CPRIT staff meet weekly to review and discuss delinquent reporting and actively work with grantees to submit required reports timely. The average number of delinquent reports for the past six fiscal years are represented in the chart below:



- Training and Education – In FY20, CPRIT staff provided 24 grantee trainings including annual compliance trainings, new grantee trainings, and trainings for new Authorized Signing Officials (ASOs). Over 680 grantee staff attended these training opportunities provided to our active grantees.
- Annual Compliance Attestation – The Compliance team reviewed and processed 44 attestations submitted by grantees.
- Single Audit Reviews – The Compliance team reviewed 42 audits and agreed upon procedures (AUP) reports and actively worked with nine grantees to remediate audit findings.
- Second-level Reviews of Financial Status Reports (FSRs) – The Compliance team performed a second-level review of approximately 1,859 FSRs. FSRs are grantee expenditure reports that detail how project costs from the previous quarter were incurred.

CPRIT's grant accounting staff completes the initial review of the FSRs and supporting documentation before routing them to the compliance specialists for final review and disposition.

- Compliance Monitoring Reviews (Desk and Onsite) – The Compliance team performed 157 compliance reviews (140 desk reviews, 17 onsite reviews) during FY20. Findings analyses are represented in the charts below:





CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: JAMES WILLSON, M.D., CPRIT CHIEF SCIENTIFIC OFFICER
SUBJECT: ACADEMIC RESEARCH PROGRAM FY2022 PROPOSED RFAS AND
FY20 OUTCOME DATA
DATE: NOVEMBER 18, 2020

Proposed Academic Research RFAs for Fiscal Year 22.1

The Academic Research Program proposes the following RFAs and schedule for FY22.1:

- **Individual Investigator Research Awards (IIRA)**
Supports applications for innovative research projects addressing critically important questions that will significantly advance knowledge of the causes, prevention, and/or treatment of cancer. Areas of interest include laboratory research, translational studies, and/or clinical investigations. Competitive renewal applications accepted.
Award: Up to \$350,000 per year. Exceptions permitted if extremely well justified; maximum duration: 3 years.
- **Individual Investigator Research Awards for Computational Systems Biology of Cancer (IIRACSBC)**
Supports applications for innovative mathematical and/or computational research projects addressing questions that will advance current knowledge in the (a) mechanisms that tie altered gene expression and downstream molecular mechanisms to functional cancer phenotypes and/or (b) mechanisms that tie tumor morphology to functional cancer phenotypes, and/or (c) mechanisms that tie treatment sequence and combination to evolving functional cancer phenotypes (that emerge as a result of treatment selection).
Award: Up to \$400,000 in total costs per year for up to 3 years. Exceptions to these limits may be requested if extremely well justified
- **Individual Investigator Research Awards for Cancer in Children and Adolescents (IIRACCA)**
Supports applications for innovative research projects addressing questions that will advance knowledge of the causes, prevention, progression, detection, or treatment of cancer in children and adolescents. Laboratory, clinical, or population-based studies are all acceptable. CPRIT expects the outcome of the research to reduce the incidence, morbidity, or mortality from cancer in children and/or adolescents in the near or long term. Competitive renewal applications accepted.
Award: Up to \$350,000 per year. Applicants that plan on conducting a clinical trial as

part of the project may request up to \$500,000 in total costs. Exceptions permitted if extremely well justified; maximum duration: 4 years.

- **Individual Investigator Research Awards for Prevention and Early Detection (IIRAP)**

Supports applications for innovative research implementation projects addressing questions that will advance knowledge of the causes, prevention, early-stage progression, and/or early detection of cancer. Research may be clinical or population- based, and may include behavioral/intervention, dissemination or health services/outcomes research to reduce cancer incidence or promote early detection. Competitive renewal applications accepted.

Award: Up to \$500,000 per year. Exceptions permitted if extremely well justified; maximum duration: 4 years.

- **Individual Investigator Research Awards for Clinical Translation (IIRACT)**

Supports applications which propose innovative clinical studies that are hypothesis driven and involve patients enrolled prospectively on a clinical trial. Areas of interest include clinical studies of new or repurposed drugs, hormonal therapies, immune therapies, surgery, radiation therapy, stem cell transplantation, combinations of interventions, or therapeutic devices.

Award: Up to \$500,000 per year. Maximum duration: 4 years. Exceptions permitted if extremely well justified.

Academic Research Program RFA Timelines – FY22.1

RFA Timeline	
Post RFAs to CPRITs Application Receipt System (CARS)	January 2021
Open CARS (application receipt begins)	March 2021
Close CARS (application receipt ends)	June 2021
Peer Review	October 2021
Program Integration Committee	February 2022
Oversight Committee	February 2022

CPRIT Academic Research Program FY20

1. OUTCOME OF APPLICATIONS REVIEWED FY20

CPRIT was able to fund all SRC recommended recruitment and investigator-initiated awards.

➤ Table 1: FY20 application outcomes by mechanism

Table 1 shows the number of applications reviewed and success rates for investigator-initiated and recruitment applications reviewed in FY20. Overall, 13% of the individual investigator research awards (IRA) and 23% of Core Facility Support Awards (CFSA) were funded. These success rates are nearly identical to success rates for IRAs (14%) and CFSA (21%) over the past decade.

➤ Table 1a: FY20 recruitment nominations outcomes

Table 1a. shows the status of the recruitment nominations reviewed in FY20. Eighty-four nominations were submitted by 15 different institutions and 41 were approved. To date 28 have accepted their offer to relocate to Texas and decisions from 4 are pending.

2. IMPACT OF CPRIT RESEARCH PROGRAM AWARDS

CPRIT grantees provide annual progress reports citing new grants, publications, and patents attributed to their CPRIT award. These parameters are followed as surrogates for impact of the CPRIT mechanisms.

➤ Table 2: Academic Research Impact Data by Mechanism

Table 2 shows impact parameters by mechanism over the past decade.

➤ Table 2a: Status of First Time Tenure Track Faculty who completed their award Fifty-six First Time Tenure Track Faculty awardees have completed their recruitment award period (4 or 5 years). Table 2a shows the overall status of their career development.

➤ Table 3: CPRIT research and recruitment awards by institution over the past decade

Table 3 shows the number of awards and funding amounts by 14 Texas academic institution accounting for 95% of the CPRIT research awards to date. M.D. Anderson, UT Southwestern and Baylor College of Medicine, the only NCI Comprehensive Centers in Texas, received two-thirds of CPRIT research program funding awarded to date.

Table 1: FY20 Academic Research Awards by Mechanism

Cycle	Mechanism	# Applications Submitted	Total Funding Requested	Applications Recommended by SRC	Total Funding Recommended by SRC	Success Rate
FY 20.1 IRA Total		387	\$385,383,277	49	\$48,827,772	13%
20.1	Individual Investigator Research Awards	265	\$231,827,224	36	\$32,039,552	14%
20.1	.....Individual Investigator Research for Childhood Cancers	55	\$64,930,190	6	\$7,376,570	11%
20.1	.....Individual Investigator Research for Prevention and Early Detection	38	\$40,685,739	3	\$3,270,868	8%
20.1	.....Individual Investigator Research for Clinical Translation	29	\$47,940,124	4	\$6,140,782	14%
FY20.2 Total		149	\$146,435,034	28	\$32,465,430	
20.2	Collaborative Action Program to Reduce Liver Cancer Mortality in Texas:	16	\$38,021,593	3	\$7,407,804	19%
20.2	Core Facilities Support	18	\$69,958,520	4	\$14,821,043	22%
20.2	Early Clinical Investigator	8	\$11,964,285	4	\$5,991,545	50%
20.2	High Impact/High Risk Research	107	\$26,490,636	17	\$4,245,038	16%
FY 20 Total		536	\$531,818,311	77	\$81,293,202	

Table 1a: FY20 Recruitment Awards

Mechanism	# Applications Submitted	Funding Requested	Applications Recommended by SRC	Success Rate	Total Funding Recommended by SRC	Recruitment Acceptance Status		
						Accepted	Pending	Declined
FY 20 Recruitment Total	84	\$270,828,666	41	49%	\$99,971,334	28	4	9
Established Investigators	20	\$119,928,666	12	60%	\$46,071,334	5	2	5
Rising Stars	12	\$48,000,000	4	33%	\$12,000,000	3	0	1
First-Time, Tenure Track Faculty	52	\$102,900,000	25	48%	\$41,900,000	20	2	3

Table 2: Academic Research Awards Impact by Mechanism, FY2010 -FY2020

Mechanism	Number of Awards	CPRIT Funding	Follow-On Funds	Publications	Patents Filed/Granted
Core Facilities Support Awards	51	\$223,220,000	\$381,627,401	515	18/1
Shared Instrumentation Awards	8	\$12,440,000	\$36,892,340	28	0
Individual Investigator Research Awards (IRA)	435	\$401,740,000	\$324,431,904	1,355	82/22
IRA for Cancer in Children and Adolescents	42	\$54,800,000	\$20,031,674	90	5/1
IRA for Clinical Translation	12	\$21,890,000	0	11	0
IRA for Computational Biology	8	\$6,600,000	0	32	2/0
IRA for Prevention and Early Detection	23	\$25,670,000	\$2,193,353	47	4/0
Multi-Investigator Research Awards	43	\$277,650,000	\$259,065,543	991	31/7
High-Impact/High-Risk Research Awards	165	\$32,780,000	\$39,900,696	233	27/3
Early Translational Research Awards	41	\$56,460,000	\$11,177,951	83	35/18
Recruitment of Established Investigators	44	\$271,880,000	\$227,116,523	507	181/2
Recruitment of Rising Stars	19	\$73,970,000	\$51,228,399	206	0
Recruitment of First-Time, Tenure-Track Faculty	147	\$291,890,000	\$198,342,730	573	33/6
Recruitment of Missing Links	3	\$5,880,000	\$13,624,589	25	1/0
Research Training Awards	23	\$59,880,000	\$24,754,941	696	9/2
Totals	1,064	\$1,816,750,000	\$1,590,388,044	5,392	428/62

Source: Annual Progress Reports 7/30/2020

Table 2a: First-Time, Tenure-Track Faculty who have completed recruitment award

First-Time, Tenure-Track Faculty completing initial recruitment award period					
# completing CPRIT award	CPRIT Investment	# remaining in Texas	# promoted as of 5/2020	# with R01 or equivalent grants by end of CPRIT award	Total peer reviewed funding by end of CPRIT award
56	\$112,000,000	50	24	50	\$154,714,730

Table 3: CPRIT Academic Research Awards by Institution, 2010 - 2020

Institution	Awards	Funds Awarded	Recruitment Awards	Recruitment Funding
The University of Texas M.D. Anderson Cancer Center	299	\$464,627,899	40	\$140,000,000
The University of Texas Southwestern Medical Center	321	\$464,359,344	77	\$201,725,527
Baylor College of Medicine	200	\$308,013,710	32	\$84,500,000
The University of Texas at Austin	60	\$89,728,026	15	\$42,000,000
The University of Texas Health Science Center at San Antonio	67	\$87,685,403	10	\$29,892,505
The University of Texas Health Science Center at Houston	55	\$83,472,467	10	\$23,006,000
Rice University	34	\$70,891,317	18	\$56,774,124
The Methodist Hospital Research Institute	28	\$55,792,656	5	\$28,984,154
The University of Texas Medical Branch at Galveston	27	\$34,762,584	3	\$9,881,402
Texas A&M University System Health Science Center	29	\$33,005,878	1	\$1,800,000
Texas Tech University Health Sciences Center	26	\$30,864,433	1	\$2,539,259
University of Houston	23	\$27,699,847	3	\$10,000,000
The University of Texas at Dallas	19	\$18,499,841	1	\$2,000,000
Texas A&M University	29	\$17,374,098	2	\$7,073,674
All Others	66	\$96,739,272	8	\$19,438,817
TOTAL	1283	\$1,883,516,775	226	\$659,615,462



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: RAMONA MAGID, CHIEF PREVENTION OFFICER
SUBJECT: PREVENTION PROGRAM UPDATE
DATE: NOVEMBER 12, 2020

FY 2021 Cycle 1 (20.1) Prevention Applications

CPRIT released one RFA in August for the first grant cycle of FY 2020. Twelve applications were received by the October 5 deadline. The twelve applications requesting \$26,133,587 will undergo peer review, scheduled for January 20-21, 2021. Ms. Magid will present the PIC recommendations to the Oversight Committee in May 2021.

Mechanism	Number Received	Total \$ Requested
Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations	12	\$26,133,587

FY 2021 Cycle 2 (20.2) Prevention RFAs

CPRIT released four (4) RFAs on October 15 for the second cycle of FY 2021. Applications are due on February 10, 2021, peer review is scheduled for April 2021, and presentation of the PIC recommendations to the Oversight Committee in August 2021.

RFA Descriptions

[Dissemination of CPRIT-Funded Cancer Control Interventions](#)

This award mechanism seeks to fund projects that will facilitate the dissemination and implementation of successful CPRIT-funded, evidence-based cancer prevention and control interventions across Texas. The proposed project should be in a position to develop one or more "products" based on the results of the CPRIT-funded intervention. The proposed project should also identify and assist others to prepare to implement the intervention and/or prepare for grant funding.

Award: Maximum of \$300,000; Maximum duration of 24 months.

Evidence-Based Cancer Prevention Services

Evidence-Based Cancer Prevention Services - This award mechanism seeks to fund projects that will deliver evidence-based cancer prevention and control clinical services. Priority will be given to projects that propose to address CPRIT areas of emphasis and serve areas of the state not well addressed by current CPRIT funded projects.

Award: Maximum of \$1M; Maximum duration of 36 months.

Expansion of Cancer Prevention Services to Rural and Medically Underserved Populations

This award mechanism seeks to support the coordination and expansion of evidence-based services to prevent cancer in underserved populations who do not have adequate access to cancer prevention interventions and health care, bringing together networks of public health and community partners to carry out programs tailored for their communities. Projects should identify cancers that cause the most burden in the community and use evidence-based models shown to work in similar communities to prevent and control these cancers. Currently funded CPRIT projects should propose to expand their programs to include additional types of prevention clinical services and/or an expansion of current clinical services into additional counties. For projects requesting a maintenance expansion, expansion of clinical services or geographic area is optional; however, the number of clinical services delivered should be substantially increased.

Initial Expansion Award: Maximum of \$2M; Maximum duration of 36 months.

Maintenance Expansion Award: Maximum of \$2.5M; Maximum duration of 60 months.

Tobacco Control and Lung Cancer Screening

This award mechanism seeks to fund programs on tobacco prevention and cessation, as well as screening for early detection of lung cancer. Through release of this RFA, CPRIT's goal is to stimulate more programs across the state, thereby providing greater access for underserved populations and reducing the incidence and mortality rates of tobacco-related cancers. This RFA seeks to promote and deliver evidence-based programming designed to significantly increase tobacco cessation among adults and/or prevent tobacco use by youth.

Award: Maximum of \$1M for new projects and \$2M for expansion projects; Maximum duration of 36 months.

FY 2022 Program Priorities

The Oversight Committee Prevention Subcommittee met November 12 and recommends to the Oversight Committee approval of the FY 2022 Prevention Program priorities.

FY 2022 Prevention Program Priorities
Populations disproportionately affected by cancer incidence, mortality, or cancer risk prevalence
Geographic areas of the state disproportionately affected by cancer incidence, mortality, or cancer risk prevalence
Underserved populations
Program assessment to identify best practices, use as a quality improvement tool and guide future program direction

Other activities

Ramona Magid presented an overview of CPRIT funding opportunities at the quarterly Cancer Alliance of Texas meeting on November 12, 2020.

Ramona also presented CPRIT's Prevention Program 2022 proposed priorities and the CPRIT 2.0 recommendations made by the Prevention Advisory Committee to the American Cancer Society Strategic Partnerships staff on October 21.



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: CINDY WALKERPEACH, PHD
CHIEF PRODUCT DEVELOPMENT OFFICER
SUBJECT: PRODUCT DEVELOPMENT PROGRAM UPDATE
DATE: 10 NOVEMBER 2020

Product Development Research Award Update

Product Development Research FY 2021 Cycle 1

CPRIT released the FY2021 Cycle 1 TXCO, RELCO and SEED Product Development RFAs on November 9, 2020. The application portal will open for applications on December 2, 2020, with a submission deadline of January 27, 2021. Cycle 21.1 award recommendations would be presented for consideration during the August 2021 Oversight Committee meeting. Additionally, the Product Development team will host a webinar for potential applicants and interested parties on November 19, 2020.



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE
FROM: WAYNE ROBERTS, CHIEF EXECUTIVE OFFICER
SUBJECT: 2022 PROGRAM PRIORITIES
DATE: NOVEMBER 11, 2020

Summary and Recommendation

I recommend that the Oversight Committee approve the fiscal year 2022 program priorities as presented behind this memo. Texas Health and Safety Code § 102.107 requires the Oversight Committee to set priorities for the grant programs annually. Each program officer discussed the priorities proposed for fiscal year 2022 with their respective subcommittee in meetings earlier this month. With changes noted below, the 2022 program priorities are the same as the priorities adopted by the Oversight Committee last November for fiscal year 2021.

FY 2022 Priorities

Legislation adopted in 2013 requires the Oversight Committee to establish program priorities on an annual basis. CPRIT uses the priorities to provide transparency in how it directs the orientation of the agency's funding portfolio between and within its three programs. The program priorities also guide CPRIT staff and the peer review panels on the development and issuance of program-specific Requests for Applications (RFAs) and the evaluation of applications submitted in response to those RFAs.

The Oversight Committee reviews its priorities annually and adjusts as circumstances change and to incorporate the latest information concerning cancer-related advances in prevention, academic research, and product development research. In January 2018, the Oversight Committee decided to approve program priorities at November meetings to provide CPRIT staff more lead time for preparing and releasing RFAs. Adopting the 2022 program priorities at the November 18, 2020, Oversight Committee meeting allows the priorities to guide the fiscal year 2022 RFA process.

Each of the program subcommittees discussed the program priorities proposed for fiscal year 2022. The Prevention, Product Development Research, and Academic Research Subcommittees recommend proposed fiscal year 2022 priorities for their respective programs largely unchanged from the priorities adopted for fiscal year 2021 except as follows.

1. Three priorities added to CPRIT's Long Term Vision (page 5)
 - Investing in the cancer research capacity of Texas institutions

- through recruitment of cancer scholars, investment in core facilities, and investment in individual investigator awards
- Building the Texas cancer life science ecosystem by bridging discovery and translational research into early-stage company products with high impact on cancer patient care and creating economic development for the State of Texas
- Increasing the capacity for Texas to have a significant impact on cancer prevention and early detection, ultimately decreasing cancer incidence and mortality

2. Added a new Prevention Program priority: “Program assessment to identify best practices, use as a quality improvement tool, and guide future program direction” (page 9)

In addition to the priorities specific to each grant program, the proposed fiscal year 2022 program priorities also reflect priorities across CPRIT’s three programs. These overarching priorities, which also remain the same as those adopted for fiscal year 2021, inform the Program Integration Committee on balancing the portfolio across the academic research, prevention, and product development research programs.

CPRIT staff will use the newly adopted program priorities to develop RFAs for the fiscal year 2022 CPRIT grant review cycles.



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

Program Priorities 2022

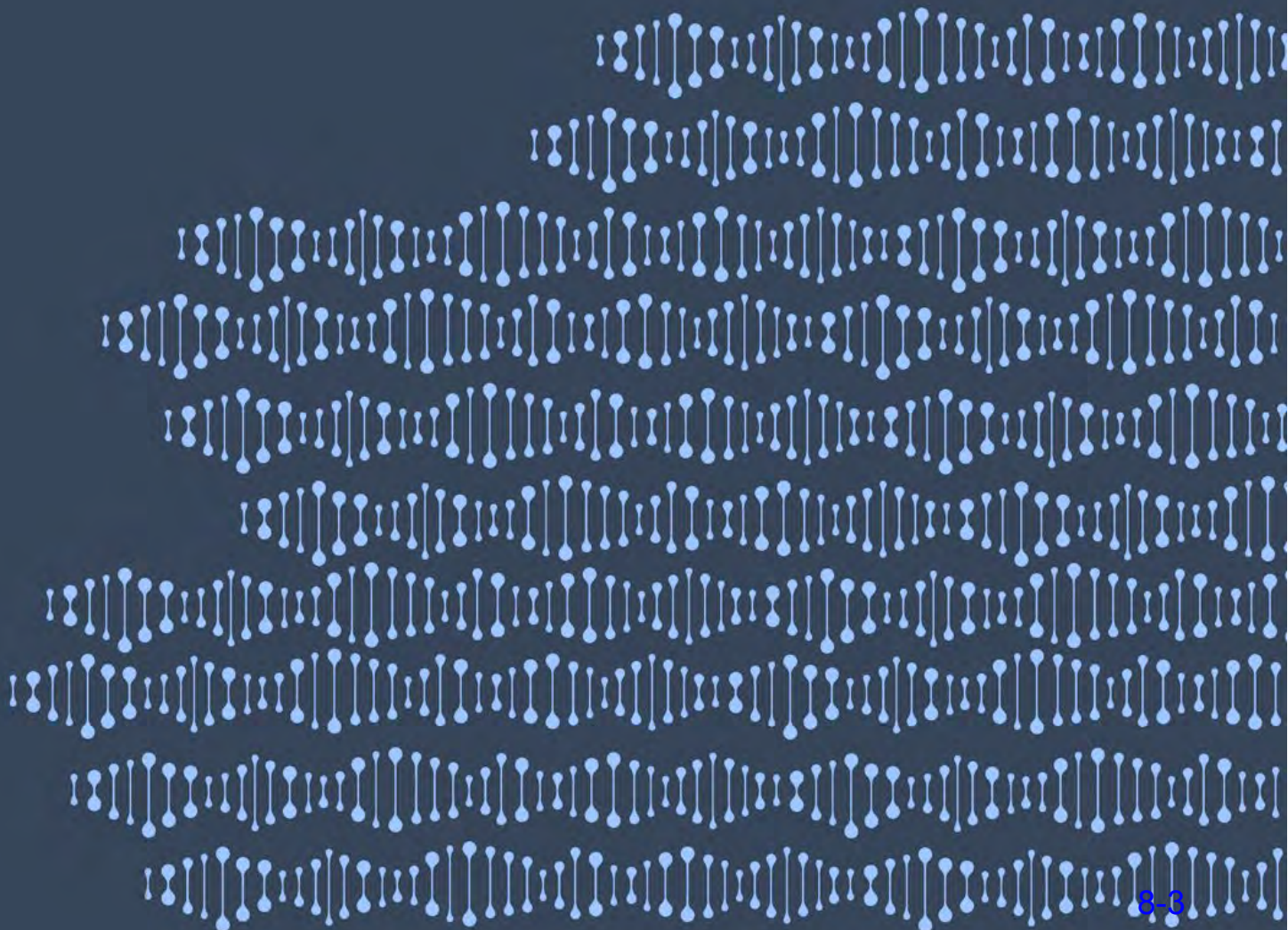




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ABOUT CPRIT'S PROGRAM PRIORITIES PROJECT

Legislation adopted in 2013 modified CPRIT's governing statute, Texas Health & Safety Code Chapter 102, to include enhancements to the agency's governance and operations. One of the statutory changes adopted in 2013 requires CPRIT's Oversight Committee to establish program priorities on an annual basis. The Oversight Committee uses the priorities to provide transparency in how it directs the orientation of the agency's funding portfolio between and within its three programs as well as guide CPRIT staff and the peer review panels on the development and issuance of program-specific Requests for Applications (RFAs) and the evaluation of applications submitted in response to those RFAs.

The Oversight Committee reviews its priorities annually and adjusts as circumstances change to incorporate the latest information concerning cancer-related advances in prevention, academic research, and product development research.

CPRIT Purpose

Texas Health & Safety Code, Chapter 102

Sec. 102.002. PURPOSES. The Cancer Prevention and Research Institute of Texas is established to:

- (1) create and expedite innovation in the area of cancer research and in enhancing the potential for a medical or scientific breakthrough in the prevention of cancer and cures for cancer;*
- (2) attract, create, or expand research capabilities of public or private institutions of higher education and other public or private entities that will promote a substantial increase in cancer research and in the creation of high-quality new jobs in this state; and*
- (3) develop and implement the Texas Cancer Plan.*

Program Priorities Legislative Mandate

Texas Health & Safety Code, Chapter 102

Sec. 102.107. POWERS AND DUTIES. The oversight committee shall:

- (1) hire a chief executive officer;*
- (2) annually set priorities as prescribed by the legislature for each grant program that receives money under this chapter; and*
- (3) consider the priorities set under Subdivision (2) in awarding grants under this chapter.*



PROCESS TO DEVELOP PROGRAM PRIORITIES

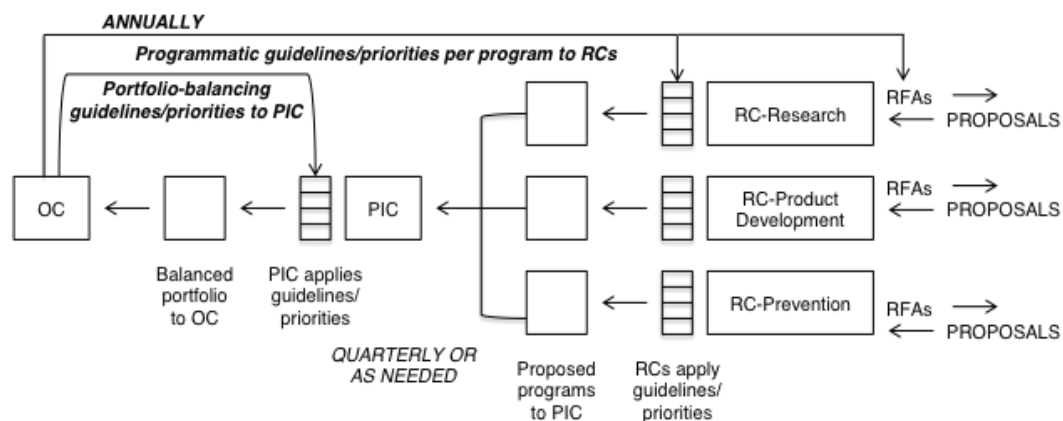
The Oversight Committee initially approved the program priorities in November 2014 after a six-month process that included public input. The fiscal year 2015 program priorities were subsequently incorporated into the RFAs released by each program. The Oversight Committee continues to annually approve priorities for each program every year, most recently adopting the program priorities for fiscal year 2021 at the November 20, 2019 meeting.

SCOPE OF PROGRAM PRIORITIES PROJECT

The Program Priorities Project establishes priorities at two levels of CPRIT's grant making process:

- **Priorities Within Each of CPRIT's Programs** – priorities to inform staff and respective Peer Review Councils (RCs) on the development and issuance of program-specific Requests for Applications (RFAs) and evaluation of applications submitted in response to those RFAs.
- **Priorities Across CPRIT's Three Programs** – priorities to inform the Program Integration Committee (PIC) on balancing the portfolio across the academic research, prevention, and product development research programs.

Priorities and CPRIT's Grant Making Process





CPRIT'S LONG TERM VISION

As the Oversight Committee established its program priorities, it began by defining the long-term vision for the agency and each of the three programs in alignment with CPRIT's mandated purpose.

Innovative projects funded by CPRIT will result in:

- A decrease in the burden of cancer in Texas through preventive measures, new diagnostics and treatments, and effective translation of discoveries into products;
- A recognition of and focus on disparities in cancer incidence, mortality, and access to care;
- Significant advancements in the scientific understanding of cancer; and
- An enhanced and expanded life sciences infrastructure in the state because of recruiting researchers, training health care/science professionals, attracting companies and supporting investigator startups.

To accomplish CPRIT's long-term vision, the Oversight Committee has identified these priorities:

- Investing in the cancer research capacity of Texas institutions through recruitment of cancer scholars, investment in core facilities, and investment in individual investigator awards;
- Building the Texas cancer life science ecosystem by bridging discovery and translational research into early-stage company products with high impact on cancer patient care and creating economic development for the State of Texas; and
- Increasing the capacity for Texas to have a significant impact on cancer prevention and early detection, ultimately decreasing cancer incidence and mortality.



PRIORITIES WITHIN EACH OF CPRIT'S PROGRAMS

Priorities within each of CPRIT's programs – academic research, prevention, and product development research– will inform staff and respective peer review councils on the development and issuance of program-specific RFAs and evaluation of applications to those RFAs.

Established key principles essential to executing CPRIT's purpose guide each of CPRIT's three programs. The main principle underlying all three programs is that each will continue to ensure only applications with scientific merit moves forward in CPRIT's peer review grant process. In addition, each program has established unique program principles. The program priorities supplement these principles to guide the selection of meritorious applications to address CPRIT's strategic priorities as set annually by the Oversight Committee.

It is important to note that these priorities do not exclude funding in areas outside of the identified priorities.

Academic Research Program

Background

The goal of CPRIT's academic research program is to discover new insights about cancer that can lead to prevention, early detection, and more effective treatments; translate new and existing discoveries into practical advances in cancer diagnosis, treatment, and survivorship; and increase the prominence and stature of Texas in the fight against cancer. CPRIT's strategy is to support the most creative ideas and the most meritorious projects brought forward by the cancer research community in Texas. The overarching principles for awarding CPRIT funds will continue to be scientific excellence and impact on reducing the burden of cancer.

In addition, CPRIT's academic research program will seek to fund projects in critical, but underfunded areas of cancer research. Areas of opportunity for strategic deployment of funds include prevention and early detection research; computational biology and analytic methods; childhood cancers; and intractable cancers with emphasis on population disparities and cancers of significance in Texas such as hepatocellular cancer.

Finally, it is critically important to add to the life sciences infrastructure in the State of Texas. This will enable CPRIT's impact on cancer research to extend for years beyond the lifetime of the program. Most important to increasing infrastructure is the recruitment of preeminent researchers and the investment in core facilities. New researchers will bring additional resources to the State, including research funding and new expertise, as well as help build the critical mass of science needed to attract investments in the development of products for cancer prevention, diagnosis, and treatment. Investments in core facilities will assure that these and other cancer researchers in Texas have access to the most up-to-date technologies needed for cutting-edge



cancer research. Also critical are the training programs that aim to produce the next generation of cancer researchers and increase the diversity of the cancer research workforce.

Established Principles

- Scientific excellence and impact on cancer
- Increasing the life sciences infrastructure

Academic Research Program Priorities

- Recruitment of outstanding cancer researchers to Texas
- Investment in core facilities
- A broad range of innovative, investigator-initiated research projects
- Implementation research to accelerate adoption and deployment of evidence-based prevention and screening interventions
- Computational biology and analytic methods
- Childhood cancers
- Hepatocellular cancer
- Expand access to innovative clinical trials



Prevention Program

Background:

The following principles have guided the prevention program since its inception in 2009. These principles have informed the development of the requests for applications (RFAs) and the evaluation of applications submitted in response to the RFAs. Through the prevention program, CPRIT seeks to fund projects that:

- Offer effective prevention interventions based on the existing body of knowledge about and evidence for cancer prevention (“evidence based”); and
- Deliver primary, secondary, or tertiary (includes survivor care) prevention interventions that provide state of the art preventive clinical services and tailored, culturally appropriate, and accurate information to the public and health professionals.

In addition, the program has focused on providing access to underserved populations and serving the populations in most need including underinsured and uninsured individuals and those disproportionately affected by cancer.

To achieve some degree of balance in the prevention program portfolio, the Prevention Review Council (PRC) conducts a programmatic review of applications under consideration. During programmatic review, the PRC evaluates applications judged to be meritorious by prevention review panels. Programmatic considerations include:

- Potential for impact;
- Geographic distribution;
- Cancer type; and
- Type of program or service

While these principles provide guidance for the program, identifying priorities based on areas where significant cancer incidence and mortality disparities exist focuses the program further on areas of greatest need and greatest potential for impact.

The prevention program reviews data on cancer incidence, mortality, and disparities (geographic, ethnic, etc.) annually to identify priorities and identify areas of emphasis. This information informs the development of RFAs and informs programmatic decisions during the PRC level of review.



Established Principles:

- Fund evidence-based interventions and their dissemination
- Support the prevention continuum of primary, secondary, and tertiary (includes survivorship) prevention interventions

Prevention Program Priorities

- Populations disproportionately affected by cancer incidence, mortality, or cancer risk prevalence
- Geographic areas of the state disproportionately affected by cancer incidence, mortality, or cancer risk prevalence
- Underserved populations
- Program assessment to identify best practices, use as a quality improvement tool, and guide future program direction



Product Development Research Program

Background

The Product Development Research Program funds the commercial development of novel products in Texas that address unmet cancer diagnosis and treatment needs. CPRIT supports early stage and startup companies that are converting a one-time phenomenon discovered in a laboratory into a safe, reliable, and reproducible product usable in a clinical setting. CPRIT invests in projects based on comprehensive scientific research developed at companies with strong management and sound business plans that will attract future private investment. These product development investments also stimulate the Texas life sciences ecosystem.

Developing novel cancer treatments, diagnostics, and devices results from a series of research and development activities. As a product moves through the development process, the risk of failure decreases as the product successfully navigates each step. Clinical research confirms the safety and efficacy of the new therapy on the target patient population.

Companies working with products that are at an earlier development stage (preclinical, Phase I and Phase II clinical trials) are a higher investment risk and have a harder time attracting private capital. CPRIT invests in these early stage companies where private capital is hardest to obtain, typically referred to as the technology “valley of death,” where promising ideas die for lack of funding. Subject matter experts review company proposals to identify the most promising projects. CPRIT’s investment in early stage companies increases the number of cancer therapies in development in Texas, which stimulates the Texas life sciences ecosystem.

CPRIT uses its limited resources to maximize clinical benefits, including curing disease, slowing cancer progression, detecting malignancies earlier, mitigating side effects, and/or reducing cost of care. More scientifically and commercially attractive product development opportunities exist than CPRIT can fund.

Established Principles

To invest strategically the Product Development Research Program focuses on the funding novel projects, including those that:

- Offer therapeutic or diagnostic benefits not currently available; i.e., disruptive technologies;
- Address large or challenging unmet medical needs
- Support early stage projects with sound scientific research, strong management, and compelling business plans when private capital is most difficult to obtain



CPRIT's Product Development Research Program is also interested in catalyzing the Texas life science ecosystem by:

- Supporting new company startups in Texas and attracting promising companies to Texas;
- Identifying companies that will recruit staff with life science industry expertise, especially experienced C-level staff to seed clusters of life science expertise at various Texas locations; and
- Commercializing technologies developed at Texas institutions.

Product Development Research Program Priorities

- Funding novel projects that offer therapeutic or diagnostic benefits not currently available; i.e., disruptive technologies
- Funding projects addressing large or challenging unmet medical needs
- Investing in early stage projects when private capital is least available
- Stimulating commercialization of technologies developed at Texas institutions
- Supporting new company formation in Texas or attracting promising companies to Texas that will recruit staff with life science expertise, especially experienced C-level staff to lead to seed clusters of life science expertise at various Texas locations
- Providing appropriate return on Texas taxpayer investment



PRIORITIES ACROSS CPRIT'S THREE PROGRAMS

Establishing priorities across CPRIT's academic research, prevention and product development research programs will inform the Program Integration Committee (PIC) on balancing the portfolio across the three programs.

CPRIT's structure, which includes programs in academic research, prevention, and product development research, presents a unique opportunity for funding projects that span the continuum from discovery to delivery to the public and creating synergy across the spectrum. While CPRIT programs would continue to fund a broad range of programs and cancer types, selecting areas of emphasis where CPRIT may have an impact distinguishing it from other funding sources provides a basis for focusing resources and guiding decisions for limited resources. The recommended areas of emphasis outlined below also correspond to unmet needs – places in the cancer research and care continuum where existing institutions have not provided strong programs or results.

It is important to note that these priorities serve as strategic areas of emphasis and do not exclude funding in areas outside of the identified priorities.

Prevention and Early Detection Initiatives

Rationale

Nowhere is there greater potential to reduce the burden of cancer than by reducing its incidence. This spares people and families from the psychological and emotional trauma of a cancer diagnosis, the often-devastating physical consequences of cancer therapies, and the financial burden associated with cancer treatment. In addition, the current emphasis in cancer research on finding cures for advanced cancers has serious limitations. Thus far, the ability of cancer cells to develop resistance to chemotherapy, radiation, and even targeted therapy has thwarted attempts to control cancer by these treatment modalities. Detecting cancer early in its development is a more desirable approach to cancer control. Despite the potential impact of prevention and early detection on reducing the cancer burden, these areas of cancer research receive little funding relative to funding devoted to curing advanced cancer.

Emphasis

Ideally, academic research will create the evidence base for novel approaches to prevention and early detection. Product development research will provide new methods, diagnostics, imaging, or devices, for early cancer detection. The prevention program will implement interventions to put these innovative approaches into practice once a solid evidence base of effectiveness exists.



Strategies include each program issuing either a targeted RFA or listing prevention or early detection as an area of emphasis (among others) within current RFAs. In addition, the programs can explore RFAs that could span programs, e.g. RFAs that would support a research component to a prevention project.

Early Translational Research

Rationale

One well-documented impediment to bringing the results of basic research to bear on cancer is the shortage of funding to translate new discoveries into practical advances for cancer patients. Funds for research and development are needed between the stages of discovery science, which is funded traditionally by grants from federal sources and foundations, and late term development and commercialization of drugs, devices, diagnostic tests, and biologicals, which is funded often by private sector industries. Data indicate that translational research is underfunded and would benefit from additional investment. Funding such research and development by CPRIT could have the added benefit of stimulating public-private partnerships and bringing new commercial investments to Texas.

Emphasis

Funding translational research that bridges the gap between basic research and product development, and between research on preventive measures and innovative technologies for early detection and adaptation of tested interventions represents opportunities for inter-program strategic investment by CPRIT. The time needed to move some projects from research to products is often lengthy and may limit the role of the prevention program in this area of emphasis.

Enhance Texas' Research Capacity and Life Science Infrastructure

Rationale

CPRIT's statute emphasizes enhancing research superiority, increasing applied science and technology research capabilities and increasing high-quality jobs in the state. All three programs contribute to enhancing the research, life science and cancer control workforce and infrastructure in the state.



Emphasis

Establishing a critical mass of cancer researchers in Texas is possible by supporting the recruitment of cancer scientists and clinicians, at all career levels, to academic institutions in Texas and through training programs that educate pre- and post-doctoral fellows to become cancer researchers. The recruitment program has been successful in enhancing Texas' cancer research efforts and increasing the external visibility of the state in the medical and scientific communities.

CPRIT's investments in product development help to build Texas' life-science industry. While bringing a product to market takes time, the process generates jobs and economic activity. Every CPRIT award includes intellectual property requirements that specify a revenue return to Texas through the successful development of CPRIT-funded drugs, devices, diagnostics, or services.

The prevention program supports the education and training of health care professionals and community workers, thereby increasing the state's capacity for cancer prevention and control activities. By requiring collaborative partnerships, the program also creates incentives for organizations and individuals to collaborate to tackle community problems through networks that can mobilize resources and avoid duplication of efforts. Implementing system changes (such as reducing wait times between screening and diagnostics, implementing patient reminder systems) by CPRIT funded programs also improves the infrastructure for the delivery of preventive interventions.



Summary: Priorities across CPRIT's Three Programs

This table illustrates how each of CPRIT's three programs may implement the recommended areas of emphasis outlined above.

	Prevention and Early Detection Initiatives	Early Translational Research	Enhance Texas' Research Capacity and Life Science Infrastructure
Academic Research Program Implementation	Create the evidence base for novel approaches to prevention and early detection.	Identify CPRIT funded basic research that could translate new discoveries into practical advances.	Increase workforce and infrastructure: researcher recruitment, training grants and core facilities.
Prevention Program Implementation	Implement programs to put these innovative approaches into practice and continue to fund what is known to work (evidence based).	Due to long lead-time to product development, there may be limited role for prevention to implement programs resulting from this research.	Implementing systems change, developing partnerships and collaborations, training of community and healthcare providers, and creating new jobs.
Product Development Research Program Implementation	Fund new tools, technologies, methods and devices for early cancer detection and prevention.	Fund translational research that bridges the gap between basic research and product development.	Build up life sciences infrastructure and industry in Texas and create new high paying jobs.

**November 2020 Oversight Committee
Internal Audit Status Report
As of November 2, 2020**

Weaver and Tidwell, LLP (Weaver) is the outsourced internal auditor of the Cancer Prevention Research Institute of Texas (CPRIT). The Weaver engagement team is led by Daniel Graves, Partner and Alyssa Martin, Partner.

2020 Internal Audit Plan and Schedule

Based on the approved 2020 Internal Audit Plan by the Oversight Committee, we completed the internal audits and follow-up procedures for the 2020 Internal Audit Plan, with the exception of two follow-ups audits that were deferred to Fiscal Year 2021 due to delays in completing the audit plan associated with COVID-19.

2020 INTERNAL AUDITS		
Internal Audit	Description	Status
Governance	Fieldwork for the audit was completed on October 16, 2020. We issued the report on October 30, 2020. The audit resulted in an overall assessment of "Strong" with one Moderate finding related to reviewing the internal control reports of outsourced service providers. Follow-up procedures on the remediation of the findings are included in the audit plan for fiscal year 2021.	Complete
Disaster Recovery and Business Continuity Planning Advisory	Fieldwork for the audit advisory procedures was completed on September 29, 2020. We issued a report and drafts of recommended updates to the exiting Disaster Recovery and Business Continuity (DR/BC) planning documents on October 28, 2020. We provided 30 recommended revisions and updates to technical information to the DR/BC planning documentation to augment and clarify the information in the plans. Follow-up procedures to review the changes and updates to the DR/BC plan documents are included in the audit plan for fiscal year 2021.	Complete
2020 INTERNAL AUDIT FOLLOW-UPS		
State Reporting Follow-Up • 2 Low Findings	Internal Audit will performed follow-up procedures on the 2 open findings from the 2019 Internal Audit to ensure corrective action has been taken. Both findings were determined to be remediated.	Complete
Communications Follow-Up • 1 High Finding • 2 Moderate Findings	Internal Audit will perform follow-up procedures on the 3 open findings from the 2018 Internal Audit to ensure corrective action has been taken.	November 2020

Information Security Follow-Up <ul style="list-style-type: none"> • 1 Moderate Finding • 1 Low finding 	Internal Audit will perform follow-up procedures on the open findings from the 2016 Internal Audit to ensure corrective action has been taken.	January 2021 With the 2021 IT General Controls Audit
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2021 Internal Audit Plan and Schedule

Based on the approval of the 2021 Internal Audit Plan by the Oversight Committee in the August meeting, we have coordinated and planned the timing of the internal audits and follow-up procedures for the 2021 Internal Audit Plan.

2021 NEW INTERNAL AUDITS		
Internal Audit	Description	Status
Sunset Self-Assessment Advisory Audit	Internal Audit will compare the results of the latest Internal Audit Risk Assessment with the reporting requirements in the Sunset Commission Self-Assessment Report (SAR) to provide an overlay of a risk-based framework to complete the SAR, as well as providing mapping of historical internal audit results, and corresponding agency improvements, to each section of the report. Additionally internal audit will evaluate the processes used to compile the information included in the SAR and will validate the accuracy of key data to be included in the report, defined in Texas Government Code 325.011. Internal Audit will also verify that CPRIT has the required policies and procedures in place, in preparation for the Sunset Advisory Commission Review.	December 2020
Information Technology General Computer Controls	Internal Audit will evaluate the risks and internal controls in place related to CPRIT's Information Technology practices. Activities to be evaluated will include Network Operations, Help Desk Support, Change Management, Website Maintenance, Back-Up and Recovery.	January 2021
Records Management – Grantee Compliance Records Advisory Audit	Internal Audit will provide audit advisory services to evaluate the planning process for the grantee compliance record migration from a third-party designed system to the integrated CPRIT system. Evaluation of the designed process will include the validation of the system architecture design and data mapping of the file migration plan. Consulting services will also include the validation of the system configuration upon implementation, verification of the completeness of the data migration and testing the accuracy of data classification and mapping.	May 2021

We have prepared a summary schedule of audits, their status and a summary of the findings by risk rating. The schedule maps out the internal audit and follow-up procedures performed, by year, the report date, report rating, and the findings by risk rating. The summary schedule is attached.

In addition, we have prepared a draft of the Annual Internal Audit Report, as required by the Texas Internal Auditing Act. The report has been prepared in accordance with the most recent prescribed format of the State Auditor's Office, published for fiscal year ending August 31, 2020.



Daniel Graves, CPA, Internal Auditor
Partner
Weaver and Tidwell L.L.P.



Alyssa G. Martin, CPA, MBA, Internal Auditor
Partner
Weaver and Tidwell L.L.P.

Cancer Prevention and Research Institute of Texas
Schedule of Audits, Status, and Findings Summary
As of November 2, 2020

					Open Findings				Closed Findings				Total Findings			
Audit	Fiscal Year	Status/Timing	Report Date	Report Rating	High	Mod	Low	Total	High	Mod	Low	Total	High	Mod	Low	Total
Fiscal Year 2015																
Grant Management	2015	Complete	July 27, 2015	Satisfactory	-	8	1	9	-	-	-	-	-	8	1	9
Expenditures Internal Audit	2015	Complete	August 24, 2015	Strong	-	-	2	2	-	-	-	-	-	-	2	2
2014 Governance and IT Follow-Up	2015	Complete	August 14, 2015	Satisfactory	-	-	-	9	-	-	-	7	-	1	1	2
2014 Grantee Monitoring Follow-Up	2015	Complete	July 31, 2015	Satisfactory	-	-	-	14	-	-	-	11	1	-	2	3
Fiscal Year 2015 Subtotal					-	8	3	34	-	-	-	18	1	9	6	16
Fiscal Year 2016																
Commodity and Service Contracts Internal Audit	2016	Complete	May 13, 2016	Satisfactory	-	3	2	5	-	-	-	-	-	3	2	5
Revenue Internal Audit	2016	Complete	July 8, 2016	Strong	-	-	2	2	-	-	-	-	-	-	2	2
Information Security Internal Audit	2016	Complete	August 3, 2016		-	-	-	-	-	-	-	-	-	-	-	-
Cash Management Internal Audit	2016	Complete	August 12, 2016	Strong	-	1	-	1	-	-	-	-	-	1	-	1
2015 Grant Management Follow-Up	2016	Complete	June 9, 2016	Strong	-	8	1	9	-	8	1	9	-	-	-	-
2015 Information Technology Follow-Up	2016	Complete	N/A	N/A	-	1	1	2	-	1	1	2	-	-	-	-
Fiscal Year 2016 Subtotal					-	13	6	19	-	9	2	11	-	4	4	8
Fiscal Year 2017																
Training Program Internal Audit	2017	Complete	March 10, 2017	Strong	-	2	-	2	-	-	-	-	-	2	-	2
Internal Agency Compliance	2017	Complete	April 17, 2017	Strong	-	1	-	1	-	-	-	-	-	1	-	1
Pre-Award Grant Management	2017	Complete	May 30, 2017	Satisfactory	1	2	-	3	-	-	-	-	1	2	-	3
Procurement and P-Card Internal Audit	2017	Complete	August 4, 2017	Satisfactory	-	7	2	9	-	-	-	-	-	7	2	9
2016 Information Security Follow-Up	2017	Complete	May 30, 2017		-	-	-	-	-	-	-	-	-	-	-	-
2016 Commodity and Service Contracts Follow-Up	2017	Complete	July 13, 2017	Strong	-	3	2	5	-	3	2	5	-	-	-	-
2016 Revenue Follow-Up	2017	Complete	July 8, 2017	Strong	-	-	2	2	-	-	2	2	-	-	-	-
2016 Cash Management Follow-Up	2017	Complete	July 13, 2017	Strong	-	1	-	1	-	1	-	1	-	-	-	-
Fiscal Year 2017 Subtotal					1	16	6	23	-	4	4	8	1	12	2	15
Fiscal Year 2018																
Post Award Grant Monitoring Internal Audit	2018	Complete	February 1, 2018	Strong	-	1	-	1	-	-	-	-	-	1	-	1
Grant Contracting Internal Audit																
Communications Internal Audit	2018	Complete	April 30, 2018	Satisfactory	1	4	-	5	-	-	-	-	1	4	-	5
2016 Information Security Follow-Up	2018	Complete	July 17, 2018		-	-	-	-	-	-	-	-	-	-	-	-
2017 Training Program Follow-Up	2018	Complete	January 19, 2018	Strong	-	2	-	2	-	2	-	2	-	-	-	-
2017 Internal Agency Compliance Follow-Up	2018	Complete	January 19, 2018	Strong	-	1	-	1	-	1	-	1	-	-	-	-
2017 Pre-Award Grant Management Follow-Up	2018	Complete	April 24, 2018	Strong	1	2	-	3	1	2	-	3	-	-	-	-
2017 Procurement and P-Card Follow-Up	2018	Complete	April 30, 2018	Strong	-	7	2	9	-	6	2	8	-	1	-	1
Fiscal Year 2018 Subtotal					2	17	2	21	1	11	2	14	1	6	-	7
Fiscal Year 2019																
State Reporting Internal Audit	2019	Complete	January 16, 2019	Strong	-	-	2	2	-	-	-	-	-	-	2	2
Budget and Planning	2019	Complete	January 16, 2019	Strong	-	-	-	-	-	-	-	-	-	-	-	-
2017 SAO Performance Measures Follow-up	2019	Complete	December 6, 2018	Strong	-	-	3	3	-	-	3	3	-	-	-	-
2016 Information Security Follow-Up	2019	Cancelled	N/A		-	-	-	-	-	-	-	-	-	-	-	-
2018 Communications Follow-Up	2019	Complete	August 30, 2019	Satisfactory	1	4	-	5	-	2	-	2	1	2	-	3
2018 Post Award Grant Monitoring Follow-Up	2019	Complete	April 11, 2019	Strong	-	1	-	1	-	1	-	1	-	-	-	-
2018 Grant Contracting Follow-Up																
2017 Procurement and P-Card Follow-Up	2019	Complete	August 1, 2019	Strong	-	7	2	9	-	7	2	9	-	-	-	-
Fiscal Year 2019 Subtotal					1	12	7	20	-	10	5	15	1	2	2	5
Fiscal Year 2020																
Governance	2020	Complete	October 30, 2020	Strong	-	1		1	-	-	-	-	-	1	-	1
Disaster Recovery and Business Continuity Planning	2020	Complete	October 28, 2020	N/A	-	-	-	-	-	-	-	-	-	-	-	-
2016 Information Security Follow-Up	2020	August 2020	N/A		-	-	-	-	-	-	-	-	-	-	-	-
2018 Communications Follow-Up	2020	November 2020	N/A	N/A	1	4	-	5	-	2	-	2	1	2	-	3
2019 State Reporting Follow-Up	2020	July 2020	July 20, 2020	Strong	-	-	2	2	-	-	2	2	-	-	-	-
Fiscal Year 2020 Subtotal					1	5	2	8	-	2	2	4	1	3	-	4
FISCAL YEAR 2020 SUMMARY																
Audit	Fiscal Year	Status/Timing	Report Date	Report Rating	Findings				Closed Findings				Total Open Findings			
					High	Mod	Low	Total	High	Mod	Low	Total	High	Mod	Low	Total
Governance	2020	July 2020	October 30, 2020	Strong	-	1	-	1	-	-	-	-	-	1	-	1
Disaster Recovery and Business Continuity Planning	2020	July-August 2020	October 28, 2020	N/A	-	-	-	-	-	-	-	-	-	-	-	-
2016 Information Security Follow-Up	2020	August 2020	N/A		-	-	-	-	-	-	-	-	-	-	-	-
2018 Communications Follow-Up	2020	August 2020	N/A	N/A	1	4	-	5	-	2	-	2	1	2	-	3
2019 State Reporting Follow-Up	2020	July 2020	July 20, 2020	Strong	-	-	2	2	-	-	2	2	-	-	-	-
Total Findings For Internal Audit Follow-Up					1	5	2	8	-	2	2	4	1	3	-	4

Cancer Prevention and Research Institute of Texas

IA #02-2020 Disaster Recovery and Business Continuity

Planning Advisory Audit Report

Report Date: September 29, 2020

Issued: October 28, 2020

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The Oversight Committee
Cancer Prevention and Research Institute of Texas
1701 North Congress Avenue, Suite 6-127
Austin, Texas 78701

This report presents the results of the audit advisory procedures performed for the Cancer Prevention and Research Institute of Texas (CPRIT or 'the Institute') during the period July 15, 2020, through September 28, 2020, relating to the Disaster Recovery and Business Continuity Plans (DR/BC plans) developed by CPRIT.

The objectives of the audit advisory procedures were to evaluate the design and effectiveness of the Institute's DR/BC planning preparation for emergency situations. The objectives were organized as follows:

- Evaluate CPRIT's DR/BC planning against existing regulatory requirements and the risks inherent to the planned processes.
- Provide CPRIT with recommendations to strengthen the Institute's DR/BC planning and improve risk management consistent with required and authoritative best practice criteria.

To accomplish these objectives, we conducted interviews with CPRIT personnel responsible for the disaster recovery and business continuity functions and examined existing documentation to gain an understanding of current DR/BC planning processes and procedures. With consideration to the health and safety precautions necessary for the COVID-19 pandemic, procedures were performed remotely and completed on September 29, 2020.

The following report summarizes the results of our procedures, our recommendations for improvement and CPRIT management responses.

Weaver and Tidwell, L.L.P.

WEAVER AND TIDWELL, L.L.P.

Austin, Texas
October 28, 2020

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CPAs AND ADVISORS | WEAVER.COM

Cancer Prevention and Research Institute of Texas

IA #02-2020 Disaster Recovery and Business Continuity Planning Advisory

Audit Report

September 29, 2020
Issued: October 28, 2020

Background

CPRIT's mission is to expedite discoveries and innovations across Texas to reduce the burdens of cancer. CPRIT's Oversight Committee awarded its first cancer research grant in late 2009. Eleven years later, CPRIT has invested over \$2.6 billion – 95 percent of the original \$3 billion of funding approved by Texans for grant awards – in 1,576 grants. When Proposition 6 passed on November 5, 2019, CPRIT became a \$6 billion, 20-year initiative. Of the \$2.6 billion awarded as of August 31, 2020, 10 percent of CPRIT's funding (244 grants) supports cancer prevention efforts throughout the state. The other 90 percent of CPRIT's funding supports the academic and product development research award portfolio (1,332 grants) which includes projects spanning the research and development continuum from basic through clinical research. As of August 2020, CPRIT is administering 550+ active grants totaling \$1.4 billion.

The work of coordinating grant application receipt and review, awarding and monitoring grants, and administering required state agency functions is performed by a small agency staff of 36 full-time equivalents from an office located in Austin, Texas. Due to the small number of staff, CPRIT uses service contracts strategically to augment the staff size and enhance the capabilities necessary to perform this work. CPRIT's IT infrastructure is distributed in systems that facilitate sharing data with various contractors and grantees, and enable continued operations and ongoing accessibility to data for staff, including supporting a remote working environment.

The Institute has developed DR/BC plans to prepare for and respond to disruptive events. A disruptive event is recognized as causing an entity's information and communications systems to be inaccessible or disabled and inhibiting business operations. In some instances, a disruptive event may be dangerous or even life-threatening to staff.

- Disaster Recovery (DR) planning includes an entity's actions in preparing for, responding to and resolving a critically disruptive event. The focus of a DR plan is the recovery of an entity's IT systems, applications and data when a disruptive event occurs.
- Business Continuity (BC) planning embodies a more holistic approach concerning the continuity of an entity's operations according to established contingency measures taken to address pre-determined thresholds. Disaster recovery is considered a component of business continuity planning. While a DR plan is focused on the recovery of IT systems and data, the BC plan focuses on restoring and resuming operations for the entity as a whole.

State agencies must adhere to the following standards in the development and maintenance of their DR/BC plans:

Author	Standard	Description
State Office of Risk Management (SORM)	Texas Continuity Template and Toolbox.	Provides a blueprint for the structure and content of agency DR/BC plans.
Texas Department of Information Resources (DIR)	Security Control Standards Catalog	Specifies the minimum information security requirements that state organizations must use to provide the appropriate levels of information security according to risk levels.

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Additionally, the National Institute of Standards and Technology (NIST) Special Publication 800-34, Revision 1, *Contingency Planning Guide for Federal Information Systems* was utilized as an authoritative source for instructions, recommendations and considerations when evaluating CPRIT's DR/BC planning documents.

CPRIT's most current DR/BC planning documents are dated April 2020. These documents are maintained and revised as needed (reviewed annually at a minimum) by the Reconstitution Planning Team, overseen by the CEO.

Audit Scope & Objectives

This audit advisory project focused on CPRIT's Disaster Recovery and Business Continuity (DR/BC) planning documents. We reviewed the processes and procedures outlined in these documents for compliance with regulatory requirements and appropriate risk management coverage. Our scope included an evaluation of the processes and procedures that cover the activities in the following key areas:

Disaster Recovery Activities:

- Disaster Recovery Plan and Procedures
- IT Backup and Recovery Systems
- IT Hardware Recovery
- Data Recovery
- Disaster Recovery Testing

Business Continuity Planning Activities:

- Business Resumption Plan and Procedures
- Scenario Determination and Criticality
- Business Impact Analysis
- Business Resumption
- Continuity Plan Testing

Our procedures were designed to evaluate CPRIT's DR/BC plans and provide recommendations for improving the plans and enhance risk management processes, in alignment with regulatory standards and authoritative best practices guidance.

The objectives of the audit advisory procedures were to evaluate the design and effectiveness of the Institute's DR/BC planning for emergency situations. The objectives were organized as follows:

- Evaluate CPRIT's DR/BC planning against existing regulatory requirements and the risks inherent to the planned processes.
- Provide CPRIT with recommendations to strengthen the Institute's DR/BC planning and improve risk management consistent with required and authoritative best practice criteria.

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Our procedures included interviews with CPRIT personnel responsible for the disaster recovery and business continuity functions and examination of existing documentation to gain an understanding of current DR/BC planning processes and procedures. We evaluated the processes and procedures outlined in the draft DR/BC plans in their current state.

Executive Summary

As part of our evaluation, we mapped the DR/BC planning criteria required by the State Office of Risk Management (SORM) and the Texas Department of Information Resources (DIR), as well as the guidance provided by the National Institute of Standards and Technology (NIST) to the DR/BC planning procedures and processes outlined in the drafts of CPRIT DR/BC documents that include:

- Continuity of Operations Plan (COOP),
- Reconstitution Plan,
- Information Technology Disaster Recovery Plan, and
- 10 other DR/BC planningP related supporting documents

Through our interviews with CPRIT personnel and our evaluation of CPRIT's DR/BC planning documentation, we identified 30 separate recommendations to improve the draft DR/BC plans. We provided the recommendations including proposed revisions to the planning documents to the personnel responsible for DR/BC planning for their evaluation.

The recommendations identified are intended to assist CPRIT in strengthening the existing procedures and processes used to respond to a disruptive event and further mitigate potential financial, operational and regulatory risks when responding to such an event.

A summary of our results, by objective is provided below.

SCOPE AREA	RESULT
Objective A: Evaluate CPRIT's DR/BC planning against existing regulatory requirements and the risks inherent to the planned processes.	CPRIT's draft DR/BC planning documents are generally consistent with required and authoritative best practice criteria. Of the 121 separate required and best practice criteria elements that should be included in the DR/BC planning documents, we identified 30 recommendations to improve and better align CPRIT's planned processes and procedures with these elements. These recommendations include: <ul style="list-style-type: none">• 24 to augment or revise information related to required criteria• 6 to improve general clarity and better align the planning documents

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SCOPE AREA	RESULT
Objective B: Provide CPRIT recommendations to strengthen the Institute's DR/BC planning and improve risk management consistent with required and authoritative best practice criteria.	Based on the 30 recommendations identified in Objective A, we provided detailed feedback to CPRIT personnel to update, revise, or clarify the existing DR/BC planning documents. Specifically, we provided: <ul style="list-style-type: none">• 23 draft revisions to augment or update the existing documentation• 7 recommendations for updates to technical information for IT platforms in the planning documentation

Conclusion:

Based on our evaluation, the Institute has adequate DR/BC planning documents that incorporate a significant portion of the criteria defined by the State Office of Risk Management and the Texas Department of Information Resources. However, we identified opportunities to augment and clarify the information in the documentation to improve compliance with regulatory criteria and the risk management posture of the agency.

Management should review and evaluate the proposed edits to strengthen the DR/BC planning documents. Once the modifications have been adopted and the Institute's DR/BC plans are finalized, we recommend that Management develop a plan and schedule for testing the DR/BC plans processes and procedures.

Detailed Procedures Performed, Results, Recommendations and Management Response

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Objective A: DR/BC Planning Evaluation

Evaluate CPRIT's DR/BC planning against existing regulatory requirements and the risks inherent to the planned processes.

Procedure performed:

We obtained and compared the drafts of CPRIT's DR/BC planning documentation against a criteria matrix that included both required and authoritative best practice criteria elements. CPRIT's DR/BC planning documentation and the authoritative materials used in this comparison, include:

CPRIT DR/BC Planning Documentation	Authoritative Criteria & Guidance
1. Continuity of Operations Plan [DRAFT] 2. Reconstitution Plan [DRAFT] 3. IT Disaster Recovery Plan 4. Employee Assistant Program 5. Safety and Occupational Health Manual 6. Emergency Response Team 7. Data Repository Log 8. IT DR Service Listing 9. IT DR Executive Briefing/Recovery Prioritization Review 10. IT Disaster Recovery Service Catalog 11. IT Contacts listing 12. On-site Hardware Requirements 13. Disaster Recovery Simulation Test Report	1. State Office of Risk Management (SORM) - <i>Texas Continuity Template and Toolbox</i> . 2. Texas Department of Information Resources (DIR) - <i>Security Control Standards Catalog</i> . 3. National Institute of Standards and Technology (NIST) - <i>Special Publication (SP) 800-34, Revision 1, Contingency Planning Guide for Federal Information Systems</i> .

Results:

We identified 30 opportunities to improve CPRIT's DR/BC planning documents with relation to the 121 required and authoritative best practice criteria throughout various DR/BC planning components.

DR/BC Component	Total Criteria	Improvement Opportunity		Nature of Improvement Opportunity		
		Count	Type	Content Addition	Content Revision	Reference Update
Incident Evaluation	31	8	R	5	2	1
		1	OA	1	-	-
Incident Management	30	10	R	3	4	3
		1	OA	1	-	-
Disaster Recovery	37	1	R	1	-	-
		-	OA	-	-	-
Business Resumption	23	5	R	4	-	1
		4	OA	2	2	-
Total	121	30		17	8	5

R – Required elements by SORM or DIR

OA – Other authoritative guidance

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The recommendations comprise proposed edits to specific information within the DR/BC planning documentation that augments existing content, revisions to content for clarity, and updates to references to other documents among the suite of DR/BC planning documents intended to reduce the effort by CPRIT personnel to maintain and keep the documentation up-to-date and relevant. These recommendations include:

- First responder/incident evaluation team references
- Additional incident scenario descriptions for fire and hacking/ransomware
- Documenting business impacts relating to IT data application losses
- Strengthening media inquiry routing protocols
- Identifying dependencies for essential functions
- Further defining funding sources for recovery activities
- Documenting identified vendors for IT assessment and restoration services
- Documenting initial and final server configurations
- Access to and closure of emergency purchase ordering
- Asset removal/disposal process

Objective B: Recommendations for Improvement

Provide CPRIT recommendations to strengthen the Institute's DR/BC planning and improve risk management consistent with regulatory and authoritative best practice criteria.

Procedure performed:

Based on the opportunities for improvement identified in Objective A, we closely collaborated with CPRIT personnel responsible for different DR/BC planning components to develop and craft appropriate edits to the existing documentation. We conducted meetings where we discussed possible revisions to the existing documentation in detail with CPRIT personnel to confirm the purpose and content of the edits prior to drafting the proposed revisions for CPRIT's use.

Results:

We drafted revisions for 23 of the 30 recommendations and provided them to CPRIT. The proposed edits include updates to CPRIT's Continuity of Operations Plan, Reconstitution Plan, and Information Technology Disaster Recovery Plan.

We also provided seven recommendations for modifications to technical content related to IT platform system information and configurations contained in the DR/BC planning documentation. These modifications to technical content would improve the clarity of the DR/BC planning documentation if CPRIT IT personnel were unavailable during a disaster event or crisis scenario.

Recommendation:

Management should review proposed revisions to the DR/BC planning documentation, modify as appropriate and finalize the DR/BC plans. Upon finalization, CPRIT should test the plans and develop and implement a strategy to review and update the documentation periodically based on changes in CPRIT's IT infrastructure or operations as well as conduct periodic testing of the plans.

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Management Response: Management appreciates the time that Weaver personnel took in reviewing CPRIT's DR/BC planning documentation, conducting meetings with CPRIT personnel to ask questions about the documentation as well as respond to CPRIT's questions, and providing draft language for revisions to clarify or enhance the documentation. This assessment of the DR/BC planning documentation has been invaluable to the agency's disaster response preparedness. The suggested revisions and draft language will be incorporated appropriately in the DR/BC planning documentation. After the documentation has been updated, CPRIT will schedule tests of the plans and conduct after action evaluations to determine whether additional modifications need to be made to the processes and procedures in the planning documents.

Responsible Party: Chief Operating Officer, Operations Manager, IT Manager

Implementation Date: June 30, 2021

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IA #03-2020 Internal Audit Report over Governance

Report Date: October 16, 2020

Issued: October 30, 2020

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The Oversight Committee
Cancer Prevention & Research Institute of Texas
1701 North Congress Avenue, Suite 6-127
Austin, Texas 78701

This report presents the results of the internal audit procedures performed for the Cancer Prevention and Research Institute of Texas (CPRIT) during the period March 1, 2019, through February 29, 2020, relating to agency governance processes.

The objective of the internal audit was to assess the design and operating effectiveness of CPRIT's governance infrastructure utilizing the Committees of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control Framework.

To accomplish the objective, we conducted interviews with CPRIT executive leadership responsible for agency governance. We also reviewed documentation and performed specific testing procedures to assess the operating effectiveness of process controls. Due to the COVID-19 pandemic, audit procedures were performed remotely and completed on October 16, 2020.

The following report summarizes the findings identified, risks to the organization, recommendations for improvement and management's responses.

Weaver and Tidwell, L.L.P.

Austin, Texas
October 30, 2020

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October 16, 2020

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Background

CPRIT is the state agency established to create and expedite innovation in academic and product development cancer research, and to enhance access to evidence-based innovation prevention programs throughout the state.

The purpose of this audit was to assess CPRIT's governance infrastructure. Governance within an organization is defined as the combination of processes and structures implemented by the organization's board or executive management to inform, direct, manage and monitor the activities of the organization toward the achievement of its strategic objectives. Many of CPRIT's processes required for agency governance have already been evaluated by Internal Audit through the various audits completed in the past several years. The results of those audits were factored into this assessment of the current processes and structures that guide and direct CPRIT's operations.

In order to facilitate the assessment of the governance infrastructure, the internal control framework developed by the Committees of Sponsoring Organizations of the Treadway Commission (COSO) was utilized as the tool to evaluate the existence and completeness of the existing processes in place at CPRIT. COSO is a joint initiative of five private sector organizations that include:

- American Accounting Association,
- American Institute of Certified Public Accountants,
- Financial Executives International,
- The Associate of Accountants and Financial Professionals in Business, and
- The Institute of Internal Auditors.

The COSO internal control framework was developed not only as a basis for evaluating internal controls but also as part of an initiative to assist organizations with achieving their objectives. The framework is divided into five components and 17 principles that support the components. When internal controls are effectively implemented by an organization, they facilitate and support the overall governance processes of that organization by providing reasonable assurance of achieving its objectives.

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COSO Components and Principles



Audit Objective and Scope

The audit evaluated CPRIT's governance processes and structures. We reviewed internal controls in place for appropriate risk coverage, compliance with CPRIT policies and procedures, and alignment with the COSO internal control framework components and principles. We also tested the implementation of the controls. The scope included an evaluation of the processes currently in practice covering the key areas of:

- Board Rules and Oversight
- Strategy, Policies and Procedures
- Structure and Accountability
- Communication and Reporting
- Assessment and Risk Management
- Ethics

We mapped the controls identified in these key areas to the five components of the COSO Internal Control Framework, the 17 principles, and corresponding points of focus within each principle relevant to CPRIT's operating environment.

The objective of the internal audit was to assess the design and operating effectiveness of CPRIT's governance infrastructure utilizing the COSO Internal Control Framework.

Our procedures included interviewing key members of the agency's executive leadership to gain an understanding of the current processes in place, examining existing documentation, and evaluating the internal controls over the process. We evaluated the existing policies, procedures, and processes in their current state. Our coverage period was from March 1, 2019, through February 29, 2020.

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Executive Summary

Through our interviews, evaluation of internal control design and testing of transactions, we determined that agency controls to support the governance processes and structures are implemented and operating effectively. However, as a result of our procedures, we identified one outstanding finding from a prior internal audit that continues to impact the operating effectiveness of controls. The one finding identified is an instance where internal controls are not operating effectively to cover the possible risks to CPRIT including financial or operational implications.

A summary of our results, by audit objective, is provided in the table below. *See the Appendix for an overview of the Assessment and Risk Ratings.*

OVERALL ASSESSMENT		STRONG
SCOPE AREA	RESULT	RATING
Objective A: Assess the design and operating effectiveness of CPRIT's governance infrastructure utilizing the COSO Internal Control Framework.	We identified that CPRIT has processes and internal controls that align with COSO's five components and 17 principles to support the agency's efforts in achieving its goals and objectives. However, the internal control environment could be strengthened by consistently reviewing the internal controls reports of key outsourced providers in a timely manner. This was identified in a prior internal audit.	STRONG

Conclusion

Based on our evaluation, CPRIT has the appropriate processes and structures in place to support agency governance. However, CPRIT should continue its efforts to implement procedures to consistently review the reports of internal controls of outsourced service vendors in a timely manner to remediate the finding identified in this audit and a prior internal audit.

Follow-up procedures will be performed in fiscal year 2021 to evaluate the effectiveness of the agency's remediation efforts.

Detailed Procedures Performed, Findings, Recommendations and Management Response

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October 16, 2020

Issued: October 30, 2020

Detailed Procedures Performed, Findings, Recommendations and Management Response

Our procedures included interviewing key personnel associated with budget and planning processes to gain an understanding of the current processes in place, examining existing documentation, and evaluating the internal controls over the processes. We evaluated the existing policies, procedures, and processes in their current state.

Objective A: Design of and Effectiveness of Governance Processes

Assess the design and operating effectiveness of CPRIT's governance infrastructure utilizing the COSO Internal Control Framework.

- 1. Procedures Performed:** We reviewed the five components of the COSO internal control framework, including the 17 principles and their corresponding 77 points of focus, for their applicability to Texas state agencies and CPRIT specifically. We mapped CPRIT's existing controls to the COSO internal control framework and evaluated the design of the internal control structure taking into account controls that had already been identified and tested in prior internal audits.

Results: We determined that 73 of the 77 points of focus were applicable to CPRIT and the governance structure of Texas state agencies. The result of our assessment was that each of the five components and 17 principles are present and operating effectively at CPRIT.

For select critical controls, we selected a sample of occurrences for testing to verify that the controls were operating effectively.

- 2. Procedures Performed:** We verified that CPRIT's Code of Conduct and Ethics is in place and distributed to each new Oversight Committee member within 30 days of becoming a board member and to each Program Integration Committee member and agency employee within 30 days of employment.

Results: No exceptions identified.

- 3. Procedures Performed:** We verified that CPRIT has administrative rules in place that define the Oversight Committee's roles and responsibilities.

Results: No exceptions identified.

- 4. Procedures Performed:** We obtained the Legislative Appropriations Request for the Fiscal Years 2020 and 2021 submission and verified that the certification for dual submission was signed by CPRIT's Chief Executive Officer, Chief Operating Officer and Oversight Committee Chairman.

Results: No exceptions identified.

- 5. Procedures Performed:** We verified that CPRIT prepares the *Texas Cancer Plan* in accordance with Texas statutory requirements.

Results: No exceptions identified.

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6. **Procedures Performed:** We verified the Chief Compliance Officer reviews the conflict of interest certifications, political contribution forms, ethics compliance statements, and personal financial statements from the Oversight Committee members on an annual basis. We also verified that the Chief Compliance Officer reviews the conflict of interest certifications, outside employment forms, and other compliance documents completed by CPRIT employees annually.

Results: No exceptions identified.

7. **Procedures Performed:** We verified that the Chief Compliance Officer tracks the completion of required trainings for new employees and Oversight Committee members.

Results: No exceptions identified.

8. **Procedures Performed:** We verified that CPRIT obtains reports over internal controls from key outsourced service providers and reviews the reports for control weaknesses that may adversely affect the agency's operating environment.

Results: We determined that some reports from outsourced service providers are not reviewed by CPRIT in a timely manner.

Finding 1 – Moderate – Outsourced Service Provider Controls Review: Of the two service providers selected for testing from the 24 outsourced services providers, CPRIT did not review one of the reports to ensure that the service provider did not have any internal control weaknesses that could impact CPRIT operations. This was also identified in a prior internal audit.

Recommendation: CPRIT should continue its efforts to implement procedures to consistently review the internal control reports of outsourced service vendors in a timely manner to remediate this issue that has also been identified in a prior internal audit.

Management Response: Management agrees with the recommendation and will ensure that this outstanding issue is remediated by procuring a service provider that augments CPRIT's capability to consistently review the internal control reports of key outsourced services. The report review service provider would summarize the conclusion of every internal control report of key outsourced services that CPRIT receives and provide the written summary to CPRIT, highlighting any critical issues that may be identified in a report.

Implementation Date: March 1, 2021

Responsible Party: Chief Operating Officer, IT Manager

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9. **Procedures Performed:** We verified that the Oversight Committee receives information and reports on a quarterly basis from CPRIT management including reports from:

- Chief Executive Officer
- Chief Compliance Officer
- Chief Operating Officer
- Chief Scientific Officer
- Chief Prevention Officer
- Chief Product Development Officer
- Communications
- Internal Audit

Results: No exceptions identified.

10. **Procedures Performed:** We verified the Chief Compliance Officer maintains a log of grant compliance investigations and, if necessary, ensures that corrective action is appropriately implemented and monitored.

Results: No exceptions identified.

11. **Procedures Performed:** We verified that CPRIT conducts regular performance evaluations of employees to provide them with an assessment of their conduct and work performance in accordance with the expectations of the agency's workplace conduct guidelines and their individual job description.

Results: No exceptions identified.

Appendix

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The appendix defines the approach and classifications utilized by Internal Audit to assess the residual risk of the area under review, the priority of the findings identified, and the overall assessment of the procedures performed.

Report Ratings

The report rating encompasses the entire scope of the engagement and expresses the aggregate impact of the exceptions identified during our test work on one or more of the following objectives:

- Operating or program objectives and goals conform with those of the agency
- Agency objectives and goals are being met
- The activity under review is functioning in a manner which ensures:
 - Reliability and integrity of financial and operational information
 - Effectiveness and efficiency of operations and programs
 - Safeguarding of assets
 - Compliance with laws, regulations, policies, procedures and contracts

The following ratings are used to articulate the overall magnitude of the impact on the established criteria:

Strong

The area under review meets the expected level. No high risk rated findings and only a few moderate or low findings were identified.

Satisfactory

The area under review does not consistently meet the expected level. Several findings were identified and require routine efforts to correct, but do not significantly impair the control environment.

Unsatisfactory

The area under review is weak and frequently falls below expected levels. Numerous findings were identified that require substantial effort to correct.

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Risk Ratings

Residual risk is the risk derived from the environment after considering the mitigating effect of internal controls. The area under audit has been assessed from a residual risk level utilizing the following risk management classification system.

High

High risk findings have qualitative factors that include, but are not limited to:

- Events that threaten the agency's achievement of strategic objectives or continued existence
- Impact of the finding could be felt outside of the agency or beyond a single function or department
- Potential material impact to operations or the agency's finances
- Remediation requires significant involvement from senior agency management

Moderate

Moderate risk findings have qualitative factors that include, but are not limited to:

- Events that could threaten financial or operational objectives of the agency
- Impact could be felt outside of the agency or across more than one function of the agency
- Noticeable and possibly material impact to the operations or finances of the agency
- Remediation efforts that will require the direct involvement of functional leader(s)
- May require senior agency management to be updated

Low

Low risk findings have qualitative factors that include, but are not limited to:

- Events that do not directly threaten the agency's strategic priorities
- Impact is limited to a single function within the agency
- Minimal financial or operational impact to the agency
- Require functional leader(s) to be kept updated, or have other controls that help to mitigate the related risk

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I. Compliance with Texas Government Code, Section 2102.015: Posting the Internal Audit Plan, Internal Audit Annual Report, and Other Audit information on Internet Web site

Texas Government Code, Section 2102.015 requires state agencies and higher education institutions, as defined in the statute, to post their Internal Audit Plan, Internal Audit Annual Report, and other audit information on the Internet.

The Cancer Prevention and Research Institute of Texas (CPRIT or the agency) will post this report which includes the Fiscal Year 2021 Internal Audit Plan on its website at www.cprit.texas.gov. CPRIT's Oversight Committee reviewed and approved the Annual Internal Audit Report as part of their regular meeting held on November 18, 2020. In accordance with Texas Government Code, Section 2102.015, CPRIT will post this report on its website within 30 days of the Oversight Committee's approval.

The table in Section II below provides a detailed summary of the weaknesses, deficiencies, wrongdoings or other concerns raised by performance of the audit plan and the actions taken by the agency to address any of those issues identified.

II. Internal Audit Plan for Fiscal Year 2020

The internal audits planned and performed for fiscal year 2020 were selected to address the agency's highest risk areas, based on the risk assessment update conducted in August 2019, which included input from CPRIT management. The audits conducted during fiscal year 2020 are listed below.

Internal Audit	Report #	Report Date	Current Status
Internal Audit of Governance	IA #03-20	October 16, 2020	The report was issued October 30, 2020. Follow-up procedures to verify that corrective action has been performed are included in the proposed 2021 Internal Audit Plan.
Internal Audit Advisory of Disaster Recovery and Business Continuity	IA #02-20	September 29, 2020	The report was issued October 28, 2020. Follow-up procedures to verify that recommendations have been addressed are included in the proposed 2021 Internal Audit Plan.
Internal Audit Follow-Up over State Reporting	IA #01-20	July 20, 2020	The report was issued August 3, 2020. The prior findings were remediated.
Internal Audit Follow-Up over Communications	IA # 04-20	NA	Due to CPRIT staffing considerations and conflicts as a result of the COVID-19 pandemic, follow-up procedures were delayed until FY 2021.
Internal Audit Follow-Up over Information Security	IA # 05-20	NA	Due to CPRIT staffing considerations and conflicts as a result of the COVID-19 pandemic, follow-up procedures were delayed until FY 2021.

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III. Consulting Services and Non-audit Services Completed

As defined in the Institute of Internal Auditors' International Standards for the Professional Practice of Internal Auditing and the Government Auditing Standards, 2018 Revision, Sections 3.64 – 3.106, CPRIT completed the following consulting and non-audit services for FY 2020.

Internal Audit provided consulting with CPRIT Management over agreed-upon procedures related to grant compliance. Consulting was provided on the performance of certain procedures where performance was limited due to the inability of auditors to be on-site at a grantee's office and state-wide social distancing guidance.

Additional consulting services were provided to CPRIT through the Internal Audit Advisory of Disaster Recovery and Business Continuity. (IA #02-20 in Section II of this report)

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IV. External Quality Assurance Review

In accordance with professional standards, and to meet the requirements of the Texas Internal Auditing Act, Internal Audit is required to undergo an external quality assurance review at least once every three years. Weaver's review was issued in October 2019.



Report on Firm's System of Quality Control

October 16, 2019

To the Partners of Weaver and Tidwell, L.L.P.
and the National Peer Review Committee

We have reviewed the system of quality control for the accounting and auditing practice of Weaver and Tidwell, L.L.P. (the firm) applicable to engagements not subject to PCAOB permanent inspection in effect for the year ended May 31, 2019. Our peer review was conducted in accordance with the Standards for Performing and Reporting on Peer Reviews established by the Peer Review Board of the American Institute of Certified Public Accountants (Standards).

A summary of the nature, objectives, scope, limitations of, and the procedures performed in a System Review as described in the Standards may be found at www.aicpa.org/prsummary. The summary also includes an explanation of how engagements identified as not performed or reported in conformity with applicable professional standards, if any, are evaluated by a peer reviewer to determine a peer review rating.

Firm's Responsibility

The firm is responsible for designing a system of quality control and complying with it to provide the firm with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. The firm is also responsible for evaluating actions to promptly remediate engagements deemed as not performed or reported in conformity with professional standards, when appropriate, and for remediating weaknesses in its system of quality control, if any.

Peer Reviewer's Responsibility

Our responsibility is to express an opinion on the design of the system of quality control and the firm's compliance therewith based on our review.

Required Selections and Considerations

Engagements selected for review included engagements performed under Government Auditing Standards, including compliance audits under the Single Audit Act; audits of employee benefit plans, an audit performed under FDICIA, an audit of a broker-dealer, and examinations of service organizations [SOC 1 and SOC 2 engagements].)

As a part of our peer review, we considered reviews by regulatory entities as communicated by the firm, if applicable, in determining the nature and extent of our procedures.

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Opinion

In our opinion, the system of quality control for the accounting and auditing practice of Weaver and Tidwell, L.L.P. applicable to engagements not subject to PCAOB permanent inspection in effect for the year ended May 31, 2019, has been suitably designed and complied with to provide the firm with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. Firms can receive a rating of pass, pass with deficiency(ies) or fail. Weaver and Tidwell, L.L.P. has received a peer review rating of pass.

Eide Bailly LLP

Eide Bailly LLP

V. Internal Audit Plan For Fiscal Year 2021

The Internal Audit Plan was submitted to the Audit Subcommittee of the CPRIT Oversight Committee. The Audit Subcommittee approved the plan on August 10, 2020, and the Oversight Committee subsequently approved the plan on August 19, 2020. Below is the Fiscal Year 2021 Internal Audit Plan submitted to the agency's Oversight Committee based on the results of the 2020 Internal Audit Risk Assessment Update. The approved internal audit plan was submitted to the State Auditor's Office prior to November 1, 2020.

Fiscal Year 2021 Internal Audit Plan		
Audit Area	2020 Risk Rating	Estimated Hours
Internal Audit over Information Technology General Computer Controls	High	280
Sunset Self-Assessment Advisory Audit	NA	220
Records Management – Grantee Compliance Records Advisory Audit	High	230

Planned follow-up procedures for fiscal year 2021 to verify and communicate with Management the remediation efforts of prior Internal Audit Recommendations.

Fiscal Year 2021 Follow-up Procedures		
Audit Area	2020 Risk Rating	Estimated Hours
Information Security	High	40
Communications	Moderate	70
Governance	High	100
Disaster Recovery and Business Continuity Planning Advisory	High	100

Cancer Prevention and Research Institute of Texas

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As part of the risk assessment, CPRIT assesses the probability and impact of the following risk categories across all significant activities of the agency, which include the significant information technology processes of information security, information technology general computer controls and application development and management:

- financial and fraud risk
- operations, complexity, and human capital risk
- information technology risk
- regulatory compliance and public policy risk, and
- reputational risk

Taking into consideration the input from the CPRIT management, all significant activities are assigned a risk score for probability and impact related to each risk category. The overall risk rating (High, Moderate or Low) is assigned to each significant activity based on the activity's average risk score.

The internal audit plan is developed by considering risk ratings for each significant activity and prioritizing "High" risk activities. The risk assessment is updated on an annual basis.

The 2020 Internal Audit Risk Assessment Update resulted in 11 Significant Activities rated as "High" risk. Seven of the 11 Significant Activities are not included in the Fiscal Year 2021 Internal Audit Plan. Those risks are as follows:

- **Pre-Award Grant Management** – Pre-Award Grant Management was not included in the 2021 Internal Audit Plan. Pre-Award Grants Management was included in the 2017 Internal Audit Plan, and was included in 2018 Follow-Up Procedures with all findings remediated.
- **Post-Award Grant Monitoring** – Post-Award Grant Monitoring was not included in the 2021 Internal Audit Plan. Post-Award Grant Monitoring was included in the 2018 Internal Audit Plan, and was included in 2019 Follow-Up Procedures with all findings remediated.
- **Commodity and Service Contracts** – Commodity and Service Contracts was not included in the 2021 Internal Audit Plan. Commodity and Service Contracts was included in the 2016 Internal Audit Plan, and was included in 2017 Follow-Up Procedures with all findings remediated.
- **Procurement and P-Cards** – Procurement and P-Cards was not included in the 2021 Internal Audit Plan. Procurement and P-Cards was included in the 2017 Internal Audit Plan, and was included in 2019 Follow-Up Procedures with all findings remediated.
- **Internal Agency Compliance** – Internal Agency Compliance was not included in the 2021 Internal Audit Plan. Commodity and Service Contracts was included in the 2017 Internal Audit Plan, and was included in 2018 Follow-Up Procedures with all findings remediated.
- **Application Development and Management** – Application Development and Management was not included in the 2021 Internal Audit Plan.

VI. External Audit Services Procured in FY 2020

CPRIT engaged McConnell & Jones, LLP, a certified public accounting and consulting firm, as their external auditors for FY 2020. McConnell & Jones, LLP is registered with the Public Company Auditor Oversight Board (PCAOB).

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VII. Reporting Suspected Fraud, Waste and Abuse

- CPRIT contracts with Red Flag Reporting to provide a confidential hotline for reporting fraud, waste and abuse. The agency has posted a link on its home page at www.cprit.texas.gov and also has a dedicated page to fraud prevention and reporting on its website at <https://www.cprit.texas.gov/about-us/fraud-reporting>.
- The CPRIT Chief Compliance Officer is the designated staff member within the agency to receive written or verbal allegations of suspected fraud, waste, and abuse. The Chief Compliance Officer has the authority to examine and investigate those allegations and turn over information of verified instances of fraud, waste, or abuse to the State Auditor's Office.



MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: CAMERON ECKEL, ASSISTANT GENERAL COUNSEL
SUBJECT: APPOINTMENT TO THE SCIENTIFIC RESEARCH AND PREVENTION PROGRAMS COMMITTEE
DATE: NOVEMBER 9, 2020

Summary and Recommendation

The Chief Executive Officer has appointed eight experts to CPRIT's Scientific Research and Prevention Programs Committee. CPRIT's statute requires Oversight Committee approval for the appointments. The Nominations Subcommittee will discuss the appointments at its meeting on November 13.

Discussion

Scientific Research and Prevention Programs committee members (also referred to as "peer reviewers") are responsible for reviewing grant applications and recommending grant awards for meritorious projects addressing cancer prevention and research, including product development research. Peer reviewers perform a significant role for the state; all CPRIT grant awards must first be recommended by a Scientific Research and Prevention Programs committee. Individuals appointed to serve as CPRIT's Scientific Research and Prevention Programs committee members must be exceptionally qualified, highly respected, well-established members of the cancer research, product development research, and prevention communities.

Texas Health and Safety Code Section 102.151(a) directs the Chief Executive Officer to appoint members to the Scientific Research and Prevention Programs committees. The CEO's appointments are final once approved by a simple majority of the Oversight Committee. The Nominations Subcommittee charter assigns the subcommittee with the responsibility "to circulate to Oversight Committee members in advance of a public meeting written notification of the committee's intent to make the nomination, along with such information about the nominee as may be relevant."

The nominations subcommittee will review the peer reviewer appointments at its November 13 meeting.



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: CAMERON ECKEL, ASSISTANT GENERAL COUNSEL
SUBJECT: APPOINTMENTS TO ADVISORY COMMITTEES
DATE: NOVEMBER 9, 2020

Summary and Recommendation

At its November 13 meeting, the Nominations subcommittee will discuss Presiding Officer Dee Margo's proposed appointment to the Prevention Advisory Committee (PAC) and vote on whether to recommend approval to the Oversight Committee.

Discussion

Texas Health and Safety Code Section 102.155 allows the Oversight Committee to create ad hoc committees of experts to advise the Oversight Committee. The PAC advises the Oversight Committee on important issues surrounding cancer prevention and control. The members of the PAC, appointed by the Oversight Committee, share their advice on opportunities to increase CPRIT's impact on cancer prevention and control in Texas.

CPRIT's administrative rules dictate that the presiding officer of the Oversight Committee is responsible for appointing experts to serve on CPRIT's advisory committees, including the PAC. Appointments to the PAC must be approved by the Oversight Committee.

The Nominations subcommittee will consider the pending PAC appointment at its November 13 meeting.



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

Nomination to Prevention Advisory Committee (PAC)

- Abbey B. Berenson, MD, MMS, PhD

CURRICULUM VITAE

NAME: Abbey B. Berenson, MD, MMS, PhD

PRESENT POSITION (TITLE) AND EMPLOYERS PHYSICAL ADDRESS:

Professor, Departments of Obstetrics/Gynecology and Pediatrics
Director, UTMB Center for Interdisciplinary Research in Women's Health
Ruth Hartgraves Endowed Chair in Obstetrics and Gynecology
The University of Texas Medical Branch
Galveston, Texas 77555-0587
Dates of Employment: 1989-Present

BIOGRAPHICAL:

Citizenship: USA
Email Address: abberens@utmb.edu

EDUCATION:

Aug. 2009- May 2011	University of Texas Medical Branch Doctoral of Philosophy in Population Science & Health Services Research
Aug. 2008-May 2009	University of Texas Medical Branch Master of Medical Science
Aug. 2002-May 2003	University of Houston Certificate in Business Administration
Fellowship: August 1991	Queen Charlotte's and Chelsea Hospital London, England
Residency: July 1984 June 1988	Baylor College of Medicine Department Ob/Gyn Houston, Texas
Medical School: June 1980 May 1984	Baylor College of Medicine - M.D. Houston, Texas
Undergraduate: Sept. 1976 May 1980	The University of Texas - B.A. Austin, Texas Major: Plan II Honors Program

BOARD CERTIFICATION: American College of Obstetricians and Gynecologists Board Certified
12/31/90

LICENSURE INFORMATION: Licensed in Texas, December 1985
License Number: G8785
Expiration: November 30, 2020

PROFESSIONAL WORK HISTORY AND TEACHING EXPERIENCE:

1989-1993	Assistant Professor, Obstetrics & Gynecology and Pediatrics, University of Texas Medical Branch (UTMB), Galveston, TX
1993-1998	Associate Professor, Obstetrics & Gynecology and Pediatrics, UTMB, Galveston, TX
1993-Present	Director, Pediatric & Adolescent Gynecology, Obstetrics & Gynecology, UTMB, Galveston, TX
1998-Present	Professor, Obstetrics & Gynecology and Pediatrics, UTMB, Galveston, TX
2002-Present	Founder & Director, Center for Interdisciplinary Research in Women's Health, UTMB, Galveston, TX
2012-Present	Ruth Hartgraves MD Chair in Obstetrics & Gynecology, UTMB, Galveston, TX

RESEARCH ACTIVITIES:

Current Areas of Research

- A. Comparative effectiveness studies among diverse populations of young women including:
 1. Contraception practices, methods, and effects (clinical)
 2. Interventions directed at cervical cancer prevention (clinical)
- B. Epidemiologic studies on prevalence and correlates of infection with human papillomavirus

Grant Support

Current

1. PP200048 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Expanding a successful postpartum HPV vaccination project to women in the Rio Grande Valley”
PI/PD; \$1,999,991 total costs; 08/31/2020 – 8/30/2023
2. 2 K12 HD052023-16– NIH/NICHD
“UTMB Women's health research scholars program” – Institutional Research Career Development Award (BIRCWH)
PI/PD & Research Director; \$3,118,410 total costs; 08/29/2005 – 04/30/2025 (Renewal-4th Cycle)
3. PP200005 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Maximizing opportunities for HPV vaccination in medically underserved counties of Southeast Texas”
PI/PD; \$1,993,096 total costs; 03/01/2020 – 02/28/2023 (Continuation/Expansion)
4. RP190022– Cancer Prevention & Research Institute of Texas (CPRIT)
“A randomized, controlled trial comparing the immunogenicity of 2 doses vs 3 doses of the 9-valent HPV vaccine in males and females 15–26 years of age”
PI/PD; \$1,491,473 total costs; 03/01/2019 – 02/28/2022
5. PP190004 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Partnering with schools and clinics to expand a highly successful HPV vaccination program for 9-17 year olds from Medically Underserved Areas”

PI/PD; \$2,499,411 total costs; 03/01/2019 – 02/28/2022 (continuation/expansion of PP150004)

6. PP180012 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Vaccinating medically underserved women against HPV”
PI/PD; \$1,344,926 total costs; 08/31/2018–08/30/2021
7. PP160058 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Postpartum administration of HPV vaccine: Strategies to increase initiation and series completion among low income women across Southeast Texas”
PI/PD; \$1,496,111 direct costs; 08/31/2016 – 08/30/2020 (Continuation/Expansion)

Pending

Past Grant Support as PI

1. Principal Investigator, \$1,000
“Appearance of the hymen in children: A longitudinal study”
William and Mary McGanity Research Fund
September 1, 1990 – August 31, 1991
2. Principal Investigator, \$12,500
“Effect of physical assault in pregnancy on neonatal outcome”
John Sealy Memorial Endowment Fund
April 1, 1992 – March 31, 1993
3. Principal Investigator, \$946,539 (25% effort)
“Hymenal changes in prepubertal girls due to sexual abuse”
National Institute of Mental Health
August 1, 1994 – January 31, 2000
Score 2.3 percentile
4. Principal Investigator, \$791,215 (15% effort)
“Comparison of norethindrone-containing oral contraceptive pills to desogestrel-containing pills and Depo-Provera in a military and civilian population”
Defense Women’s Health Initiative
U.S. Army Medical Research and Materiel Command
October 1, 1996 – July 31, 2001
Score 6.5 percentile
5. Principal Investigator, \$20,000 (15% effort)
“Normal hymenal development from 6 to 12 years of age”
UTMB John Sealy Memorial Endowment Fund
September 1, 1998 – February 28, 2001
6. Subproject Principal Investigator, \$11,060,406
“Hymenal configuration in children”
UTMB General Clinical Research Center Grant
National Center for Research Resources,
General Clinical Research Center Program
December 1, 1998 – November 30, 2002
7. Principal Investigator, \$10,000

- “A multi-center, open label study to assess satisfaction and experience with Alesse® in adult women”
Wyeth-Ayerst Laboratories
June 1, 1999 – December 31, 1999
8. Principal Investigator, \$40,000 (10% effort)
"A prospective study of the effects of method of contraception on bone density in young premenopausal women"
National Osteoporosis Foundation
September 1, 1999 – August 31, 2000
 9. Principal Investigator, \$20,500
“A randomized double-blind parallel multi-center study to evaluate the effects on cycle control of three trimegestone/ethinyl estradiol regimens use. An open label Mircette® treatment arm”
Wyeth-Ayerst Laboratories
November 1, 1999 – November 30, 2000
 10. Principal Investigator, \$81,081
Diversity supplement to "Effect of hormonal contraception on bone mineral density" to support Laura Romo, Ph.D.
National Institute of Child Health and Human Development
November 1, 2002 – August 31, 2003
 11. Principal Investigator, \$250,432
Diversity supplement to above grant to support Kevin McKinney, M.D.
National Institute of Child Health and Human Development
March 1, 2004 – August 31, 2006
 12. Subproject Principal Investigator, \$2,383,544
“Effect of hormonal contraception on bone mineral density”
UTMB General Clinical Research Center Grant
National Center for Research Resources,
General Clinical Research Center Program
April 1, 2005 – March 31, 2006
 13. Principal Investigator, \$2,091,496 direct cost
“Effect of hormonal contraception on bone mineral density”
National Institute of Child Health and Human Development
September 1, 2001 – August 31, 2008
 14. Principal Investigator, \$1,169,551
“Improving adolescent adherence to hormonal contraception”
Health Resources and Services Administration
January 1, 2006 – January 31, 2011
 15. Principal Investigator, \$50,000
“A pilot study to translate the diabetes prevention program via the internet”
John Sealy Foundation and Institute for Translational Sciences
September 1, 2010 – August 31, 2011
 16. Principal Investigator, \$120,000
“Contemporary intrauterine contraception use among adolescents: Examination of a national health claims database”

Society of Family Planning
October 1, 2010 – October 31, 2012
Score 1.1

17. Principal Investigator, \$789,740
“Midcareer investigator award in patient-oriented research”
K24 Individual Research Career Development Award
National Institute of Child Health and Human Development
March 15, 2003 – February 28, 2014 (Renewed in 2008)
18. PP120150 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Prenatal education and postpartum administration of HPV vaccine: Strategies to increase initiation and series completion among low income women”
PI/PD; \$1,224,025 direct costs; 09/01/2012 – 02/28/2017
19. PP150004 – Cancer Prevention & Research Institute of Texas (CPRIT)
“A multi-pronged approach to increase HPV vaccination rates among adolescents 9-17 years of age from Galveston and Brazoria counties”
PI/PD; \$1,406,919 direct costs; 12/01/2014 – 11/30/2018
20. 5 T32 HD055163-10 – NIH/NICHD
“Interdisciplinary women’s reproductive health fellowship”- Ruth L. Kirschstein National Research Service Award (NRSA) – Postdoctoral
PI/PD; \$841,350 direct costs; 05/01/2008 – 04/30/2019 (Renewal)
21. PP160010 – Cancer Prevention & Research Institute of Texas (CPRIT)
“Maximizing opportunities for HPV vaccination in the Golden Triangle”
PI/PD; \$1,409,909 direct costs; 12/01/2015 – 11/30/2019

Past Grant Support as Co-investigator

1. Co-Investigator, \$12,500
Marinel Ammenheuser, Ph.D., P.I.
"In vivo frequencies of mutant placental lymphocytes from newborns of mothers who smoke cigarettes"
UTMB Small Grant Program
April 1, 1991 – March 31, 1992
2. Consultant, \$211,140
Jan Paradise, M.D., P.I.
"Agreement and possible bias in sexual abuse examinations"
National Institute of Mental Health
July 1, 1992 – December 31, 1994
3. Co-Investigator, \$148,480
Marinel Ammenheuser, Ph.D., P.I.
"Mutant T cells in pregnant abusers of drugs and tobacco"
National Institute of Drug Abuse
July 1, 1993 – June 30, 1995
4. Co-Investigator, \$149,500
Constance Wiemann, Ph.D., P.I.
"Drug use patterns of adolescent mothers after delivery"
National Institute on Drug Abuse (score 123; percentile 0.6)

August 1, 1993 – July 31, 1995

5. Co-Investigator, \$30,629
Constance Wiemann, Ph.D., P.I.
(supplemental funding to grant above)
"Drug use patterns of adolescent mothers after delivery"
Hogg Foundation for Mental Health
October 1, 1993 – September 31, 1995
6. Co-Investigator, \$23,558
Vaughn I. Rickert, PsyD., P.I.
"Mental health correlates of Rohypnol use"
Hogg Foundation for Mental Health
February 1, 1997 – January 31, 1998
7. Co-Investigator, \$350,000
Constance Wiemann, Ph.D., P.I.
"Epidemiology of drug abuse among adolescent mothers"
National Institute of Drug Abuse (score 3.9 percentile)
March 1, 1995 – February 28, 2000
8. Mentor and Co-Investigator, \$149,000
Carmen Radecki, Ph.D., P.I.
"Predicting adherence to follow up of abnormal Pap smears"
National Cancer Institute
April 1, 2001 – March 31, 2003
9. Mentor and Co-Investigator, \$147,089
Z. Helen Wu, Ph.D., P.I.
"Club drug use in young, low income women"
National Institute of Drug Abuse
September 30, 2001 – May 31, 2003
10. Director of Clinical Research Core, \$1,846,588 direct cost
UTMB Women's reproductive health research career development center of excellence
K12 Institutional Research Career Development Award (WRHR)
Gary Hankins, M.D., PI
National Institute of Child Health and Human Development
March 1, 2004 – February 28, 2009
11. Co-Investigator, \$1,125,000 (2% effort)
"Intervention to improve follow-up of abnormal Pap tests"
Carmen Radecki Breitkopf, Ph.D., PI
National Cancer Institute
Sept 1, 2005 – May 31, 2010
12. Co-Investigator, \$1,000,000 (2% effort)
"Effect of stressors on substance use in young, poor women"
Helen Wu, Ph.D., PI
National Institute on Drug Abuse
April 1, 2006 – October 31, 2010
13. Consultant \$1,901,368

“Evaluating the impact of reproductive health legislation enacted by the 82nd Texas legislature”

Joseph Potter, PhD (PI), UT Austin

September 1, 2011 – August 31, 2014

14. Associate Director; 10% effort; 05/01/2013 – 09/01/2016
5 R24 HS022134-03 – AHRQ
“Patient Centered Outcomes Research in the Elderly”
James Goodwin, PI
\$4,996,932 total costs; 05/01/2013 – 04/30/2018

COMMITTEE RESPONSIBILITIES:

International/National

1. NICHD Data Safety Monitoring Board (CCN006), 2007-present
2. International Federation of Gynecology and Obstetrics (FIGO)
 - a. Expert Advisory Panel on Adolescent Gynecology and Obstetrics, 1997-2000
 - b. Expert Advisory Panel on Violence against Women, 1997-2003
3. American Board of Obstetrics and Gynecology
 - a. Oral board examiner, 1999-2009
4. American College of Obstetricians and Gynecologists
 - a. Committee on Adolescent Health Care, 1997-2000. Vice-Chair, 1998-2000
 - b. Selection Committee for ACOG Research Award in Adolescent Health, 2000-2002; Chairman, 2001-2002
 - c. Committee on Practice Bulletins-Gynecology, 2001-2004
 - d. Committee on Gynecologic Practice, 2005-2008
5. American Gynecological and Obstetrical Society
 - a. Finance Committee, 2005-2006
 - b. Board of Directors, 2006-2009
 - c. Chair, Finance Committee, 2006-2009
6. Central Association of Obstetricians & Gynecologists
 - a. President, 2003-2004
 - b. Board of Trustees, 1997-2004
 - c. Program/Awards Committee, 1996-1997, 2003-2004
 - d. By-laws Committee, 2000-2001, 2003-2004
 - e. Membership Committee 2002-2004
7. North American Society of Pediatric and Adolescent Gynecology
 - a. Chair, Committee on Collaborative Research on Sexual Abuse, 1992-1993
 - b. Abstract Review Committee, 1992-1993
 - c. Ad Hoc Committee on Position Statements, 1996
8. Society for Gynecologic Investigation Abstract Review, 1995-1996
9. American Professional Society on Abuse of Children. Subcommittee on interpretation of findings in the sexually abused child and adolescent, 1997
10. Society of Family Planning, Abstract Review Committee, 2010
11. North American Forum on Family Planning, Abstract review committee, 2011-13

State/Regional

1. Texas Association Concerned with School Age Parenting Program Committee, 1989
2. Gulf Coast Women’s Health Research Forum Scientific Advisory Committee, 2011
3. Tulane BIRCWH Program, External Advisory Committee, 2018-present
4. Texas HPV Round Table Coalition (American Cancer Society), 2018-present
 - a. Provider Education Workgroup, 2018-present

b. Systems Improvement Workgroup, 2019-present

UTMB

1. Committee on Informed Consent 2018-2019
2. Academy of Research Mentors Steering Committee 2017-present
3. Committee on Clinical Trials 2016-2018
4. Committee on Patient Care 2016-2017
5. Steering Committee for Master of Medical Sciences degree 2015-present
6. Committee on Trainee Sponsorship, 2013-2014
7. Committee on Institutional Cores, 2013-2014
8. Committee on the Center for Implementation Science, 2013-2014
9. Committee on Institutional Centers, 2013-2014
10. UTMB 2020 Academic Enterprise Committee on Research Margins, 2013-2014
11. CTSA Academy of Research Mentors, 2012-present
12. Research Futures Committee, 2012-13
13. Student Research Awards Committee, 2011
14. CTSA KL2 Educational Scholar's Committee, 2010
15. Search Committee for Chair of Pharmacology, 2008-2009
16. Research Executive Committee, 2008-2009
17. Clinical Science Steering Committee, 2006-2007
18. Research Committee on Strategic Planning and Implementation, 2005-2008
19. Chair, National Women's Health Week, 2002-2008
20. Dean's Advisory Council, 2002-2008
21. Research Centers Council, 2002-2008
22. Chair, Data Collection and Management Committee, 2007
23. Kempner Symposium Planning Committee, 2007
24. Presidential Faculty Development Leave Committee, 2002, 2004, 2005, 2006
25. Space Committee, 2005-2006
26. Advisory Board, Center for Population Health & Health Disparities, 2004-2009
27. Executive Committee of the Faculty of Medicine, 2004-2005
28. Search committee for Chair, Department of Human Biology, Chemistry and Genetics, 2004
29. Search committee for Administrator, Department of Ob/Gyn, 2004
30. Core Committee on the Advancement of Women Faculty and Administrators, 2002-2004
31. Research retreat planning committee, 2003
32. Appointment, Promotion and Tenure, 2001-2004; Co-chair 2003-2004
33. Selection Committee for the Pew Scholars, 2002-2003
34. Selection committee for Leone Award, 2002
35. Faculty/Staff Campaign Planning Committee, 2002
36. GCRC Review Committee, 2001
37. Research Advisory Committee, 2000-2002
38. Women's Health Initiative Task Force, 2000
39. UTMB Corporate Health Consortium, 1999-2002
40. LCME Steering Subcommittee on Clinical Sciences, 1998
41. Outcomes Research Task Force, 1998
42. Clinical Trials Task Force, 1998
43. President's Cabinet Award Task Force, 1998
44. Committee on Research, 1997-1998
45. Quality of Care Committee of the Medical Staff, 1996-1997
46. Chairman, Ad Hoc Committees for Medical Liability, 1995-1998
47. Institutional Review Board, 1994-1996
48. Pharmacy and Therapeutics Committee, 1994-1995
49. Student Honors and Awards Committee, 1994-1995
50. School Health Advisory Committee, 1989-1996

Departmental

1. Appointment, Promotion and Tenure Committee, 2000-2015, 2019-present
2. Chairman, Quality Assurance, 1996-1997, 2001-2002
3. Chairman, Committee on Publication, Grant & Media Support, 1996
4. Steering Committee for Departmental Review, 1996-1997, 2003-2004
5. Quality Assurance Committee, 1990

TEACHING RESPONSIBILITIES AT UTMB:

1. Lecturer, School of Nursing RN program, 2018-present
2. Director, pediatric and adolescent gynecology resident rotation, 1989-present
3. Director, senior medical student elective in pediatric gynecology, 1989-2001
4. Lecturer, third year medical student Ob/Gyn lecture series, 1989-present
5. Lecturer, second year medical students' "Introduction to Clinical Medicine" course, 1990-1993
6. Lecturer, Ob/Gyn resident lecture series, 1989-present
7. Lecturer, Generalist Physician Initiative Ambulatory Lecture Series, 1994-1996
8. Lecturer, Nurse Practitioner Program, School of Nursing, 1997
9. Resident Education Committee, Department of Ob/Gyn, 1995-2005
10. Mentor, NIH summer research program. The Norplant contraceptive: A clinical study of knowledge and attitudes (Selena Taylor). Hymenal morphology in prepubertal girls (Leticia Garcia). April-June 1992
11. Mentor, Hispanic Center of Excellence summer research program for medical students. Use of video glasses to decrease anxiety among children undergoing pelvic examinations (Eliza Trevino). April-June 1996
12. Mentor, Summer Research Placements in Drug Abuse for Underrepresented Minority High School and Undergraduate Students (Yormica Truitt). Funded by the National Institute on Drug Abuse. June-August 1997
13. Grand Rounds presentations, UTMB Department of Ob/Gyn, "Hymenal Morphology in Newborns" 1990; "Vulvar Disorders in Children" 1991; "The Gynecologic Exam in Children" 1996; "Tobacco and the Female Patient" 1997; "Anatomic Changes Due to Sexual Abuse" 2000; "Controversies in Contraceptive Management" 2001
14. Grand Rounds presentations, UTMB Department of Pediatrics, "Hymenal Development" 1993; "Dysfunctional Uterine Bleeding in Adolescents" 1997; "Anatomic Changes Due to Sexual Abuse" 2000
15. Initiated monitor strip conference for Ob/Gyn residents, 1989
16. Developed instructional slide set for residents on performing a pelvic examination in children, 1989

MEMBERSHIP IN SCIENTIFIC SOCIETIES/PROFESSIONAL ORGANIZATIONS: (*elected)

1. International Papillomavirus Society (2014)
2. Society of Family Planning*
(Fellow; Elected 2006)
3. American Gynecological and Obstetrics Society (AGOS)*
(Fellow; Elected 2000)
4. Society for Gynecologic Investigation*
(Fellow; Elected 1995)
5. Central Association of Obstetricians and Gynecologists*
(Elected 1993)
6. American College of Obstetricians and Gynecologists*
(Fellow; Elected 1992)
7. North American Society of Pediatric and Adolescent Gynecology*
(Elected 1988)

HONORS:

Undergraduate/Medical School

1. Graduated summa cum laude
2. Graduated with special honors in major (Plan II Honors Program)
3. Phi Beta Kappa
4. James and Minnie Edmondson Scholarship Award

Faculty

1. Second Place Prize Paper. (Contraceptive use among adolescent mothers at 6 months postpartum by AB Berenson and CM Wiemann) The American College of Obstetricians and Gynecologists Annual Meeting. Denver, CO. April 27- May 1, 1996.
2. Certificate of Merit Award. (Inadequate weight gain among pregnant adolescents: Risk factors and relationship to infant birth weight by AB Berenson et al) The Central Association of Obstetricians and Gynecologists Annual Meeting. Houston, TX. October 18, 1996.
3. Best Poster Award. (Use of Video Eyeglasses to Decrease Anxiety Among Children Undergoing Genital Examinations by AB Berenson et al.) The Central Association of Obstetricians and Gynecologists Annual Meeting. Scottsdale, AZ. October 29 - November 1, 1997.
4. Selected to attend Executive Leadership in Academic Medicine (ELAM), 2002.
5. Awarded Ruth Hartgraves Chair in Obstetrics and Gynecology, 2012.

ADDITIONAL INFORMATION:

Editorial Boards

- | | | |
|----|--|-----------|
| 1. | Journal of Aggression, Maltreatment and Trauma | 1997-2010 |
| 2. | Precis: An Update in Obstetrics and Gynecology,
2nd Edition of Reproductive Endocrinology and Infertility | 2000-2002 |
| 3. | Journal of Pediatric and Adolescent Gynecology | 2001-2004 |
| 4. | OB GYN News | 2002-2005 |
| 5. | Precis: An update in Obstetrics and Gynecology,
3rd edition of Gynecology | 2004-2005 |
| 6. | The Female Patient, Editorial Advisory Board | 2005-2006 |
| 7. | Precis: An update in Obstetrics and Gynecology,
4th edition of Gynecology | 2009-2010 |

Journal Reviewer for

1. Journal of the American Medical Association
2. Obstetrics and Gynecology
3. American Journal of Obstetrics and Gynecology
4. Pediatrics
5. Archives of Pediatrics and Adolescent Medicine
6. Journal of Reproductive Medicine
7. American Journal of Epidemiology
8. Journal of Adolescent Health
9. Journal of Bone and Mineral Research
10. Journal of Pediatrics
11. Obesity

Grant Reviewer/Study Sections

1. Grant Reviewer. Medical Research Council meeting on sexual health and HIV research strategy committee, United Kingdom, 2003.
2. Grant reviewer for Society of Family Planning; June 3-4, 2009.
3. Member, Scientific Review Group. ZHD1 DSR-K (02) - National Institute of Child Health and Human Development (NICHD) Contraceptive Trials Network. Reproductive Health Branch, January 12, 2010.
4. Member, Scientific Review Group. 2011/05 ZRG1 F16-B (20) L - Fellowships: Health and Health Related Behavior of Individuals and Populations. San Francisco. March 9, 2011.
5. Member, Scientific Review Group 2012/01 CHHD-W Population Sciences Subcommittee, National Institute of Child Health and Human Development, November 7-8, 2011.
6. Member, Scientific Review Group – Special Emphasis Panel. 2012/05 ZHD1 DRG-H (35). National Institute of Child Health and Human Development. Bethesda MD. April 16-17, 2012.
7. Member, Scientific Review Group – 2016/01 ZHD1 DSR-Y (50) 1-NICHD Training Grant (T32) Applications Review. Bethesda MD, December 7-8, 2015 and January 7, 2016.
8. Member, Scientific Review Group – 2017/01 ZHD1 DRG-D (90)1 NICHD T32 Review Bethesda MD, December 5, 6, 2016.

Invited Panels

1. Panel Member. Research Guidelines for Standardizing the Measurement of Violence Occurring Around the Time of Pregnancy, Sponsored by Centers for Disease Control and Prevention (CDC), Atlanta, GA. May 8-9, 1997.
2. Invited Panel Member and Presenter. “Normal Anogenital Anatomy”, Consensus Conference sponsored by Packard Foundation on Establishing a Medical Research Agenda for Child Sexual Abuse, Salt Lake City, UT. May 16-17, 1997.
3. Member. Advisory group to Packard Foundation on research related to diagnosis and management of sexual abuse, 1994-1997.
4. Member. Data Safety Monitoring Board for NIH Vaginal Ring Study (CCN006), 2007-08
5. Consultant. FDA expert advisory panel on Reproductive Health Drugs, Washington DC, December 16, 2003 and January 23-24, 2007.
6. Invited Panel Member. Centers for Disease Control and Prevention (CDC) Meeting on “Establishing US Guidelines for Contraceptive Management”, Atlanta, GA; February 17-19, 2009.
7. Invited Panel Member. Centers for Disease Control and Prevention (CDC) Planning Meeting for “Adaptation of WHO Selected Practice Recommendations for Contraceptive Use in the US”, October 2010.
8. Member, Data Safety Monitoring Board for Contraceptive Levonorgestrel Patch Study, National Institute of Child Health and Development (NICHD) Reproductive Health Branch, March 2011-present.
9. Invited Panel Member for Centers for Disease Control and Prevention (CDC) Development Meeting on “Adaptation of WHO Selected Practice Recommendations for Contraceptive Use in the US”, October 3-7, 2011.
10. Invited Panel Member for Centers for Disease Control and Prevention (CDC) Development Meeting on “Adaptation of WHO Selected Practice Recommendations for Contraceptive Use in the US”, August 25-28, 2015.
11. Consultant. FDA expert advisory panel on Bone, Reproductive, and Urologic Drugs (BRUDAC), Silver Spring, MD, October 30, 2019.

Professional Skills

Professional Development Endeavors

1. Junior Women in Medicine Professional Development Seminar; AAMC; Charleston, SC. December 5-7, 1993.
2. Seven Habits of Highly Effective People; San Antonio, TX, March 5-7, 1995.
3. Principle Centered Leadership (PCL); Lakeway Inn, Austin, TX, April 10-14, 1995.
4. APGO/Wyeth-Ayerst Academic Leadership Skills Program; Bryn Mawr, PA., July 12-15, 1997.
5. Mid-Career Women Faculty Professional Development Seminar; AAMC; Washington, DC. July 21-23, 2001.
6. Executive Leadership in Academic Medicine (ELAM), Class of 2003-04.

Faculty Mentor: Postdoctoral Fellows and Junior Faculty Mentored

	Years mentored
Carmen Radecki Breitkopf, PhD, Assistant Professor	(1999 - 2005)
Z. Helen Wu, PhD, Assistant Professor	(2001 - 2005)
Laura Romo, PhD, Assistant Professor,	(2002 - 2003)
Ruth Levine, MD, Associate Professor	(2002 - 2003)
Kevin McKinney, MD, Assistant Professor	(2004 - 2006)
Heather Littleton, PhD, Postdoctoral Fellow	(2004 - 2006)
Susan Odom, PhD, Postdoctoral Fellow	(2006 - 2007)
Monic Behnken, JD, PhD, Postdoctoral Fellow	(2008 - 2009)
Yen-Chi Le, PhD, Postdoctoral Fellow	(2008 - 2009)
Kristen Chambliss, PhD, Postdoctoral Fellow	(2008 - 2009)
Mahbubur Rahman, PhD, MBBS, MPH Assistant Professor	(2007 - 2010)
Jeffrey Temple, PhD, Assistant Professor	(2007 - 2010)
Patricia van den Berg, PhD, MPH, Assistant Professor	(2008 - 2010)
Monawar Hosain, PhD, Postdoctoral Fellow	(2008 - 2010)
Kristy Ward, MD, Postdoctoral Fellow	(2009 - 2010)
Angelica Roncancio, PhD, Postdoctoral Fellow	(2009 - 2010)
Humera Mohammed, MD, Postdoctoral Fellow	(2010 - 2011)
Tabassum Laz, MBBS, PhD, Postdoctoral Fellow	(2010 - 2013)
Ophra Leyser, PhD, Postdoctoral Fellow	(2010 - 2012)
Jacqueline Hirth, PhD, Postdoctoral Fellow/Assistant Professor	(2010 - present)
Sarah Tom, PhD, Assistant Professor	(2010 - 2012)
Andrea DeMaria, PhD, Postdoctoral Fellow	(2011 - 2012)
Egle Bytautiene, MD, PhD, Assistant Professor	(2011 - 2015)
Elizabeth Lyons, PhD, Assistant Professor	(2011 - 2014)
Pooja Patel, MD, Assistant Professor	(2012 - present)
Stacy Davlin, PhD, Postdoctoral Fellow	(2012 - 2014)
Ali Pohlmeier, PhD, Postdoctoral Fellow	(2013 - 2014)
Christine McGrath, PhD, Assistant Professor	(2013 - 2015)
Tyra Gross, PhD, Postdoctoral Fellow	(2014 - 2015)
Fangjian Guo, MD PhD, Postdoctoral Fellow/Asst. Professor	(2014 - present)
Erika Fuchs, PhD, Postdoctoral Fellow/Asst. Professor	(2015 - 2020)
Ha Trinh, PhD, Postdoctoral Fellow	(2016 - 2017)
Veronica Brown, DrPH, Postdoctoral Fellow	(2016 - 2018)
Leslie Cofie, PhD, Postdoctoral Fellow	(2016 - 2018)
Kanika Bowen-Jallow, MD, Associate Professor	(2018 - present)

Primary Mentor – NIH Career Development Awards

Jeffrey Temple, PhD	K23HD059916	(2009 - 2010)
Longitudinal investigation in the risk and protective factors of dating violence		
Patricia van den Berg, PhD	K23HD063261	(2010 - 2011)
Unhealthy weight control behaviors and obesity in Hispanic and non-Hispanic girls		
Pooja Patel, MD	K23HD086247-01A1	(2017 - 2020)
An intervention to increase LARC use in adolescent females		

Co-Mentor – NIH Career Development Awards

Fangjian Guo, MD, PhD	K07CA222343-01	(2018 - 2023)
Genetic testing in young women for cancer prevention		

Medical students and residents mentored

Diana Smigaj	(1990)
Sally A. Andrews	(1991)
Jean M. Hayes	(1992)
Rahn K. Bailey	(1992)
Virginia San Miguel	(1992-1994)
Wendy A. Jones	(1994)
Louis A. Lopez	(1995-1996)
Leticia G. Del Pino	(1997)
Jacqueline C. Dubois	(1998)
Julie M. McKee	(1998)
Amy Williamson	(1999)
Mahta Rouhani	(2012)
Abigail A. Justiss	(2012)
Lee B. Elam	(2013)
Michael Balat	(2013)
Jonathan M. Lugo	(2013)
Eneida Male	(2014)
Toy Gee Lee	(2014)
Marissa Flores	(2014)
Denise Batuuuka	(2015-2016)
Alex Norton	(2016)

College students mentored through summer internship program

Hongjin Li, Columbia University	(2014)
Emily Bengel, Rice University	(2014)
Abigail Wright, Rice University	(2015)
Elizabeth Stone, Rice University	(2015)
Vivian Tat, UT Austin	(2016)
Megan Hotard, Rice University	(2016)
Narinta Limtrakul, Rice University	(2016)
Anais Garza, University of Houston	(2017)
Ivette Gauna, University of Houston	(2017)
Theresa Sonka, Rice University	(2017)

Awards to students and fellows during preceptorships

1. First place, Roche Laboratories award for excellence in clinical research and first place, AMA overall excellence in research. (A survey of cesarean section rates in adolescents under 17 years old). Presented by Diana Smigaj. National Student Research Forum. 1990.
2. Trainee Travel Award. (The decision to breastfeed: Cultural determinants among adolescent mothers by J DuBois, CM Wiemann, and AB Berenson). Presented by J. DuBois. Southern Society for Pediatric Research. New Orleans, LA. February 6, 1997.
3. Young Investigator Award. (An evaluation of health care providers' sexual violence screening practices). Presented by Heather Littleton, Ph.D. Central Association of Obstetricians and Gynecologists. Las Vegas, NV. October 18-21, 2006.
4. Trainee Travel Award. (Early weight gain predicts excessive weight gain in DMPA users by YL Le, M Rahman, AB Berenson). Presented by Yen-Chi L. Le. Association of Clinical Research Training. Washington, DC. April 14-15, 2009.
5. Best Overall Clinical Sciences Poster. (Rouhani M, Leyser-Whalen O, Rahman M, Berenson AB. Risk factors for failure to place transcervical sterilization coils in the tubal ostia). UTMB Medical Student Summer Research Program. June 24, 2011.
6. First place, Community and Public Health Division from the NIH Office of Research on Women's Health at their Annual Scientific Poster competition. (Davlin S, Rahman M, Berenson AB. Knowledge of HPV among low-income minority mothers of adolescents 9 - 17 years of age). March 22, 2013.
7. Norma H. Rubin Prize for Excellence in Research. (Elam L, Rahman M, Berenson AB. Effect of recommendations from different sources on maternal knowledge and vaccine uptake among their adolescent children). UTMB Medical Student Summer Research Poster Session. June 26, 2013.
8. Travel Award from Sealy Center for Vaccine Development. (Guo F, Hirth JM, Berenson AB. Time to switch to the 9-valent human papillomavirus (HPV) vaccine in the United States. Abstract 143729). The 19th Annual Conference on Vaccine Research (NFID). Baltimore, MD. April 18-20, 2016.

PUBLISHED:

A. ARTICLES IN PEER-REVIEWED JOURNALS:

*Postdoctoral Fellow **Student or resident

1. **Berenson AB**, Pokorny SF, Dutton R. The autoamputated ovary - a rare cause of abdominal calcification. *Adolesc Pediatr Gynecol.* 1989;2:99-102.
2. **Berenson AB**, Hammill HA, Martens MG, Faro S. Bacteriologic findings of post-cesarean endometritis in adolescents. *Obstet Gynecol.* 1990 Apr;75:627-9.
3. **Berenson AB**, Stansberry SD. Diagnosis of hematometrosalpinx and ipsilateral renal agenesis with magnetic resonance imaging. *Adolesc Pediatr Gynecol.* 1990;3:207-9.
4. **Berenson AB**, Hammill HA, Martens MG, Faro S. Bacteriologic findings with ectopic pregnancy. *J Reprod Med.* 1991;36:118-20.
5. **Berenson AB**, Heger AH, **Andrews SA. Appearance of the hymen in newborns. *Pediatrics.* 1991;87:458-65.
6. **Berenson AB**, Stiglich NJ, Wilkinson GS, Anderson GD. Drug abuse and other risk factors for physical abuse in pregnancy among white non-Hispanic, black, and Hispanic women. *Am J Obstet Gynecol.* 1991 Jun;164:1491-6; discussion 1496-9.
7. **Berenson AB**, Heger AH, **Andrews SA. Morphology of the hymen in twins. *Adolesc Pediatr Gynecol.* 1991;4:82-4.
8. **Berenson AB**, Heger AH, **Hayes JM, **Bailey RK, Emans SJ. Appearance of the hymen in prepubertal girls. *Pediatrics.* 1992 Mar;89:387-94.

9. Morris DL, **Berenson AB**, Lawson J, Baker JL, Lester JW. A comparison of pregnant Hispanic adolescents ≤ 17 years old with those of Black and Anglo ethnicity. *Adolesc Pediatr Gynecol.* 1992;5:32-8.
10. **Berenson AB**, **San Miguel V, Wilkinson GS. Prevalence of physical and sexual assault in pregnant adolescents. *J Adolesc Health.* 1992 Sep;13:466-9.
11. **Berenson AB**, **San Miguel V, Wilkinson GS. Violence and its relationship to substance use in adolescent pregnancy. *J Adolesc Health.* 1992 Sep;13:470-4.
12. **Berenson AB**, Edmonds DK, Pryse-Davies J. Seromucinous cystadenoma in a true hermaphrodite: A case report. *Adolesc Pediatr Gynecol.* 1993;6:36-8.
13. **Berenson AB**. Appearance of the hymen at birth and one year of age: A longitudinal study. *Pediatrics.* 1993 Apr;91:820-5.
14. **Berenson AB**, Somma-Garcia A, Barnett S. Perianal findings in infants 18 months of age or younger. *Pediatrics.* 1993 Apr;91:838-40.
15. Morris DL, **Berenson AB**, Lawson J, Wiemann CM. Comparison of adolescent pregnancy outcomes by prenatal care source. *J Reprod Med.* 1993 May;38:375-80.
16. Wiemann CM, **Berenson AB**. Contraceptive discontinuation among White, Black, and Hispanic adolescents. *Adolesc Pediatr Gynecol.* 1993;6:75-82.
17. **Berenson AB**, Wiemann CM. Patient satisfaction and side effects with levonorgestrel implant (Norplant) use in adolescents 18 years of age or younger. *Pediatrics.* 1993 Aug;92:257-60.
18. Ammenheuser MM, **Berenson AB**, Stiglich NJ, Whorton EB Jr, Ward JB Jr. Elevated frequencies of hprt mutant lymphocytes in cigarette smoking mothers and their newborns. *Mutat Res.* 1994 Jan 16;304:285-94.
19. **Berenson AB**, Wiemann CM, Wilkinson GS, **Jones WA, Anderson GD. Perinatal morbidity associated with violence experienced by pregnant women. *Am J Obstet Gynecol.* 1994 Jun;170:1760-6.
20. Wiemann CM, **Berenson AB**, **San Miguel V. Tobacco, alcohol and illicit drug use among pregnant women: Age and racial/ethnic differences. *J Reprod Med.* 1994 Oct;39:769-76.
21. Wagner KD, **Berenson AB**. Norplant-associated major depression and panic disorder. *J Clin Psychiatry.* 1994 Nov;55:478-80.
22. **Berenson AB**. The prepubertal genital exam: What is normal and abnormal. *Curr Opin Obstet Gynecol.* 1994 Dec;6(6):526-30.
23. **Berenson AB**, Wilkinson GS, **Lopez LA. Substance use during pregnancy and peripartum complications in a tri-ethnic population. *Int J Addict.* 1995 Jan;30:135-45.
24. **Berenson AB**. A longitudinal study of hymenal morphology in the first 3 years of life. *Pediatrics.* 1995 Apr;95:490-6.
25. **Berenson AB**, Wiemann CM. Use of levonorgestrel implants versus oral contraceptives in adolescence: A case-control study. *Am J Obstet Gynecol.* 1995 Apr;172:1128-35.
26. **Berenson AB**, Wiemann CM. The co-existence of physical and sexual assault. Letter to the editor (reply). *Am J Obstet Gynecol.* 1995;172:1644.
27. Wiemann CM, **Berenson AB**, Landwehr BM. Racial and ethnic correlates of tobacco, alcohol and illicit drug use in a pregnant population. *J Reprod Med.* 1995 Aug;40:571-8.
28. Wiemann CM, **Berenson AB**, Wagner KD, Landwehr BM. Prevalence and correlates of psychopathology in pregnant adolescents. *J Adolesc Health.* 1996 Jan;18:35-43.
29. Wiemann CM, **Berenson AB**. An investigation into why adolescents may reject Norplant. *Pediatrics.* 1996 Feb;97:185-91.
30. Wiemann CM, **Berenson AB**. Encouraging teens to use Norplant is bad advice. Letter to the editor (reply). *Pediatrics.* 1996;98:1222.
31. **Berenson AB**, Wilkinson GS, **Lopez LA. Effects of prenatal care on neonates born to drug-using women. *Subst Use Misuse.* 1996 Jun;31:1063-76.
32. Rickert VI, Wiemann CM, **Berenson AB**. Health risk behaviors among pregnant adolescents with older partners. *Arch Pediatr Adolesc Med.* 1997 Mar;151:276-80.

33. **Berenson AB**, Wiemann CM, Rickert VI, McCombs SL. Contraceptive outcomes among adolescents prescribed Norplant implants versus oral contraceptives after one year of use. *Am J Obstet Gynecol.* 1997 Mar;176:586-92.
34. **Berenson AB**, Wiemann CM. Contraceptive use among adolescent mothers at 6 months postpartum. *Obstet Gynecol.* 1997 Jun;89:999-1005.
35. **Berenson AB**, Wiemann CM, Rowe TF, Rickert VI. Inadequate weight gain among pregnant adolescents: Risk factors and relationship to infant birth weight. *Am J Obstet Gynecol.* 1997 Jun;176:1220-4.
36. **Berenson AB**, Wiemann CM, McCombs SL. Adverse perinatal outcomes in young adolescents. *J Reprod Med.* 1997 Sep;42:559-64.
37. Paradise JE, Finkel MA, Beiser AS, **Berenson AB**, McCann J, Greenberg DB, Winter MR. Assessments of girl's genital findings and the likelihood of sexual abuse: Agreement among physicians self-rated as skilled. *Arch Pediatr Adolesc Med.* 1997 Sep;151:883-91.
38. Wiemann CM, **Berenson AB**, **Del Pino LG, McCombs SL. Factors associated with adolescents' risk for late entry into prenatal care. *Fam Plann Perspect.* 1997 Nov-Dec;29:273-6.
39. Rickert VI, Wiemann CM, Goodrum L, **Berenson AB**. Employment and health-risk behaviors among pregnant adolescents. *J Pediatr Adolesc Gynecol.* 1998 May;11:79-84.
40. Wiemann CM, **Berenson AB**. Factors associated with recent and discontinued alcohol use by pregnant adolescents. *J Adolesc Health.* 1998 May;22:417-23.
41. Wiemann CM, **Dubois JC, **Berenson AB**. Racial/ethnic differences in the decision to breastfeed among adolescent mothers. *Pediatrics.* 1998 Jun;101:1-8.
42. **Berenson AB**. Normal anogenital anatomy. *Child Abuse Negl.* 1998 Jun;22(6):589-96; discussion 597-603.
43. Wagner KD, **Berenson AB**, Joiner T, Harding O. Attributional style and depression in pregnant teenagers. *Am J Psychiatry.* 1998;155:1227-33.
44. **Berenson AB**, Wiemann CM, Rickert VI. Use of video eyeglasses to decrease anxiety among children undergoing genital examinations. *Am J Obstet Gynecol.* 1998 Jun;178:1341-5.
45. Ammenheuser MM, **Berenson AB**, Babiak AE, Singleton CR, Whorton EB. Frequencies of hprt mutant lymphocytes in marijuana-smoking mothers and their newborns. *Mutat Res.* 1998 Jul 17;403:55-64.
46. Rickert VI, Wiemann CM, Hankins GDV, **McKee JM, **Berenson AB**. Prevalence and risk factors of chorioamnionitis among adolescents. *Obstet Gynecol.* 1998 Aug;92:254-7.
47. Wiemann CM, **Dubois JC, **Berenson AB**. Strategies to promote breast-feeding among adolescent mothers. *Arch Pediatr Adolesc Med.* 1998 Sep;152:862-9.
48. **Berenson AB**, Wiemann CM, McCombs SL, Somma-Garcia A. The rise and fall of levonorgestrel implants: 1992 to 1996. *Obstet Gynecol.* 1998 Nov;92:790-4.
49. Rickert VI, Wiemann CM, **Berenson AB**. Prevalence, patterns and correlates of voluntary flunitrazepam use. *Pediatrics.* 1999 Jan;103:E6
50. Paradise JE, Winter MR, Finkel MA, **Berenson AB**, Beiser AS. Influence of the history on physicians' interpretation of girls' genital findings. *Pediatrics.* 1999 May;103:980-6.
51. Rickert VI, **Berenson AB**, **Williamson A, Wiemann CM. Immediate recall of oral contraceptive instructions: Implications for providers. *Am J Obstet Gynecol.* 1999 Jun;180:1399-406.
52. Rickert VI, Wiemann CM, **Berenson AB**. Ethnic differences in depressive symptomatology among young women. *Obstet Gynecol.* 2000 Jan; 95:55-60.
53. Rickert VI, Wiemann CM, **Berenson AB**. Flunitrazepam: More than a date rape drug. *J Pediatr Adolesc Gynecol.* 2000 Feb;13:37-42.
54. **Berenson AB**, Chacko MR, Wiemann CM, Mishaw CO, Friedrich WN, Grady JJ. A case-control study of anatomic changes resulting from sexual abuse. *Am J Obstet Gynecol.* 2000 Apr;182:820-31.
55. Rickert VI, Neal WP, Wiemann CM, **Berenson AB**. Prevalence and predictors of low sexual assertiveness. *J Pediatr Adolesc Gynecol.* 2000 May;13(2):88-9.

56. Wiemann CM, Agurcia CA, **Berenson AB**, Volk RJ, Rickert VI. Pregnant adolescents: Experiences and behaviors associated with physical assault by an intimate partner. *Matern Child Health J.* 2000 Jun;4:93-101.
57. Joiner TE, Wagner KD, **Berenson AB**, Marquina GS. On fatalism and depressive symptoms among Mexican-American and other adolescents attending an obstetrics-gynecology clinic. *Behav Res Ther.* 2001;39:887-96. (Abstracted, Clinician's Research Digest, 19 October 2001).
58. **Berenson AB**, Chacko, MR. Letter to the editor (reply). *Am J Obstet Gynecol.* 2001;184:1044-5.
59. Agurcia CA, Rickert VI, **Berenson AB**, Volk RJ, Wiemann CM. The behavioral risks and life circumstances of adolescent mothers involved with older adult partners. *Arch Pediatr Adolesc Med.* 2001 Jul;155:822-30.
60. **Berenson AB**, Radecki CM, Grady JJ, Rickert VI, Thomas A. A prospective, controlled study of the effects of hormonal contraception on bone mineral density. *Obstet Gynecol.* 2001 Oct;98:576-82.
61. **Berenson AB**, Wiemann CM, McCombs S. Exposure to violence and associated health risk behaviors among adolescent women. *Arch Pediatr Adolesc Med.* 2001 Nov;155:1238-42.
62. **Berenson AB**, Chacko MR, Wiemann CM, Mishaw CO, Friedrich WN, Grady JJ. Use of hymenal measurements in the diagnosis of previous penetration. *Pediatrics.* 2002 Feb;109:228-35.
63. **Berenson AB**, Grady JJ. A longitudinal study of hymenal development from 3 to 9 years of age. *J Pediatr.* 2002 May;140:600-7.
64. Rickert VI, Wiemann CM, Duffy N, Harrykissoo SD, **Berenson AB**, Kolb E. The relationship between demographics, reproductive characteristics, and intimate partner violence. *Am J Obstet Gynecol.* 2002 Oct;187:1002-7.
65. Levine RE, Oandasana AP, Primeau LA, **Berenson AB**. Anxiety disorders during pregnancy and postpartum. *Am J Perinatol.* 2003 Jul;20(5):239-48.
66. Wu ZH, **Berenson AB**, Wiemann CM. A profile of adolescent females with a history of sexual assault in Texas: Familial environment, risk behaviors, and health status. *J Pediatr Adolesc Gynecol.* 2003 Aug;16:207-16.
67. **Berenson AB**, Breitkopf CR, Wu ZH. Reproductive correlates of depressive symptoms among low-income minority women. *Obstet Gynecol.* 2003 Dec;102:1310-7.
68. Breitkopf CR, **Berenson AB**. Correlates of weight loss behaviors among low income African American, Caucasian and Latino Women. *Obstet Gynecol.* 2004 Feb;103:231-9.
69. Romo LF, **Berenson AB**. Sociocultural and religious influences on the normative contraceptive practices of Latino women. *Contraception.* 2004 Mar;69:219-25.
70. Romo LF, **Berenson AB**, Wu ZH. The role of misconceptions on Latino women's acceptability of emergency contraception pills. *Contraception.* 2004 Mar;69:227-35.
71. **Berenson AB**, Breitkopf CR, Grady JJ, Rickert VI, Thomas A. Effects of hormonal contraception on bone mineral density after 24 months of use. *Obstet Gynecol.* 2004 May;103:899-906.
72. Breitkopf CR, Catero J, Jaccard J, **Berenson AB**. Psychological and sociocultural perspectives on follow-up of abnormal Papanicolaou results. *Obstet Gynecol.* 2004 Dec;104:1347-54.
73. Anderson GD, Nelson-Becker C, Hannigan EV, **Berenson AB**, Hankins GD. A patient-centered health care delivery system by a university obstetrics and gynecology department. *Obstet Gynecol.* 2005 Jan;105:205-10.
74. *Littleton HL, Breitkopf CR, **Berenson AB**. Body image and risky sexual behaviors: An investigation in a tri-ethnic sample. *Body Image.* 2005;2:193-8.
75. Wiemann CM, Rickert VI, **Berenson AB**, Volk RJ. Are pregnant adolescents stigmatized by pregnancy? *J Adolesc Health.* 2005 Apr; 36:352.e1-352.e8.
76. **Berenson AB**. Presidential address: From generation to generation. *Am J Obstet Gynecol.* 2005 Jun;192:1783-7.

77. **Berenson AB**, Wu ZH, Breitkopf CR, Newman J. The relationship between source of sexual information and sexual behavior among female adolescents. *Contraception*. 2006 Mar;73:274-8.
78. Cromer BA, Scholes D, **Berenson AB**, Cundy T, Kaunitz A. Depot medroxyprogesterone acetate and bone mineral density in adolescents: The black box warning. *J Adolesc Health*. 2006;39:296-301.
79. Wu ZH, Holzer C, Breitkopf CR, Grady J, **Berenson AB**. Patterns and perceptions of ecstasy use among young, low-income women. *Addict Behav*. 2006 Apr;31:676-85.
80. Breitkopf CR, Primeau LA, Levine RE, Olson GL, Wu ZH, **Berenson AB**. Anxiety symptoms during pregnancy and postpartum. *J Psychosomatic Obstet Gynecol*. 2006 Sep;27:157-62.
81. Wiemann CM, Agurcia CA, Rickert VI, **Berenson AB**, Volk RJ. Absent fathers as providers: Race/ethnic differences in support for adolescent mothers. *Child Adolesc Soc Work J*. 2006;23:617-34.
82. *Slomovitz BM, Sun CC, Frumovitz M, Solman PT, Schmeler KM, Pearson HC, **Berenson AB**, Ramirez PT, Lu KH, Bodurka DC. Are women ready for the HPV vaccine? *Gynecol Oncol*. 2006;103:151-4.
83. *Littleton HL, Axsom D, Breitkopf CR, **Berenson AB**. Rape acknowledgment and postassault experiences: How acknowledgment status relates to disclosure, coping, worldview, and reactions received from others. *Violence Vict*. 2006;21:761-78.
84. *Littleton HL, Breitkopf CR, **Berenson AB**. The rape scripts of low-income European American and Latina women. *Sex Roles*. 2007;56:509-16.
85. Breitkopf CR, *Littleton H, **Berenson AB**. Body image: A study in a tri-ethnic sample of low-income women. *Sex Roles*. 2007;56:373-80.
86. *Littleton HL, Breitkopf CR, **Berenson AB**. Sexual and physical abuse history and adult sexual risk behaviors: Relationships among women and potential mediators. *Child Abuse Negl*. 2007;31:757-68.
87. *Littleton HL, Breitkopf CR, **Berenson AB**. Correlates of anxiety symptoms during pregnancy and association with perinatal outcomes: A meta-analysis. *Am J Obstet Gynecol*. 2007 May;196:424-32.
88. *Littleton HL, **Berenson AB**, Breitkopf CR. An evaluation of health care providers' sexual violence screening practices. *Am J Obstet Gynecol*. 2007 Jun;196:564.e1-5; discussion 564.e5-7.
89. Wu ZH, Baillargeon JG, **Berenson AB**, Grady JJ, Holzer C. Self-reported psychopathology among young, low-income, female ecstasy users. *J Addict Dis*. 2008;27:81-90.
90. *Littleton HL, Breitkopf CR, **Berenson AB**. Beyond the campus: Unacknowledged rape among low income women. *Violence Against Women*. 2008 Mar;14:269-86.
91. **Berenson AB**, Rahman M, Breitkopf CR, Bi L. Effects of depot medroxyprogesterone acetate and 20 microgram birth control pills on bone mineral density. *Obstet Gynecol*. 2008 Oct;112:788-99.
92. McKinney K, Breitkopf CR, **Berenson AB**. Association of race, body fat and season with vitamin D status among young women: A cross-sectional study. *Clin Endocrinol*. 2008 Oct;69: 535-41.
93. **Berenson AB**, *Odom SD, Breitkopf CR, Rahman M. Physiologic and psychologic symptoms associated with use of injectable contraception and 20 µg pills. *Am J Obstet Gynecol*. 2008 Oct;199:351.e1-12.
94. Wu ZH, Nguyen-Oghalai TU, Shokar NK, **Berenson AB**, Cottler L. Morbidity in a population of low-income, female users of MDMA and other drugs. *Subst Use Misuse*. 2009;44:1039-54.
95. **Berenson AB**, Rahman M. Changes in weight, total fat, percent body fat, and central-to peripheral fat ratio associated with injectable and oral contraceptive use. *Am J Obstet Gynecol*. 2009 Mar;200:329.e1-8.

96. **Berenson A**, Breitkopf CR, *Newman J, Rahman M. Contribution of fat free mass and fat mass to bone mineral density among reproductive-aged women of white, black, and Hispanic race/ethnicity. *J Clin Densitom.* 2009 Apr-Jun;12:200-6.
97. **Berenson AB**, Rahman M, Wilkinson G. Racial difference in the correlates of bone mineral content/density and age at peak among reproductive-aged women. *Osteoporos Int.* 2009 Aug;20:1439-49.
98. *Le YC, Rahman M, **Berenson AB**. Early weight gain predicting later weight gain among depot medroxyprogesterone acetate users. *Obstet Gynecol.* 2009 Aug;114:279-84.
99. Rahman M, Temple JR, Breitkopf CR, **Berenson AB**. Racial differences in body fat distribution among reproductive-aged women. *Metabolism.* 2009 Sep; 58:1329-37.
100. **Berenson AB**, Rahman M, Wilkinson G. Effect of injectable and oral contraceptives on serum lipids. *Obstet Gynecol.* 2009 Oct;114:786-94.
101. Van Horne BS, Wiemann CM, **Berenson AB**, Horwitz IB, Volk RJ. Multilevel predictors of inconsistent condom use among adolescent mothers. *Am J Public Health.* 2009 Oct;99 S417-24.
102. Rahman M, **Berenson AB**. Predictors of higher bone mineral density loss among depot medroxyprogesterone acetate users. *Obstet Gynecol.* 2010 Jan;115:35-40.
103. Rahman M, **Berenson AB**. Accuracy of current BMI obesity classification for white, black, and Hispanic reproductive aged women. *Obstet Gynecol.* 2010 May;115:982-8.
104. *Behnken MP, *Le YC, Temple JR, **Berenson AB**. Forced sexual intercourse, suicidality, and binge drinking among adolescent girls. *Addict Behav.* 2010 May;35:597-9.
105. *Hosain GM, Rahman M, Williams KJ, **Berenson AB**. Racial differences in the association between body fat distribution and lipid profiles among reproductive-aged women. *Diabetes Metab.* 2010 Sep;36:278-85.
106. Rahman M, **Berenson AB**. Racial differences in lean mass distribution among reproductive-aged women. *Ethn Dis.* 2010 Autumn;20:346-52.
107. *Le YC, Rahman M, **Berenson AB**. Perceived weight gain as a correlate of physical activity and caloric intake among White, Black, and Hispanic reproductive-aged women. *J Womens Health.* 2010 Nov;19:1987-93.
108. Rahman M, **Berenson AB**. Self-perception of weight and its association with weight related behaviors in young, reproductive aged women. *Obstet Gynecol.* 2010 Dec;116:1274-80.
109. *Ward KK, *Roncancio AM, **Berenson AB**. Cultural adaptation among Hispanic women as related to awareness and acquisition of emergency contraception. *Contraception.* 2010 Dec;82:534-7.
110. Wu ZH, Grady JJ, Rosales S, **Berenson AB**. Ecstasy use and its correlates among young, low-income women. *Subst Use Misuse.* 2011;45:404-10.
111. **Berenson AB**, van den Berg P, Williams KJ, Rahman M. Effect of injectable and oral contraceptives on glucose and insulin levels. *Obstet Gynecol.* 2011 Jan;117:41-47.
112. *Ward KK, **Berenson AB**, Breitkopf CR. Passive smoke exposure and cervical cytology in a largely Hispanic population. *Am J Obstet Gynecol.* 2011 Mar;204:213.e1-6.
113. *Roncancio AM, *Ward KK, **Berenson AB**. Hispanic women's health care provider control expectations: The influence of fatalism and acculturation. *J Health Care Poor Underserved.* 2011 May;22:482-90.
114. **Berenson AB**, Rahman M. Prevalence and correlates of prescription drug misuse among young, low-income women receiving public healthcare. *J Addict Dis.* 2011 Jul-Sep;30:203-15.
115. *Hirth J, Rahman M, **Berenson AB**. The association of posttraumatic stress disorder with fast food and soda consumption and unhealthy weight loss behaviors among young women. *J Womens Health.* 2011 Aug;20:1141-9.
116. *Laz TH, **Berenson AB**. Association of web-based weight loss information use with weight reduction behaviors in adolescent women. *J Adolesc Health.* 2011 Oct;49:446-8.
117. Domino SE, Bodurtha J, Nagel JD, and the **BIRCWH Program Leadership**. Interdisciplinary Research Career Development: Building Interdisciplinary Research

- careers in women's health program best practices. *J Womens Health*. 2011 Nov;20:1587-601.
118. **Berenson AB**, *Asem H, Tan A, Wilkinson GS. Continuation rates and complications of intrauterine contraception in women diagnosed with bipolar disorder. *Obstet Gynecol*. 2011 Dec;118:1331-6.
 119. *Leyser-Whalen O, Rahman M, **Berenson AB**. Natural and social disasters: Racial inequality in access to contraceptives after Hurricane Ike. *J Womens Health*. 2011 Dec;20:1861-6.
 120. *Roncancio AM, **Berenson AB**, Rahman M. Health locus of control, acculturation, and health-related internet use among Latinas. *J Health Commun*. 2012;17:631-40.
 121. *Roncancio AM, *Ward KK, **Berenson AB**. The use of effective contraception among young Hispanic women: The role of acculturation. *J Pediatr Adolesc Gynecol*. 2012 Feb;25:35-8.
 122. Rahman M, **Berenson AB**. Self-Perception of weight gain among multiethnic reproductive age women. *J Womens Health*. 2012 Mar;21:340-6.
 123. *Hosain GM, Tennen H, Bauer LO, **Berenson AB**, Wu ZH. Attention deficit hyperactivity symptoms and risky sexual behavior in young adult women. *J Womens Health*. 2012 Apr;21:463-8.
 124. *Leyser-Whalen O, Rouhani M, Rahman M, **Berenson AB**. Tubal risk markers for failure to place transcervical sterilization coils. *Contraception*. 2012 Apr;85:384-8.
 125. *Laz TH, Rahman M, **Berenson AB**. An update on human papillomavirus vaccine uptake among 11-17 year old girls in the United States: National Health Interview Survey, 2010. *Vaccine*. 2012 May;30:3534-40.
 126. **Berenson AB**, Rahman M. Gender differences among low income women in their intent to vaccinate their sons and daughters against human papillomavirus infection. *J Adolesc Pediatr Gynecol*. 2012;25:218-20.
 127. *Hirth J, **Berenson AB**. Racial/ethnic differences in depression among young women: The role of intimate partner violence, trauma, and posttraumatic stress disorder. *J Womens Health*. 2012 Sep;21:966-74.
 128. Romo LF, **Berenson AB**. Tampon use in adolescence: Differences among European American, African American and Latina women in practices, concerns, and barriers. *J Pediatr Adolesc Gynecol*. 2012 Oct;25:328-33.
 129. *Semper-Ternent RA, *Asem H, Zhang DD, Kuo Y, Hatch SS, Freeman J, **Berenson AB**. The effect of postoperative beam, implant, and combination radiation therapy on GI and bladder toxicities in female Medicare beneficiaries with Stage I uterine cancer. *Geriatr Oncol*. 2012 Oct 1;3:344-50.
 130. Guise JM, Nagel J, Regensteiner JG, and the **Building Interdisciplinary Research Careers in Women's Health Directors**. Best practices and pearls in interdisciplinary mentoring from Building Interdisciplinary Research Careers in Women's Health Directors. *J Womens Health*. 2012 Nov;21:1114-27.
 131. **Berenson AB**, Rahman M. Effect of hormonal contraceptives on vitamin B12 level and the association of the latter with bone mineral density. *Contraception*. 2012 Nov;86:481-7.
 132. *Hirth J, Tan A, Wilkinson GS, **Berenson AB**. Completion of the human papillomavirus vaccine series among insured females between 2006 and 2009. *Cancer*. 2012 Nov 15;118:5623-9.
 133. Rahman M, **Justiss AA, **Berenson AB**. Racial differences in obesity risk knowledge among low-income reproductive-age women. *J Am Coll Nutr*. 2012 Dec;31:397-400.
 134. **Berenson AB**, Rahman M. A randomized controlled study of two educational interventions on adherence with oral contraceptives and condoms. *Contraception*. 2012 Dec;86:716-24.
 135. *Laz TH, **Shemontee MO, Rahman M, **Berenson AB**. Association of prescription drug misuse with risky motor vehicle behaviors among adolescent women. *Subst Abus*. 2013;34:405-8.

136. *Laz TH, **Berenson AB**. Racial and ethnic disparities in internet use for seeking health information among young women. *J Health Commun*. 2013;18:250-60.
137. *Hirth JM, Tan A, Wilkinson GS, **Berenson AB**. Completion of the human papillomavirus (HPV) vaccine series among males with private insurance between 2006 and 2009. *Vaccine*. 2013 Mar;31:1138-40.
138. *DeMaria AL, **Berenson AB**. Prevalence and correlates of pubic hair grooming among low income Hispanic, black and white women. *Body Image*. 2013 Mar;10:226-31.
139. Rahman M, **Berenson AB**. Pregnancy test taking is a correlate of unsafe sex, contraceptive non-adherence, pregnancy, and sexually transmitted infections in adolescent and young adult women. *J Womens Health*. 2013 Apr;22:339-43.
140. *Laz TH, Rahman M, **Berenson AB**. Human papillomavirus vaccine uptake among 9-17 year old males in the United States: The 2010 National Health Interview Survey, 2010. *Hum Vaccin Immunother*. 2013 Apr;9:874-8.
141. Rahman M, **Berenson AB**. Perceived susceptibility to pregnancy and its association with safer sex, contraceptive adherence and pregnancy in adolescent women. *Contraception*. 2013 Apr;87:437-42.
142. *Laz TH, Rahman M, **Berenson AB**. Human papillomavirus vaccine uptake among 18-to 26-year old women in the United States: National Health Interview Survey, 2010. *Cancer*. 2013 Apr 1;119:1386-92.
143. **Berenson AB**, Tan A, *Hirth J, Wilkinson GS. Complications and continuation of intrauterine device use among commercially insured teenagers. *Obstet Gynecol*. 2013 May;121:951-8.
144. *Hirth J, *Leyser-Whalen O, **Berenson AB**. Effects of a major U.S. hurricane on mental health disorder symptoms among adolescent and young adult females. *J Adolesc Health*. 2013 Jun;52:765-72.
145. *Leyser-Whalen O, **Berenson AB**. Control and constraint for low-income women choosing outpatient sterilization. *Qual Health Res*. 2013 Aug;23:1114-24.
146. Tom SE, **Berenson AB**. The associations between poor sleep quality and psychosocial stress with obesity in reproductive age women of lower socioeconomic status. *Womens Health Issues*. 2013 Sep-Oct;23:e295-300.
147. Croisant S, *Laz TH, Rahman M, **Berenson AB**. Gender differences in risk behaviors among high school youth. *Global Adv Health Med*. 2013 Sep;2:16-22.
148. Hirth JM, Tan A, Wilkinson GS, **Berenson AB**. Compliance with cervical cancer screening and human papillomavirus testing guidelines among insured young women. *Am J Obstet Gynecol*. 2013 Sep;209:200.e1-7.
149. *Laz TH, Rahman M, **Berenson AB**. Trends in lipid profiles, hypertension, related clinicians' advice and patients' compliance among women of reproductive age: United States National Health and Nutrition Examination Survey 1999-2008. *Matern Child Health J*. 2013 Oct; 17:1424-31.
150. Rahman M, *Laz TH, **Berenson AB**. Geographic variation in human papillomavirus vaccination uptake among young adult women in the United States during 2008-10. *Vaccine*. 2013 Nov 12;31:5495-9.
151. Rahman M, **Elam E, **Balat M, **Berenson AB**. Well-woman visit of mothers and human papillomavirus vaccine intent and uptake among their 9-17 year old children. *Vaccine*. 2013 Nov 12;32:5544-8.
152. *DeMaria AL, **Lugo JM, Rahman M, Pyles RB, **Berenson AB**. Association between body mass index, sexually transmitted infections, and contraceptive compliance. *J Womens Health*. 2013 Dec;22:1062-8.
153. Patel PR, **Berenson AB**. Sources of HPV vaccine hesitancy in parents. *Hum Vaccin Immunother*. 2013 Dec;9(12):2649-53. Epub 2013 Aug 27.
154. *Leyser-Whalen O, **Berenson AB**. Adherence to hysterosalpingogram appointments following hysteroscopic sterilization among low income women. *Contraception*. 2013 Dec;88:697-9.

155. Patel PR, **Berenson AB**. The internet's role in HPV vaccine education. *Hum Vaccin Immunother*. 2014;10:1166-70.
156. **Berenson AB**, Laz TH, Hirth JM, McGrath C, Rahman M. Effect of the decision-making process in the family on HPV vaccination rates among adolescents 9-17 years of age. *Hum Vaccin Immunother*. 2014;10:1807-11.
157. Rahman M, Laz TH, McGrath C, **Berenson AB**. Correlates of human papillomavirus vaccine series completion among young adult female initiators. *Hum Vaccin Immunother*. 2014;10:2163-7.
158. Hirth J, Rahman M, Smith JS, **Berenson AB**. Regional variations in HPV vaccination among 9-17 year old adolescent females from the BRFSS, 2008-2010. *Hum Vac Immunother*. 2014;10:3475-83.
159. **Berenson AB**, Patel PR, Barrett AD. Is administration of the HPV vaccine during pregnancy feasible in the future? *Expert Rev Vaccines*. 2014 Feb;13(2):213-9. Epub 2013 Nov 28.
160. **Berenson AB**, **Male E, **Lee TG, Barrett A, Sarpong KO, Rupp RE, Rahman M. Assessing the need for and acceptability of a free-of-charge postpartum HPV vaccination program. *Am J Obstet Gynecol*. 2014 Mar;210(3):213.e1-7.
161. Rahman M, McGrath CJ, **Berenson AB**. Geographic variation in human papillomavirus vaccination uptake among 13-17 year old adolescent girls in the United States. *Vaccine*. 2014 May 1;32: 2394-8.
162. DeMaria AI, **Flores M, Hirth JM, **Berenson AB**. Complications related to pubic hair removal among young, low income women. *Am J Obstet Gynecol*. 2014 Jun;210:528.e1-5.
163. **Berenson AB**, Pohlmeier AM, Laz TH, Rahman M, McGrath CJ. Nutritional and weight management behaviors in low-income women trying to conceive. *Obstet Gynecol*. 2014 Sep;124:579-84.
164. Patel PR, Laz TH, **Berenson AB**. Patient characteristics associated with pregnancy ambivalence. *J Womens Health*. 2015 Jan;24:37-41.
165. Laz TH, Rahman M, **Berenson AB**. Association of frequent use of food labels with weight loss behaviors among low income reproductive-age women. *J Am Coll Nutr*. 2015;34:73-9.
166. **Berenson AB**, Rahman M, Hirth JM, Rupp RE, Sarpong KO. A brief educational intervention increases providers' human papillomavirus vaccine knowledge. *Hum Vaccin Immunother*. 2015;11:1331-6.
167. *Guo F, Hirth JM, **Berenson AB**. Comparison of HPV prevalence between HPV vaccinated and non-vaccinated young adult women (20-26 years). *Hum Vac Immunother*. 2015;11(10):2337-44.
168. **Berenson AB**. An update on barriers to adolescent human papillomavirus vaccination in the US. *Expert Rev Vaccines*. 2015;14(10):1377-84.
169. Rahman M, McGrath CJ, Hirth JM, **Berenson AB**. Age at HPV vaccine initiation and completion among US adolescent girls: Trend from 2008 to 2012. *Vaccine*. 2015 Jan 29;33:585-7.
170. *Davlin S, **Berenson AB**, Rahman M. Correlates of HPV knowledge among low-income minority mothers of adolescents 9-17 years of age. *J Pediatr Adolesc Gynecol*. 2015 Feb;28:19-23.
171. Phy JL, *Pohlmeier AM, Cooper JA, Watkins P, SpallholzJ, Harris KS, **Berenson AB**, Boylan M. Low starch/low dairy diet results in successful treatment of obesity and comorbidities linked to polycystic ovary syndrome (PCOS). *J Obes Weight Loss Ther*. 2015 Apr;5(2). pii:259.
172. Hirth JM, Kuo YF, Lin YL, **Berenson AB**. Regional variation in mammography use among insured women 40-49 years old: Impact of a USPSTF guideline change. *J Health Science*. 2015 Apr;3(4):174-82.
173. Rahman M, Laz TH, McGrath CJ, **Berenson AB**. Provider recommendation mediates the relationship between human papillomavirus (HPV) vaccine awareness and HPV vaccine

- initiation and completion among 13-17 year old US adolescent children. *Clin Pediatr*. 2015 Apr;54:371-5.
174. *Gross TT, Laz TH, Rahman M, **Berenson AB**. Association between mother-child sexual health communication and HPV vaccine uptake. *Prev Med*. 2015 May;74:63-6.
 175. Laz TH, Rahman M, *Pohlmeier AM, **Berenson AB**. Level of nutrition knowledge and its association with weight loss behaviors among low-income reproductive-age women. *J Community Health*. 2015 Jun;40:542-8.
 176. Rahman M, Islam M, **Berenson AB**. Differences in HPV immunization levels among young adults in various regions of the United States. *J Community Health*. 2015 Jun;40(3):404-8.
 177. **Berenson AB**, Tan A, Hirth JM. Complications and continuation rates associated with two types of long-acting contraception. *Am J Obstet Gynecol*. 2015 Jun;212:761.e1-8.
 178. *Guo F, Hirth JM, **Berenson AB**. Effects of cardiovascular disease on compliance with cervical and breast cancer screening recommendations among adult women, NHIS 2013. *J Womens Health*. 2015 Aug;24:641-7.
 179. **Berenson AB**, Laz TH, *Pohlmeier A, Rahman M, Cunningham K. Prevalence of food addiction among low-income reproductive-aged women. *J Womens Health*. 2015 Sep;24(9):740-4.
 180. Batur P, **Berenson AB**. Are breast and pelvic exams necessary when prescribing hormonal contraception? *Cleve Clin J Med*. 2015 Oct; 82(10):661-3.
 181. *Guo F, Hirth JM, **Berenson AB**. Cervical cancer screening among women ≥ 70 years of age in the United States - a referral problem or patient choice? *Prev Med*. 2015 Oct 21;81:427-32.
 182. Lee J, **Berenson AB**, Patel PR. Characteristics of females who use contraception at coitarche: An analysis of the National Survey of Family Growth 2006-2010 database. *J Womens Health*. 2015 Nov 23;24(12):972-7.
 183. **Frietze G, Leyser-Whalen O, Rahman M, Rouhani M, **Berenson AB**. A meta-analysis of bilateral Essure® procedural placement success rates on first attempt. *J Gynecol Surg*. 2015 Dec 1;31(6):308-17.
 184. Rahman M, Laz TH, McGrath CJ, **Berenson AB**. Correlates of human papillomavirus vaccine completion among adolescent girl initiators. *Clin Pediatr*. 2015 Dec;54(14):1328-33.
 185. **Berenson AB**, *Pohlmeier A, Laz T, Rahman M, Saade G. Obesity risk knowledge, weight misperception and diet and health-related attitudes in women trying to conceive. *J Acad Nutr Diet*. 2016 Jan;116(1):69-75.
 186. Batur P, Cleland K, McNamara M, Wu J, Pickle S, and the **EC Survey Group**. Emergency contraception: A multi-specialty survey of clinician knowledge and practices. *Contraception*. 2016 Feb;93(2):145-52.
 187. Wu ZH, Tennen H, *Hosain GM, Coman E, Cullum J, **Berenson AB**. Stress mediates the relationship between past drug addiction and current and risky sexual behaviour among low income women. *Stress Health*. 2016 Apr;32(2):138-44.
 188. Hirth JM, Laz TH, Rahman M, **Berenson AB**. Racial/ethnic differences affecting adherence to cancer screening guidelines among women. *J Womens Health*. 2016 Spr;25(4):371-80.
 189. Hirth J, Lin YL, Kuo YF, **Berenson AB**. Effect of number of human papillomavirus vaccine doses on guideline adherent cervical cytology screening among 19-26 year old females. *Prev Med*. 2016 Jul;88:134-9.
 190. Patel PR, Lee J, Hirth J, **Berenson AB**, Smith PB. Changes in the use of contraception at first intercourse: A comparison of the National Survey of Family Growth 1995 and 2006-2010 Databases. *J Womens Health (Larchmt)*. 2016 Aug;25(8):777-83.
 191. **Berenson AB**, Hirth JM, Rahman M, Laz TH, Rupp RE, Sarpong KO. Maternal and infant outcomes among women vaccinated against pertussis during pregnancy. *Hum Vac Immunother*. 2016 Aug 2;12(8):1965-71.

192. Hirth JM, Kuo YF, Laz TH, Starkey JM, Rupp RE, Rahman M, **Berenson AB**. Concordance of adolescent human papillomavirus vaccination parental report with provider report in the National Immunization Survey-Teen (2008-2013). *Vaccine*. 2016 Aug;34(37):4415-21.
193. **Berenson AB**, Rahman M, Hirth JM, Rupp RE, Sarpong KO. A human papillomavirus vaccination program for low-income postpartum women. *Am J Obstet Gynecol*. 2016 Sep;215(3):e1-9.
194. *Gross T, Rahman M, **Wright A, Hirth JM, Sarpong K, Rupp R, Barrett A, **Berenson AB**. Implementation of a postpartum HPV vaccination program in a Southeast Texas hospital: a qualitative study evaluating health care provider acceptance. *Matern Child Health J*. 2016 Nov;20:154-63.
195. Lam VC, Hadley EE, **Berenson AB**, Hirth JM, Jennings K, Patel PR. Differences in women who choose subdermal implants versus intrauterine devices. *J Reprod Med*. 2016 Nov-Dec;529-33.
196. *Fuchs EL, **Berenson AB**. Screening of gestational carriers in the United States. *Fertil Steril*. 2016 Nov;106(6):1496-502.
197. *Fuchs EL, Rahman M, **Berenson AB**. Examining maternal beliefs and human papillomavirus vaccine uptake among male and female children in low-income families. *Papillomavirus Research*. 2016 Dec;2:38-40.
198. **Berenson AB**, Laz TH, Rahman M. Reduction in vaccine-type human papillomavirus prevalence among adult females in the United States, 2009-2012. *J Infect Dis*. 2016 Dec 15;214(12):1961-4.
199. **Berenson AB**, Hirth JM, Fuchs EL; Multidisciplinary Translation Team on Reproductive Women's Health. US medical students' willingness to offer the HPV vaccine by vaccination status. *Vaccine*. 2017 Mar 1;35(9):1212-5.
200. **Berenson AB**, Croisant S. Early sexual debut warrants HPV vaccination at an earlier age. *Vaccine*. 2017 Mar 1;35(9):1195-6.
201. Rahman M, Hirth JM, **Berenson AB**. Adherence to ACIP recommendation for human papillomavirus vaccine among US adolescent girls. *J Community Health*. 2017 Apr;42(2):385-9.
202. Guo F, **Norton AR, Fuchs EL, Hirth JM, Garcia-Blanco MA, **Berenson AB**. Provider-patient communication about Zika during prenatal visits. *Prev Med Rep*. 2017 May 18;7:26-9.
203. Guo F, Hirth JM, Lin YL, Richardson G, Levine L, **Berenson AB**, Kuo YF. Use of BRCA mutation test in the U.S., 2004-2014. *Am J Prev Med*. 2017 Jun;52(6):702-9.
204. Hirth JM, Chang M, Resto V, Guo F, **Berenson AB**. Prevalence of oral human papillomavirus by vaccination status among young adults (18-30 years old). *Vaccine*. 2017 Jun 14;35(27):3446-51.
205. **Berenson AB**, *Trinh HN, Hirth JM, Guo F, Fuchs EL, Weaver SC. Knowledge and prevention practices among U.S. pregnant immigrants from Zika virus outbreak areas. *Am J Trop Med Hyg*. 2017 Jul;97(1):155-62.
206. **Berenson AB**, *Brown VG, Fuchs EL, Hirth JM, Chang M. Relationship between maternal experiences and adolescent HPV vaccination. *Hum Vaccin Immunother*. 2017 Sep 2;13(9):2150-4.
207. **Berenson AB**, Hirth JM, Chang M. Change in human papillomavirus prevalence among U.S. women aged 18-59 Years, 2009-2014. *Obstet Gynecol*. 2017 Oct; 130(4):693-701.
208. Guo F, Hirth JM, **Berenson AB**. Human papillomavirus vaccination and pap smear uptake among young women in the United States: Role of provider and patient. *J Women Health*. 2017 Oct;26(10):1114-22.
209. Guo F, Hirth JM, Lin YL, Richardson G, Levine L, **Berenson AB**, Kuo YF. Authors' response: "Angelina Jolie Effect" on the shifting role of BRCA testing in the U.S. *Am J Prev Med*. 2017 Nov;53(5):e197-9.

210. **Berenson AB**, Hirth JM, Guo F, Fuchs EL, Weaver SC. Prevention practices among United States pregnant women who travel to Zika outbreak areas. *Am J Trop Med Hyg*. 2018 Jan;98(1):178-80.
211. *Cofie LE, Hirth JM, Guo F, **Berenson AB**, Markides K, Wong R. HPV vaccination among foreign-born women: Examining the National Health Interview Survey 2013-2015. *Am J Prev Med*. 2018 Jan;54(1):20-7.
212. Hirth JM, **Batuuka DN, *Gross TT, *Cofie L, **Berenson AB**. Human papillomavirus vaccine motivators and barriers among community college students: Considerations for development of a successful vaccination program. *Vaccine*. 2018 Feb 14;36(8):1032-7.
213. Fuchs EL, **Berenson AB**. Outcomes for gestational carriers versus traditional surrogates in the United States. *J Womens Health*. 2018 May;27(5):640-5.
214. Guo F, *Cofie LE, **Berenson AB**. Cervical cancer incidence in young U.S. females after Human Papillomavirus vaccine introduction. *Am J Prev Med*. 2018 Aug;55(2):197-204.
215. Guo F, Kuo YF, Shih YCT, Giordano SH, **Berenson AB**. Trends in breast cancer mortality by stage at diagnosis among young women in the United States. *Cancer*. 2018 Sep 1;124(17):3500-9.
216. Hirth JM, McGrath CJ, Kuo YF, Rupp RE, Starkey JM, **Berenson AB**. Impact of human papillomavirus vaccination on racial/ethnic disparities in vaccine-type human papillomavirus prevalence among 14-26 year old females in the U.S. *Vaccine*. 2018 Nov 29;36(50):7682-88.
217. **Berenson AB**, Rupp R, Dinehart EE, *Cofie LE, Kuo YF, Hirth JM. Achieving high HPV vaccine completion rates in a pediatric clinic population. *Hum Vaccin Immunother*. 2019;15(7-8):1562-9.
218. Hirth JM, **Berenson AB**, *Cofie LE, Matsushita L, Kuo YF, Rupp RE. Caregiver acceptance of a patient navigation program to increase human papillomavirus vaccination in pediatric clinics: A qualitative program evaluation. *Hum Vaccin Immunother*. 2019;15(7-8):1585-91.
219. Guo F, Kuo YF, **Berenson AB**. Breast cancer incidence by stage before and after change in screening guidelines. *Am J Prev Med*. 2019 Jan;56(1):100-8.
220. Hirth JM, Fuchs EL, Chang M, Fernandez ME, **Berenson AB**. Variations in reason for intention not to vaccinate across time, region, and by race/ethnicity, NIS-Teen (2008-2016). *Vaccine*. 2019 Jan 21;37(4):595-601.
221. **Berenson AB**, Chang M, Hirth JM, Merkley KH. Use and misuse of cosmetic contact lenses among US adolescents in Southeast Texas. *Adolesc Health Med Ther*. 2019 Feb 7;10:1-6.
222. **Berenson AB**, Hirth JM, Chang M, Merkley KH. Knowledge and use of cosmetic contact lenses among reproductive-age women. *J Womens Health (Larchmt)*. 2019 Mar;28(3):403-9.
223. Goshtasebi A, Subotic-Brajic T, Scholes D, Goldberg TB, **Berenson AB**, Prior JC. Adolescent use of combined hormonal contraception and peak bone mineral density accrual: A meta-analysis of international prospective controlled studies. *Clin Endocrinol*. 2019 Apr;90(4):517-24.
224. Fuchs EL, Starkey JM, Rupp RE, **Berenson AB**. Prenatal vaccination of mothers and hepatitis B vaccination of their infants. *Prev Med*. 2019 Apr;121:68-73.
225. Cofie LE, Hirth JM, **Berenson AB**, Wong R. Chronic comorbidities and receipt of breast cancer screening in United States and foreign-born women: Data from the National Health Interview Survey. *J Womens Health (Larchmt)*. 2019 May;28(5):583-90.
226. Hirth JM, Kuo YF, Starkey JM, Rupp RE, Laz TH, Rahman M, **Berenson AB**. Regional variations in human papillomavirus prevalence across time in NHANES (2003-2014). *Vaccine*. 2019 Jul 9;37(30):4040-6.
227. Leyser-Whalen O, **Berenson AB**. Situating oneself in the intersectional hierarchy: Racially diverse, low-income women discuss having little agency in vasectomy decisions. *Sex Roles*. 2019 Dec;81:748-64.

228. Guo F, Scholl M, Fuchs EL, **Berenson AB**, Kuo YF. BRCA testing in unaffected young women in the United States, 2006-2017. *Cancer*. 2020 Jan 15;126(2):337-43.
229. **Berenson AB**, Hirth JM, Southerland J. Knowledge of human papillomavirus among dental providers: A mixed methods study. *Vaccine*. 2020 Jan 16:423-6.
230. **Berenson AB**, Hirth JM, Fuchs EL, Chang M, Rupp RE. An educational intervention to improve attitudes regarding HPV vaccination and comfort with counseling among US medical students. *Hum Vaccin Immunother*. 2020 May 3;16(5):1139-1144.
231. Fuchs EL, Hirth JM, Guo F, *Brown, VG, Cofie L, **Berenson AB**. Infant vaccination education preferences among low-income pregnant women. *Hum Vaccin Immunother*. 2020 May 27:1-4. Epub ahead of print.
232. **Berenson AB**, Hirth JM, Chang M. Geographical disparities in human papillomavirus herd protection. *Cancer Med*. 2020 Jul;9(14):5272-5280.
233. Guo F, Hirth JM, Fuchs EL, Cofie L, *Brown V, Kuo YF, Fernandez ME, **Berenson AB**. Knowledge, attitudes, willingness to pay, and patient preference about genetic testing and subsequent risk management for cancer prevention. *J Cancer Educ*. 2020 July 9. Epub ahead of print.
234. **Berenson AB**, Hirth JM, Kuo YF, Starkey JM, Rupp RE. Use of patient navigators to increase HPV vaccination rates in a pediatric clinical population. *Prev Med Rep*. 2020 Aug 28. Epub ahead of print.

PEER-REVIEWED PUBLICATIONS-IN PRESS:

1. Guo FG, Scholl M, Fuchs EL, Wong R, Kuo YF, **Berenson AB**. Trends in BRCA positive test results among older women in the United States. *JAMA Netw Open*. In press.

PEER-REVIEWED MANUSCRIPTS-SUBMITTED:

1. Guo F, Scholl M, Fuchs EL, **Berenson AB**, Kuo YF. BRCA testing and testing results among women 18-65 years old. *Ann Intern Med*. Submitted October 2, 2019.
2. Cofie LE, Hirth JM, Brown V, Guo F, Fuchs EL, **Berenson AB**. Perceived discrimination and depression among low-income US- and Foreign-born women seeking reproductive healthcare. *J Behav Med*. Revise and resubmit requested October 2019.
3. Hirth JH, **Berenson AB**, Croisant S, Chang M, Merkley K. Perceived stress, adverse childhood experiences, and substance use among adolescents with a history of cosmetic contact lens use. *Adolesc Health Med Ther*. Submitted October 2019.

**Student or resident

*Postdoctoral Fellow

B. OTHER:

Books

1. **Berenson AB**, ed. *Obstetrics and Gynecology Clinics of North America: Adolescent Gynecology*. Philadelphia, PA: WB Saunders Co; 2000.

Reviews

1. **Berenson AB**. The prepubertal genital exam: What is normal and abnormal. *Curr Opin Obstet Gynecol*. 1994; 6:526-30.
2. **Berenson AB**. Normal anogenital anatomy. *Child Abuse Negl*. 1998; 22:589-96, discussion 597-603.
3. Rickert VI, **Berenson AB**. Guidelines for adolescent preventive services. *Med Aspects Hum Sex*. 1998; 1:13-7.

4. Rickert VI, **Berenson AB**. GAPS: Role of the primary care physician. *Female Patient*. 1998; 23:41-5.
5. **Berenson AB**. Dysfunctional uterine bleeding in adolescence. *Postgrad Gynecol Obstet*. 2001; 21:1-6.
6. **Berenson AB**. Invited review of Signorello LR, Harlow BL, Chekos AK, Repke JT. Postpartum sexual functioning and its relationship to perineal trauma: A retrospective cohort study of primiparous women. *Am J Obstet Gynecol*. 2001; 184:881- 90.
7. Levine RE, Oandasan AP, Primeau LA, **Berenson AB**. Anxiety disorders during pregnancy and postpartum. *Am J Perinatal*. 2003; 20:239-48.
8. **Berenson AB**. Invited review of Schlaff WD, Lynch AM, Hughes HD, Cedars MI, Smith DL. Manipulation of the pill free interval oral contraceptive pill users: The effect on follicular suppression. *Am J Obstet Gynecol*. 2004; 190:943-51.
9. Patel P, **Berenson AB**. Sources of HPV vaccine hesitancy in parents. *Hum Vaccin Immunother*. 2013;27; 9:2649-53.
10. **Berenson AB**, Patel PR, Barrett AD. Is administration of the HPV vaccine during pregnancy feasible in the future? *Expert Rev Vaccines*. 2014; 13:213-9.
11. Patel P, **Berenson AB**. The internet's role in HPV vaccine education. *Hum Vaccin Immunother*. 2014; 10:1166-70.
12. Batur P, **Berenson AB**. Are breast and pelvic exams necessary when prescribing hormonal contraception? *Cleveland Clinic Journal*, 2015 Oct; 82(10):661-3.

Book Chapters

1. **Berenson AB**. Pediatric gynecology. In: *Precis: An Update in Obstetrics and Gynecology - Reproductive Endocrinology*. Washington, DC: American College of Obstetricians and Gynecologists. 1998:36-40.
2. **Berenson AB**. Domestic violence. In: Curtis MG, Hopkins MP, eds. *Glass's Office Gynecology*, 5th ed. Baltimore, MD: Williams & Wilkins; 1999:475-97.
3. **Berenson AB**. Common pediatric problems. In: Stovall TG, Ling FW, eds. *Gynecology for the Primary Care Physician*. Philadelphia, PA: Current Medicine, Inc; 1999:411-6.
4. **Berenson AB**. Pediatric gynecology. In: *Precis: An Update in Obstetrics and Gynecology - Gynecology*. 2nd ed. Washington, DC: American College of Obstetrics and Gynecologists; 2001:135-9.
5. **Berenson AB**, Romo L. Puberty. In: *Precis: An Update in Obstetrics and Gynecology – Primary and Preventive Care*, 3rd ed. Washington, DC: American College of Obstetricians and Gynecologists; 2004: 44-7.
6. **Berenson AB**. Vulvar and vaginal disorders in children. In: Kaufman RH, Faro S, Brown D, eds. *Benign Diseases of the Vulva and Vagina*, 5th ed; Philadelphia, PA: Mosby; 2005:21-45
7. **Berenson AB**. Intimate partner violence. In: Curtis MG, Overholt S, Hopkins MP, eds. *Glass' Office Gynecology*, 6th edition, 2005. Baltimore, MD: Williams & Wilkins.
8. **Berenson AB**. Pediatric gynecology. In: *Precis: An Update in Obstetrics and Gynecology – Gynecology*, 3rd edition, Apr 2006. Washington, DC: American College of Obstetrics and Gynecologists.
9. Littleton HL, **Berenson AB**. Medical management of the adolescent sexual abuse victim. In: R.M. Reece, ed. *Child abuse: Medical diagnosis and management*, 3rd ed. Washington, DC: American Academy of Pediatrics; 2008.
10. **Berenson, AB**. Common Pediatric Problems. In Stovall TG, Ed. *Gynecology for the Primary Care Physician*, 2nd ed. Current Medicine Group: 2008.

Varia/Tapes/Website

1. Moderator, ACOG Update Continuing Education Series. Adolescent Gynecology, Vol 27, October 2001.

2. Section editor. Pediatric and Adolescent Gynecology. YourDoctor.com.
3. Invited expert reviewer. Pap test, online content for womenshealth.gov, US Dept. Health Human Services, Office of Women's Health. 11/28/2016.
4. Invited expert reviewer. Pap test, online content for womenshealth.gov, US Dept. Health Human Services, Office of Women's Health. 04/06/2017.
5. Invited guest author. Five things that your doctor wants you to know about HPV. Online blog content for womenshealth.gov, US Dept. Health Human Services, Office of Women's Health. 2/21/2018.

C. ABSTRACTS (POSTER AND PODIUM RESEARCH PRESENTATIONS)

*Postdoctoral Fellow

1. **Berenson AB**, Findley W, Gibbons W. Effect of delta-9 tetrahydrocannabinol on mouse embryo growth. Podium presentation. International Embryo Transfer Society. January 24, 1984.
2. **Berenson AB**, Pokorny SF, Dutton R. The autoamputated ovary - a rare cause of abdominal calcification. Poster presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. September 30-October 1, 1988.
3. **Berenson AB**, Hammill HA, Martens MG, Faro S. Post-cesarean section endometriosis in adolescents. Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. October 1, 1988.
4. **Berenson AB**, Andrews SA. Hymenal configuration in newborns. Podium presentation. Annual Meeting of the North American Society for Pediatric and Adolescent Gynecology. January 13, 1990.
5. Morris DL, **Berenson AB**, Baker, JL. A comparison of perinatal outcome in Caucasian, Black and Hispanic adolescents. Podium presentation. Annual Meeting of the North American Society for Pediatric Adolescent Gynecology. January 13, 1990.
6. **Berenson AB**. Physical abuse in adolescent pregnancy. Poster presentation. Annual Meeting of the North American Society for Pediatric and Adolescent Gynecology. January 13, 1990.
7. **Berenson AB**, Stansberry SD. Diagnosis of hematometrosalpinx and ipsilateral renal agenesis with magnetic resonance imaging. Poster presentation. Annual Meeting of the North American Society for Pediatric Adolescent Gynecology. January 13, 1990.
8. Morris DL, **Berenson AB**. Comparison of perinatal outcomes in adolescents based on source of care. Poster presentation. Annual Meeting of the Society for Adolescent Medicine. March 22-25, 1990.
9. **Berenson AB**, Stiglich NJ, Wilkinson GS, Anderson GD. Drug abuse and other risk factors for physical abuse in pregnancy among White non-Hispanic, Black and Hispanic Women. Podium presentation. Annual Meeting; Central Association of Obstetricians and Gynecologists. October 1, 1990.
10. **Berenson AB**, Lopez L, Young S, Wilkinson GS. Perinatal effects of cocaine abuse in pregnancy. Podium presentation. American College of Obstetricians and Gynecologists District VII Annual Meeting. October 30, 1990.
11. Barnett S, McCormick DP, Wilkinson GS, **Berenson AB**. Peer screeners to identify substance abuse in pregnant teens. Annual Meeting of the Ambulatory Pediatrics Association. April 28-May 2, 1991.
12. **Berenson AB**, San Miguel V, Wilkinson GS. Factors associated with violence experienced by pregnant adolescents. Podium presentation. Annual Clinical Meeting of the American College of Obstetricians and Gynecologists District VII Annual Meeting. November 11-13, 1991.
13. Ammenheuser MM, Stiglich NJ, **Berenson AB**, Sadagopa Ramanujam VM, Ward JB. Elevated frequencies of HPRT mutant lymphocytes in the cord blood of newborns of mothers who smoke cigarettes. Poster presentation. Environmental Mutagen Society Annual Meeting. March 1992.
14. **Berenson AB**, Heger AH, Hayes JM, Bailey RK, Emans SJ. Appearance of the hymen in prepubertal girls. Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. April 2-4, 1992.

15. **Berenson AB**, Fulcher PL, Wiemann CM. Early experiences with Norplant use in adolescents \leq 18 years of age. Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. April 2-4, 1992.
16. **Berenson AB**, Wiemann CM, Wilkinson GS. Prevalence and risk factors associated with substance use during adolescent pregnancy. Poster presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. April 2-4, 1992.
17. Wiemann CM, **Berenson AB**. Risk factors associated with contraceptive discontinuation within a tri-ethnic adolescent population. Poster presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. April 2-4, 1992.
18. San Miguel V, Wiemann CM, **Berenson AB**. Risk factors for substance use in pregnancy. Podium presentation. American College of Obstetricians and Gynecologists District VII Annual Meeting. September 28-29, 1992.
19. **Berenson AB**, Wiemann CM. Adolescent knowledge and beliefs about Norplant. Poster presentation. Annual Meeting of the Society of Adolescent Medicine. March 19, 1993.
20. **Berenson AB**, Wiemann CM, Wilkinson GS, Jones WA. Effects of physical violence experienced by pregnant adolescents on perinatal outcome. Poster presentation. Annual Meeting of the Society of Adolescent Medicine. March 19, 1993.
21. Ammenheuser MM, **Berenson AB**, Stiglich NJ, Whorton EB Jr, Ward JB Jr. A dose-related increase in the frequency of HPRT mutant lymphocytes in smoking mothers and their newborns. Poster presentation. Environmental Mutagen Society Annual Meeting. April 17-22, 1993.
22. **Berenson AB**, Garcia AS, Barnett S. Perianal findings in infants \leq 18 months of age. Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. April 16-18, 1993.
23. **Berenson AB**. Appearance of the hymen at birth and one year of age: A longitudinal study. Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. April 16-18, 1993.
24. Wiemann CM, **Berenson AB**, Wagner KD, Vreeke S, Landwehr BM. Prevalence and correlates of psychopathology among pregnant adolescents. Poster presentation. North American Society of Pediatric and Adolescent Gynecology. April 16-18, 1993.
25. **Berenson AB**, Wiemann CM, Wilkinson GS, Jones WA. Perinatal morbidity associated with violence experienced by pregnant women. Podium presentation. Annual Meeting of the Central Association of Obstetricians and Gynecologists. October 28, 1993.
26. Ammenheuser MM, **Berenson AB**, Babiak AE, Whorton EB Jr., Ward JB Jr. Elevated frequencies of HPRT mutant lymphocytes in pregnant women who smoke marijuana. Poster presentation. Environmental Mutagen Society. February 1994.
27. Paradise JE, Finkel M, Beiser A, **Berenson AB**, Emans J, McCann J, Greenberg D. Variability and bias in physicians' interpretations of photographs of girls' genitalia. Podium presentation. Annual Meeting of the Ambulatory Pediatric Association. May 3, 1994.
28. Wagner KD, **Berenson AB**. Major depression and panic disorder associated with Norplant. Poster presentation. Annual Meeting of the American Psychiatric Association. May 24, 1994.
29. **Berenson AB**, Wiemann CM. Use of Norplant vs oral contraceptives in adolescence: A case control study. Podium presentation. Annual Meeting of the American Gynecologic and Obstetric Society (AGOS). September 8, 1994.
30. **Berenson AB**, Wiemann CM, Somma-Garcia A. Barriers to Norplant use among indigent women of Southeast Texas. Poster presentation. Annual Meeting of the Central Association of Obstetricians and Gynecologists. October 14-16, 1994.
31. Wiemann CM, **Berenson AB**, Garcia-Del Pino L, McCombs SL. Entry into prenatal care at $<$ 20 weeks gestation: Adolescents at risk. Poster presentation. Annual Meeting of the Society for Gynecologic Investigation. March 15-18, 1995.
32. **Berenson AB**. A longitudinal study of hymenal morphology in the first three years of life. Poster presentation. Annual Meeting of the Society for Gynecologic Investigation. March 15-18, 1995.
33. **Berenson AB**, Wiemann CM. Risk of an adverse perinatal outcome among adolescents \leq 15 years of age. Poster presentation. Annual Meeting of the American College of Obstetricians and Gynecologists. May 10, 1995.

34. **Berenson AB**, Wiemann CM. Contraceptive use among adolescent mothers at 6 months postpartum. Podium presentation. Annual Meeting of the American College of Obstetricians and Gynecologists. April 30, 1996.
35. **Berenson AB**, Wiemann CM, McCombs SL. A longitudinal prospective evaluation of Norplant use by adolescents during the first 12 months of use. Poster presentation. Annual Meeting of the American College of Obstetricians and Gynecologists. April 30, 1996.
36. Rickert VI, Wiemann CM, **Berenson AB**. Health risk behaviors among pregnant adolescents with older partners. Poster presentation. Annual Meeting of the American College of Obstetricians and Gynecologists. April 30, 1996.
37. Paradise JE, Finkel M, Beiser A, **Berenson AB**, Greenberg D, Winter M. Physicians' conformity to standards in assessing girls' genital findings. Podium presentation. Ambulatory Pediatric Association. May 7, 1996. (Arch Pediatr Adolesc Med. 1996;150, supp 80).
38. Paradise JE, Finkel M, Beiser, Winter M, **Berenson AB**, Greenberg D. Conformity of skilled physicians' assessments of girls' genital findings to standards. Podium presentation. Society for Pediatric Research. May 9, 1996. (Pediatr Res. 1996;39-138a).
39. Wiemann CM, **Berenson AB**. Factors associated with continued alcohol use in adolescent pregnancy. Podium presentation. Annual Meeting of the North American Society for Pediatric and Adolescent Gynecology. May 16-17, 1996. (J Pediatr Adolesc Gynecol. 1996;9:151).
40. Wiemann CM, **Berenson AB**. Patterns of violence experienced by adolescent mothers in the early postpartum period. Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. May 16-17, 1996.
41. Rickert VI, **Berenson AB**, Wiemann CM. Employment and the pregnant adolescent: A health risk? Podium presentation. Annual Meeting of the North American Society of Pediatric and Adolescent Gynecology. May 16-17, 1996. (J Pediatr Adolesc Gynecol. 1996;9:149).
42. **Berenson AB**, Wiemann CM, Rowe TF, Rickert VI. Inadequate weight gain among pregnant adolescents: Risk factors and relationship to infant birth weight. Podium presentation. Annual Meeting; Central Association of Obstetricians and Gynecologists. October 18, 1996.
43. Wiemann CM, *DuBois J, **Berenson AB**. The decision to breastfeed: Cultural determinants among adolescent mothers. Podium presentation. Annual Meeting of the Society for Adolescent Medicine. March 5-9, 1997.
44. **Berenson AB** and Wiemann CM. Exposure to violence and associated health behaviors among sexually active adolescent women. Podium presentation. 7th European Congress on Pediatric and Adolescent Gynecology. Vienna, Austria. March 15, 1997.
45. Ammenheuser MM, Hastings DA, **Berenson AB**, Singleton CR, Whorton Jr. EB. Elevated frequencies of HPRT mutant lymphocytes in newborns of women who smoke marijuana. Poster presentation. Environmental Mutagen Society Annual Meeting. April 19, 1997.
46. Wiemann CM, **Berenson AB**, DuBois J. Identifying adolescents at highest risk for early breastfeeding cessation. Poster presentation. Annual Meeting of the American College of Obstetricians and Gynecologists. April 26-30, 1997.
47. Ammenheuser MM, **Berenson AB**, Singleton CR, Hastings DA, Whorton Jr. EB, Ward Jr. JB. Frequencies of HPRT mutant lymphocytes in marijuana smokers and multi-drug users. Poster presentation. 7th International Conference on Environmental Mutagens. Toulouse, France. September 1997.
48. **Berenson AB**, Wiemann CM, Rickert VI. Use of video eyeglasses to decrease anxiety among children undergoing genital examinations. Poster presentation. Central Association of Obstetricians & Gynecologists. October 29-November 1, 1997.
49. Rickert VI, Wiemann CM, Hankins GDV, McKee JM, **Berenson AB**. Prevalence and risk factors of chorioamnionitis among adolescents. Poster presentation. Annual Meeting of the Society of Perinatal Obstetricians. February 7, 1998.
50. Agurcia CA, Wiemann CM, Rickert VI, Volk RJ, **Berenson AB**. Adolescent pregnancy: Effects of weekly marijuana use by a male partner. Poster presentation. Annual Meeting of the Society for Adolescent Medicine. March 5, 1998. (J Adolesc Health. 1998; 22:174).

51. Rickert VI, Wiemann CM, **Berenson AB**. Rohypnol: More than a date rape drug. Podium presentation. Society for Pediatric Research. New Orleans, LA. May 3, 1998. (Pediatr Res. 1998; 43:5A).
52. Paradise JE, Winter M, Finkel M, **Berenson AB**, Beiser A. Influence of history on physicians' interpretation of girls' genital findings with respect to sexual abuse. Society for Pediatric Research. New Orleans, LA. May 1998.
53. **Berenson AB**, Chacko MR, Wiemann CM. Influence of weight and height on hymenal measurements. Poster presentation. World Congress of Pediatric and Adolescent Gynecology. Helsinki, Finland. June 3, 1998.
54. Wiemann CM, **Berenson AB**, Rickert VI, Agurcia CA, Volk RJ. Adolescent pregnancy: Factors associated with partner directed violence. Poster presentation. XII World Congress of Pediatric and Adolescent Gynecology. Helsinki, Finland. June 3, 1998.
55. Rickert VI, Wiemann CM, **Berenson AB**. Prevalence, patterns, and correlates of voluntary rohypnol use among sexually active female adolescents. Poster presentation. World Congress of Pediatric and Adolescent Gynecology. Helsinki, Finland. June 8, 1998.
56. Rickert VI, **Berenson AB**, Williamson A, Wiemann CM. Immediate recall of oral contraceptive instructions: Implications for providers. Podium presentation. Annual Meeting of the Central Association of Obstetricians and Gynecologists. October 15, 1998. (Am J Obstet Gynecol. 1999; 180:1399-406).
57. Wiemann CM, Volk RJ, **Berenson AB**. Prevalence and patterns of drug use among adolescent mothers. Poster presentation. Annual Meeting of the Society for Adolescent Medicine. March 17, 1999. (J Adolesc Health. 1999; 24:105).
58. Wiemann CM, Rickert VI, Volk RJ, **Berenson AB**. Are adolescents stigmatized by pregnancy? Podium presentation. Annual Meeting of the Society for Adolescent Medicine. March 17, 1999. (J Adolesc Health. 1999; 24:88).
59. Agurcia CA, Rickert VI, **Berenson AB**, Volk RJ, Wiemann CM. Postpartum adolescent mothers: Health and pregnancy risks of involvement with an older adult partner. Podium presentation. Annual Meeting of the Society for Adolescent Medicine. March 18, 1999. (J Adolesc Health. 1999; 24:80).
60. Rickert VI, Wiemann CM, **Berenson AB**. Race, ethnicity differences in the prevalence and correlates of depressive symptomology. Poster presentation. Annual Meeting of the Society for Adolescent Medicine. March 17, 1999. (J Adolesc Health. 1999; 24:109).
61. Wiemann DM, Agurcia CA, Rickert VI, **Berenson AB**. Support for adolescent mothers: Should absent fathers be pushed to provide it? Poster presentation. Annual Meeting of the Society of Adolescent Medicine. March 22, 1999. (J Adolesc Health. 2000; 26:121).
62. Wiemann DM, Rickert VI, Agurcia CA, Volk RJ, **Berenson AB**. Violence experienced by pregnant adolescents: Victim and perpetrator characteristics. Poster presentation. Annual Meeting of the Society of Adolescent Medicine. March 22, 1999. (J Adolesc Health. 2000; 26:121).
63. Rickert VI, Wiemann CM, **Berenson AB**. Frequency of intimate partner violence: Effects of age, race and relationship length. Podium presentation. Annual Clinical meeting of the American College of Obstetricians and Gynecologists. May 15-19, 1999. (Obstet Gynecol. 1999; 93:125).
64. Wiemann CM, Volk RJ, **Berenson AB**. Drug use patterns of adolescent mothers: Prepregnancy to 24 months postpartum. Poster presentation. Annual meeting of the College on Problems of Drug Dependence. Acapulco, Mexico. June 17, 1999. (NIDA Research Monograph, 1999).
65. **Berenson AB**, Chacko MR, Wiemann CM, Mishaw CO, Friedrich WN, Grady JJ. A case control study of anatomic changes which result from sexual abuse. Podium presentation. Annual Meeting of the American Gynecologic and Obstetric Society (AGOS). September 16-18, 1999.
66. Rickert VI, Neal WP, Wiemann CM, **Berenson AB**. Prevalence and predictors of low sexual assertiveness. Podium presentation. Annual Meeting of the North American Society for Pediatric and Adolescent Gynecology. April 14, 2000. (J Pediatr Adolesc Gynecol. 2000; 13:88-9).
67. **Berenson AB**, Rickert VI, Grady JJ. A prospective study of the effects of oral and injectable contraception on bone mineral density. Podium presentation. American College of Obstetricians and Gynecologists. May 22, 2000. (Obstet Gynecol. 2000; 95:S6.).

68. **Berenson AB**, Radecki CM, Rickert VI, Grady JJ, Thomas A. Condom practices prior to and after initiation of hormonal contraception. Poster presentation. Central Association of Obstetricians and Gynecologists. October 18-21, 2000.
69. Desai A, Wiemann CM, **Berenson AB**. Ethnic differences in rates of contraceptive and repeat pregnancy among adolescent mothers at 12 and 24 months postpartum. Podium presentation. Society of Adolescent Medicine. March 2001. (J Adolesc Health. 2001; 28:100).
70. Wu ZH, **Berenson AB**, Wiemann CM. A profile of adolescent females with a history of sexual abuse by race/ethnicity and relationship to perpetrator: Environment, risk behaviors and health outcomes. Poster presentation. Congress of Epidemiology. June 14, 2001. (Am J Epidemiol. 2001; 111:153).
71. Levine R, **Berenson AB**. Anxiety disorders during pregnancy and the post-partum period. Podium presentation. Anxiety Disorders Association National Conference. Austin, TX. March 21-24, 2002.
72. Radecki Breitkopf C, **Berenson AB**. Theory-based qualitative examination of adherence to follow-up for abnormal Papanicolaou smears. Poster presentation. Society of Behavioral Medicine's Annual Meeting and Scientific Sessions. Washington, DC. April 3-6, 2002.
73. Wu ZH, **Berenson AB**, Wiemann CM, Grady JJ. Risk factors of sexually transmitted infections among sexually active adolescent girls: Implications to reduce future reinfections. Poster presentation. Society of Epidemiological Research. June 11-14, 2002. (Am J Epidemiol. 2002; 155:403 Suppl).
74. Radecki Breitkopf C, **Berenson AB**. Nonprescription diet pill use among low-income women. Poster presentation. Annual Meeting; Society of Behavioral Medicine. Salt Lake City, UT. March 19-22, 2003. (Ann Behav Med. 25:S024 Suppl).
75. Wu ZH, **Berenson AB**, Grady JJ, Breitkopf CM. Ecstasy use by young, low income women. Invited and presented at the National Institute of Drug Abuse REACT meeting. Rockville, MD. April 9-10, 2003.
76. Wu ZH, **Berenson AB**, Grady JJ, Radecki Breitkopf C. Determinants of ecstasy use in young, low-income women. Podium presentation. Annual Scientific Meeting of the College on Problems of Drug Dependence. Bal Harbour, FL. June 14-19, 2003.
77. **Berenson AB**, Radecki Breitkopf C, Grady JJ, Rickert VI, Thomas A. Effects of hormonal contraception on bone mineral density after 24 months of use. Podium presentation. Society of Gynecologic Investigation. Houston, TX. March 25, 2004. (J Soc Gynecol Investig. 2004; 11:175A, Suppl).
78. Radecki Breitkopf C, **Berenson AB**. Knowledge regarding the Pap test among women undergoing annual screening. Poster session. Annual meeting of the Central Association of Obstetricians and Gynecologists. Washington, DC. October 14-16, 2004.
79. Olson G, Radecki Breitkopf C, Grady J, **Berenson AB**. Acceptability of a targeted vaccine during pregnancy. Poster presentation. Annual meeting of the Central Association of Obstetricians and Gynecologists. Washington, DC. October 14-16, 2004.
80. Wu ZH, Holzer C, **Berenson AB**. Stress, sex, and use of ecstasy and other drugs among young disadvantaged women: An untangled triangle. Podium presentation. Annual Meeting of American Public Health Association. Washington, DC. November 6-10, 2004.
81. Slomovitz B, Sun C, Frumovitz M, Soliman P, Pearson H, **Berenson AB**, Bodurka D. Are women ready for the cervical cancer vaccine? Podium presentation. Annual Meeting on Women's Cancer. Miami Beach, FL. March 19-23, 2005.
82. *Littleton H, Radecki Breitkopf C, **Berenson AB**. Body consciousness and risky sexual behaviors. Podium presentation. Annual Meeting & Scientific Sessions of the Society of Behavioral Medicine. Boston, MA. April 13-16, 2005.
83. *Littleton H, Radecki Breitkopf C, **Berenson AB**. A meta-analysis of correlates of anxiety symptoms during pregnancy and the association of anxiety with neonatal outcomes. Podium presentation. Annual Convention of the American Psychological Association. New Orleans, LA. August 10-13, 2006.

84. *Littleton H, Radecki Breitkopf C, **Berenson AB**. An Evaluation of Health Care Providers Sexual Violence Screening Practices. Podium presentation. Annual Meeting; Central Association of Obstetricians and Gynecologists. Las Vegas, NV. October 18-21, 2006.
85. *Newman JL, Radecki Breitkopf C, **Berenson AB**. Consistency between face-to-face interview and self-administered questionnaire reports of sensitive health-related behaviors among female adolescents. Poster presentation. Annual Meeting; Society for Adolescent Medicine. Denver, CO. March 2007. (J Adolesc Health 2007; 40:S22-S23).
86. *Newman JL, Radecki Breitkopf C, **Berenson AB**. Relationship between bone mineral density and parity in a multiethnic sample of healthy reproductive-aged women. Poster presentation. Scientific Annual Meeting; Society for Gynecologic Investigation. Reno, NV. March 2007.
87. **Berenson AB**, *Odom S, Radecki CR, Rahman M. Physiologic and psychological symptoms associated with injectable and oral contraceptive use. Poster presentation. Scientific Annual Meeting of the Society for Gynecologic Investigation. San Diego, CA. March 2008.
88. Temple J, **Berenson AB**, Radecki Breitkopf C. The relative importance of preventative health behaviors among women of lower socioeconomic status. Poster presentation. 16th Annual Meeting; Society for Prevention Research. San Francisco, CA. May 2008.
89. Temple J, Marshall LL, **Berenson AB**. Effects of Partner Abuse on Women's Mental Health: A Longitudinal Study. Poster presentation. American College of Obstetricians and Gynecologists 55th Annual Clinical Meeting. San Diego, CA. May 2008. (Obstet Gynecol 2008; 111:15S).
90. Wu H, Holzer C, Grady JJ, **Berenson AB**. Stress, health related quality of life and DSM-IV substance abuse and dependence in young, low-income women. Poster presentation. 70th Annual Meeting of the College on Problems of Drug Dependence. San Juan, Puerto Rico. June 2008.
91. **Berenson AB**, Rahman M. Changes in weight, total fat, percent body fat, and central-to-peripheral fat ratio associated with injectable & oral contraceptive use. Podium presentation. Central Association of Obstetricians and Gynecologists 75th Annual Meeting. New Orleans, LA. October 2008.
92. *Chambliss KH, van den Berg P, **Berenson AB**. Physical activity and depressive symptoms in a tri-ethnic sample. Poster presentation. Society of Behavioral Medicine's 30th Annual Meeting and Scientific Sessions. Montreal, Quebec, Canada. April 2009.
93. *Le YL, Rahman M, **Berenson AB**. Early weight gain predicts excessive weight gain in DMPA users. Poster presentation. National Clinical and Translational Research Education Annual Meeting. Washington, DC. April 2009.
94. *Hosain GM, Rahman M, **Berenson AB**. Racial/ethnic differences in association between body fat distribution and serum lipid profiles among reproductive aged women. Poster presentation. Society Epidemiologic Research Annual Meeting. Anaheim, CA. June 2009.
95. Rahman M, **Berenson AB**. Predictors of higher bone mineral density loss among depot medroxyprogesterone acetate users. Poster presentation. Society Epidemiologic Research Annual Meeting. Anaheim, CA. June 2009.
96. Rahman M, Temple J, Breitkopf C, **Berenson AB**. Racial differences in body fat distribution among reproductive-aged women. Podium presentation. Society Epidemiologic Research Annual Meeting. Anaheim, CA. June 2009.
97. *Hosain GM, **Berenson AB**, Wu ZH. High risk sexual behavior among women with attention deficit disorder. Poster presentation. American Public Health Association Annual Meeting. Philadelphia, PA. November 2009.
98. *Ward KK, **Berenson AB**, Radecki Breitkopf CM. Passive smoke exposure and cervical cytology in a largely Hispanic population. Poster presentation. Society of Gynecologic Oncologists. San Francisco, CA. March 14-17, 2010.
99. *Ward KK, *Roncancio AM, **Berenson AB**. Acculturation among Hispanic women as related to awareness of emergency contraception and intention to use. Poster presentation. Society for Gynecologic Investigation Annual Meeting. Orlando, FL. March 24-28, 2010.
100. *Roncancio AM, **Berenson AB**, Rahman M. The mediating role of acculturation in health-related internet use among Latinas. Poster presentation. Society of Behavioral Medicine. Seattle, WA. April 2010.

101. Temple JR, *Behnken M, **Berenson AB**, Wu H. Effect of specific abuse types on women's mental health and substance use. Poster presentation. Association for Behavioral and Cognitive Therapy. San Francisco, CA. November 18-21, 2010.
102. *Mohammed H, Zhang DD, Samper Ternent RA, Kuo Y, Hatch S, Freeman J, **Berenson, AB**. The effect of beam, implant, and combination radiation therapy on GI and bladder toxicities in women with uterine cancer. Poster presentation. Society of Gynecologic Investigation Annual Meeting. Miami, FL. March 2011.
103. *Laz TH, Rahman M, **Berenson AB**. Trends in serum lipids, hypertension, physician advice, and compliance among reproductive age women. Poster presentation. Society of American Hypertension Annual Meeting. New York City, NY. May 21-24, 2011.
104. Rahman M, *Laz TH, **Berenson AB**. Association of weight misperception with abnormal lipid levels and hypertension among overweight and obese reproductive age women. Poster presentation. Society of American Hypertension. New York City, NY. May 21-24, 2011.
105. Tom SE, **Berenson AB**. Sleep quality, perceived stress, and obesity among low income, reproductive-aged women. Gulf Coast Women's Health Research Forum. September 30, 2011.
106. *Mohammed H, Tan A, Wilkinson G, **Berenson AB**. Complications of intrauterine contraceptives in women with bipolar disorder. Poster presentation. North American Forum on Family Planning. Washington, DC. October 22-24, 2011.
107. *Asem H, Zhang DD, Semper-Ternent RA, Kuo Y, Hatch SS, Freeman J, **Berenson AB**. Counseling cancer survivors: Type of postoperative radiation and its effect on GI and bladder toxicities in women with early stage uterine cancer. Presented at International Society of Geriatric Oncology. Paris, France. November 3-5, 2011. (J Geriatr Oncol. 2011; Suppl 1: 118, S68-69).
108. *Hirth J, **Berenson AB**. Racial/ethnic differences in depression among young women: The role of intimate partner violence, trauma, and posttraumatic stress disorder. Poster presentation. Women's Health 2012: 20th Annual Congress. Washington, DC. March 16-18, 2012.
109. *Laz TH, Rahman M, **Berenson AB**. An update on HPV vaccine uptake among 11-17-year-old girls in the United States: National Health Interview Survey, 2010. Poster presentation. Society Gynecologic Investigation (SGI). March 22-24, 2012.
110. Rahman M, **Berenson AB**. Correlates of unplanned pregnancy among low-income multiethnic young adult women. Poster presentation. Society of Gynecologic Investigation (SGI). March 22-24, 2012.
111. *Hirth J, Tan A, Wilkinson GS, **Berenson AB**. Completion rates of the human papillomavirus vaccine for insured females and males in the United States, 2006-2010. Poster presentation. Society of Gynecologic Investigation (SGI). March 22-24, 2012.
112. *DeMaria, AL, **Berenson AB**. Pubic hair removal and grooming behaviors among low-income Hispanic, black, and white women aged 16 to 40 years. Poster presentation. Translational Science Meeting. Washington, DC. April 18-20, 2012.
113. Lugo JM, *DeMaria A, **Berenson AB**. Correlates of STI history among low-income Hispanic, black, and white women aged 16 to 24 years. Poster presentation. Translational Science Meeting. Washington, DC. April 18-20, 2012.
114. Justiss A, Rahman M, **Berenson AB**. Racial differences in obesity risk knowledge among low income reproductive age women. Poster presentation. Translational Science Meeting. Washington, DC. April 18-20, 2012.
115. *Hirth J, Tan A, Wilkinson GS, **Berenson AB**. Change in frequency of Pap smears and HPV testing among insured teenage females who received a well woman exam, 2008-2010. Poster presentation. American Public Health Association. October 28-30, 2012.
116. *DeMaria AL, Flores M, **Berenson AB**. Clinical, behavioral, and psychological factors associated with pubic hair removal among low-income, racially-diverse women. Poster presentation. Society for the Scientific Study of Sexuality. Tampa, FL. November 7-10, 2012.
117. *Davlin S, Rahman M, **Berenson AB**. Knowledge of HPV among low-income minority mothers of adolescents 9 - 17 years of age. Poster presentation. Women's Health 2013: The 21st Annual Congress. Washington, DC. March 22-24, 2013.

118. *Laz TH, Rahman M, **Berenson AB**. Association of nutrition knowledge with weight loss behaviors among low-income reproductive-age women. Poster presentation. Women's Health 2013: The 21st Annual Congress. Washington, DC. March 22-24, 2013.
119. *Laz TH, Rahman M, **Berenson AB**. Food label use among low-income reproductive-age women: Association with weight loss behaviors. Poster presentation. Women's Health 2013: The 21st Annual Congress. Washington, DC. March 22-24, 2013.
120. Rahman M, **Berenson AB**. Association between well-woman visits of mothers and human papillomavirus (HPV) vaccination intent and uptake among their 9-17 year old children. Poster presentation. Women's Health 2013: The 21st Annual Congress. Washington, DC. March 22-24, 2013.
121. **Berenson AB**, Male E, Lee A, Rahman M. Human papillomavirus vaccine uptake among 18-26 year old low-income, multiethnic women. Poster presentation. National Foundation of Infectious Disease Annual Vaccine Conference. Baltimore, MD. April 22, 2013.
122. Rahman M, **Berenson AB**. Correlates of human papillomavirus vaccine series completion among young adult women. Poster presentation. Society of Epidemiologic Research. June 2013.
123. *Laz TH, Rahman M, **Berenson AB**. Is human papillomavirus vaccination uptake among young adult women lower in Southern States compared to other regions in the US? Poster presentation. Society of Epidemiologic Research. June 2013.
124. DeMaria AL, **Berenson AB**. Clinical concerns of pubic hair removal in relation to initiation ages of vaginal, anal, and oral sexual behaviors among low-income women. Poster presentation. Annual Meeting of the International Academy of Sex Research. Chicago, IL. August 7-10, 2013.
125. *Davlin S, Rupp R, **Berenson AB**. Detail examination of reports of death to VAERS following HPV4 vaccination. Poster presentation. American College of Epidemiology. Louisville, KY. September 21-24, 2013.
126. Hirth J, **Berenson AB**, Rahman M. Regional variation in HPV vaccination among 9-17 year olds. Poster presentation. Office of Research in Women's Health Annual BIRCWH/SCOR meeting. Bethesda, MD. October 2013.
127. **Berenson AB**, Rahman M. Decision making process in a family for HPV vaccination among 9-17 year old children: Does it matter? Poster presentation. 7th Vaccine & ISV Annual Global Congress. Barcelona, Spain. October 22-14, 2013.
128. Hirth JM, Kuo YF, Pierson K, **Berenson AB**. Adherence to the U.S. Preventive Services Task Force's mammography guideline changes among privately insured 40-49 year old women. Poster presentation. Women's Health 2014: The 22nd Annual Congress. Washington, DC. April 4-5, 2014.
129. *Pohlmeier A, Phy JL, Boylan M, Cooper JA, Spallholz J, **Berenson AB**, Harris KS. A low insulinemic diet improves binge eating behaviors and quality-of-life in women with PCOS. Poster presentation. Women's Health 2014: The 22nd Annual Congress. Washington, DC. April 4-5, 2014.
130. Rahman M, **Berenson AB**. Correlates of human papillomavirus vaccine completion among 13-17 year old US adolescent girls who initiated the series: National Immunization Survey of Teens, 2011. Women's Health 2014: The 22nd Annual Congress. Washington, DC. April 4-5, 2014.
131. *Davlin S, Rupp R, **Berenson AB**. Comparison of post-licensure Vaccine Adverse Event Reporting System (VAERS) reports involving quadrivalent human papillomavirus vaccine (Gardasil®) and meningococcal conjugate vaccine (Menactra®) in females aged 11- 26 years. Poster presentation. Women's Health 2014: The 22nd Annual Congress. Washington, DC. April 4-5, 2014.
132. **Berenson AB**, Hirth JM, McGrath C, Rahman M. Geographic variation in provider recommendation and human papillomavirus uptake among 13-17 year old girls in the United States. Poster presentation. National Foundation of Infectious Disease Annual Conference on Vaccine Research. Bethesda, MD. April 28-30, 2014.
133. Leyser-Whalen O, **Berenson AB**. Latinas getting sterilized: Gendered negotiations with romantic partners. Poster presentation. American Sociologic Association. San Francisco, CA. August 16-19, 2014.

134. Hirth JM, Rahman M, Smith JS, **Berenson AB**. Regional variation in HPV vaccination among 9-17 year old adolescent females. Poster presentation. 29th International Papillomavirus Conference and Clinical Workshop. Seattle, WA. August 20-25, 2014.
135. **Berenson AB**, Laz T, Rahman M. Age at HPV vaccine initiation and completion among US adolescent girls: Trend from 2008 to 2012. Poster presentation. 29th International Papillomavirus Conference and Clinical Workshop. Seattle, WA. August 20-25, 2014.
136. **Berenson AB**, Tan A, Hirth JM. Comparison of complications and continuation rates of the levonorgestrel IUD with Implanon among privately insured women 14-44 years of age. Poster presentation. North American Forum on Family Planning. Miami, FL. October 12-13, 2014.
137. Hirth JM, Laz TH, Rahman M, **Berenson AB**. Role of race/ethnicity in the association between obesity and cancer screening among women. Poster presentation. Office of Research in Women's Health Annual BIRCWH/SCOR meeting. Bethesda, MD. November 2014.
138. McGrath CJ, Laz TH, Hirth JM, Laz TH, Rahman M, **Berenson AB**. Racial and ethnic differences in HPV prevalence and type distribution among women in the United States. Poster presentation. Office of Research in Women's Health Annual BIRCWH/SCOR meeting. Bethesda, MD. November 2014.
139. Guo F, Hirth JM, **Berenson AB**. Immunosuppression and cervical cancer screening among US adult women, NHIS 2013. Poster presentation. American Society of Preventive Oncology. Birmingham, AL. March 13-17, 2015.
140. Rahman M, Laz TH, **Berenson AB**. Racial disparity in receiving a physician recommendation for human papillomavirus vaccine among US adolescent girls: Trend from 2008 to 2012. Poster presentation. American Society of Preventive Oncology. Birmingham, AL. March 15-17, 2015.
141. *Guo F, Hirth JM, **Berenson AB**. Effects of cardiovascular disease on compliance with cervical and breast cancer screening recommendations among adult women, NHIS 2013. Poster presentation. American Society of Preventive Oncology. Birmingham, AL. March 15-17, 2015.
142. Hirth J, Lin YL, Kuo YF, **Berenson AB**. Receipt of cervical cancer screening in guideline compliant intervals after HPV vaccination among young women. Podium presentation. American Society of Preventive Oncology. Birmingham, AL. March 15-17, 2015.
143. **Berenson AB**, Rahman M, Hirth J, Rupp R, Sarpong K. A brief educational intervention increases providers' human papillomavirus vaccine knowledge. Poster presentation. American Society of Preventive Oncology. Birmingham, AL. March 15-17, 2015.
144. *Guo F, Hirth JM, **Berenson AB**. Comparison of HPV Prevalence between HPV vaccinated and nonvaccinated young adult women (20-26 years). Poster presentation. American Association of Cancer Research. Philadelphia, PA. April 18-22, 2015.
145. **Berenson AB**, Hirth JM, Laz TH, Rahman M, Sarpong K, Rupp R. Frequency and safety of Tdap vaccination during pregnancy. Podium presentation. National Foundation of Infectious Disease Annual Conference on Vaccine Research. Bethesda, MD. April 13-15, 2015.
146. *Gross TT, Laz T, Rahman M, **Berenson AB**. Gender in mother-child communication about sex: Examining the association with HPV vaccine uptake. Poster presentation. Society of Public Health Education 2015 Annual Meeting. Portland, OR. April 23-25, 2015.
147. **Berenson AB**, Rahman M, Rupp R, Sarpong K, Hirth JM. Postpartum vaccination against HPV among low-income women in Texas. Poster presentation. International Papillomavirus Conference. Lisbon, Portugal. September 17-21, 2015.
148. **Berenson AB**, Hirth JM, Laz TH, Rahman M, Sarpong K, Rupp R. Frequency and safety of Tdap vaccination during pregnancy; an update. Poster presentation. 8th Vaccine & ISV Annual Global Congress. Seoul, Korea. October 19-20, 2015.
149. *Guo F, Hirth JM, **Berenson AB**. Cervical cancer screening among women over 70 years of age in the US, NHIS 2013 – provider recommendation or patient choice? Podium presentation. American Public Health Association. Chicago, Ill. October 31–November 4, 2015.
150. Rahman M, Laz TH, **Berenson AB**. Correlates of human papillomavirus vaccine uptake among US adolescent males: National Immunization Survey-Teen, 2013. Innovations in Cancer Prevention Research Conference: Cancer Prevention Research Institute Texas (CPRIT). Austin, TX. November 9-10, 2015.

151. **Berenson AB**, Rahman M, Hirth JM, Rupp RE, Sarpong K. Initiation of a human papillomavirus vaccination program among young postpartum women. Poster presentation. Innovations in Cancer Prevention and Research Conference. Austin, TX. November 9-10, 2015.
152. Hirth JM, Lin YL, Kuo YF, **Berenson AB**. HPV vaccination among young women (19-26 years old) and guideline-adherent cervical cytology screening. Poster presentation. Innovations in Cancer Prevention and Research Conference. Austin, TX. November 9-10, 2015.
153. Hirth JM, Kuo YF, Laz TH, Rupp RE, Starkey JM, Rahman M, **Berenson AB**. Concordance between parent and provider report of HPV vaccination among 13-17 year olds participating in NIS-Teen, 2008-2013. Poster presentation. 40th Annual Meeting of the American Society of Prevention Oncology. Columbus, OH. March 12-15, 2016.
154. **Berenson AB**, Gross T, Rahman M, Wright A, Hirth JM, Sarpong KO, Rupp RE, Barrett A. Healthcare provider acceptance of a postpartum HPV vaccination program. Poster presentation. 40th Annual Conference of American Society of Preventive Oncology. Columbus, OH. Mar 12-15, 2016.
155. Hirth JM, Kuo YF, Laz TH, Rupp RE, Starkey JM, Rahman M, **Berenson AB**. Concordance between parent and provider report of HPV vaccination among 13-17 year olds participating in NIS-Teen, 2008-2013. Poster presentation. Clinical & Translational Research Forum. Galveston, TX. March 21, 2016.
156. Batuuka DN, Hirth JM, Gross TT, **Berenson AB**. Motivators and barriers to HPV vaccination in community college students. Poster presentation. Preventive Medicine and Community Health Public Health Symposium. Galveston, TX. April 7, 2016.
157. **Batuuka DN**, Hirth JM, Gross TT, **Berenson AB**. Motivators and Barriers to HPV vaccination in community college students. Poster presentation. National Medical Student Research Forum. Galveston, TX. April 27-28, 2016.
158. **Berenson AB**, Laz TH, Rahman M. ACIP's recommendation for human papillomavirus vaccination among US adolescent girls: Compliance and correlates. Poster presentation. 30th Annual Clinical and Research Meeting (ACRM) of North American Society for Pediatric and Adolescent Gynecology (NASPAG). Toronto, Canada. April 7-9, 2016.
159. **Berenson AB**, Rahman M, Sarpong K, Rupp R. Providers' attitudes towards introduction of human papillomavirus vaccination among eligible postpartum women. Poster presentation. 16th Annual Meeting of American Society for Colposcopy and Cervical Pathology. New Orleans, LA. April 13-16, 2016.
160. Hirth JM, Laz TH, Kuo YF, McGrath CJ, Starkey JM, Rupp RE, **Berenson AB**. Regional variations in vaginal HPV prevalence and vaccination among females across time in NHANES (2003-2012). Poster presentation. Women's Health 2016: The 24th Annual Congress. Washington DC. April 14-17, 2016.
161. Guo F, Hirth JM, **Berenson AB**. Time to switch to the 9-Valent human papillomavirus (HPV) vaccine in the United States. Poster presentation. National Foundation of Infectious Disease Annual Conference on Vaccine Research. Bethesda, MD. April 18-20, 2016.
162. Fuchs EL, **Berenson AB**. Self-reported gestational carrier screening practices in the United States. Poster presentation. Center for Interdisciplinary Research in Women's Health Poster Session. Galveston, TX. May 10, 2016.
163. Batuuka DN, Hirth JM, Gross TT, **Berenson AB**. Motivators and barriers to HPV vaccination in community college students. Poster presentation. Center for Interdisciplinary Research in Women's Health Research Symposium. Galveston, TX. May 11, 2016.
164. Hirth JM, Laz TH, Kuo YF, McGrath CJ, Starkey J, Rupp RE, **Berenson AB**. Regional variations in vaginal HPV prevalence and vaccination among females across time in NHANES (2003-2012). Poster presentation. Center for Interdisciplinary Research in Women's Health Research Symposium. Galveston, TX. May 11, 2016.
165. Hirth JM, Kuo YF, Laz TH, Rupp RE, Starkey JM, Rahman M, **Berenson AB**. Concordance between parent and provider report of HPV vaccination among 13-17 year olds participating in NIS-Teen, 2008-2013. Poster presentation. Center for Interdisciplinary Research in Women's Health Research Symposium. Galveston, TX. May 11, 2016.

166. Hirth JM, Kuo YF, Laz TH, Starkey JM, Rupp RE, Rahman M, **Berenson AB**. Evaluation of accuracy of parental HPV vaccine report compared to provider report using the NIS-Teen (2008-2013). Building Interdisciplinary Research in Women's Health (BIRCWH) Directors and Scholars Meeting. Poster presentation. Bethesda, MD. June 7, 2016.
167. *Fuchs EL, Rahman M, **Berenson AB**. Examining homogeneity in maternal beliefs and human papillomavirus vaccine uptake in male and female children in low-income families. Poster presentation. Epidemiology Congress of the Americas. Miami, FL. June 21-24, 2016.
168. *Fuchs EL, **Berenson AB**. Demographic and screening characteristics of gestational carriers and traditional surrogates in the United States. Annual Meeting of the Society for Pediatric and Perinatal Epidemiologic Research. Miami, FL. June 20-21, 2016.
169. Norton AR, Guo F, Fuchs EL, Hirth JM, **Berenson AB**. Provider-patient communication about Zika virus among pregnant women in the United States. Poster presentation. Medical Student Summer Research Symposium. Galveston, TX. June 22, 2016.
170. Batuuika DN, Hirth JM, Gross TT, **Berenson AB**. Motivators and barriers to HPV vaccination in community college students. Poster presentation. ACOG Annual District Meeting. The Woodlands, TX. September 23-23, 2016.
171. Guo F, Hirth JM, Lin YL, Richardson G, Levine L, **Berenson AB**, Kuo YF. Genetic counseling and BRCA mutation testing among adult women in the United States, 2004-2014. Poster presentation. The 144th APHA (American Public Health Association) Annual Meeting and Exposition. Denver, CO. October 29 - November 2, 2016.
172. *Guo F, Hirth JM, Lin YL, Richardson G, Levine L, **Berenson AB**, Kuo YF. Genetic counseling and BRCA testing among adult women in the United States, 2004-2014. Poster presentation. American Public Health Association. October 29 - November 2, 2016.
173. Hirth JM, McGrath C, Kuo YF, Rupp RE, Starkey JM, **Berenson AB**. Racial/ ethnic variations in HPV prevalence pre-vaccine and post-HPV vaccine licensure among 14-26 year old women in the U.S. Poster presentation. 31st Annual International Papillomavirus Conference - HPV 2017. Cape Town, South Africa. February 28-March 4, 2017.
174. **Berenson AB**, Hirth JM, Rupp RE, Sarpong KO. Postpartum HPV vaccination of young women delivering at a healthcare center in southeast Texas USA: A program assessment. Poster presentation. 31st Annual International Papillomavirus Conference – HPV 2017. Cape Town, South Africa. February 28-March 4, 2017.
175. *Cofie LE, Guo F, **Berenson AB**, Markides K. Examination of HPV vaccination uptake among foreign-born women using the U.S. National Health Interview Survey 2013-2015. Podium presentation. 41st Annual ASPO Conference (American Society of Preventive Oncology). Seattle, WA. March 11-14, 2017.
176. Guo F, *Cofie LE, **Berenson AB**. Decreasing trends in cervical cancer incidence among young women (15-34 years) in the United States during the human papillomavirus (HPV) vaccine era. Podium presentation (among top ranked 16). 41st Annual ASPO Conference (American Society of Preventive Oncology). Seattle, WA. March 11-14, 2017.
177. *Trinh HN, Hirth JM, Guo F, **Berenson AB**. Social engagement and cervical cancer screening adherence among older women. Podium presentation. Southwestern Social Science Association. Austin, TX. April 12-15, 2017.
178. **Berenson AB**, Hirth J, Rupp RE, Fuchs EL, Kuo YF. U.S. medical students' willingness to offer the HPV vaccine by vaccination status. Poster presentation. North American Society for Pediatric and Adolescent Gynecology (NASPAG) 31st Annual Clinical & Research Meeting. Chicago, IL. April 20-22, 2017.
179. *Trinh HN, Hirth JM, **Berenson AB**. Social relationships and allostatic load among older men and women. Poster presentation. Population Association of America Conference. Chicago, IL. April 27-29, 2017.
180. *Trinh HN, Hirth JM, Guo F, **Berenson AB**. Social relationships and breast and cervical cancer screening among older women. Poster presentation. Population Association of America Conference. Chicago, IL. April 27-29, 2017.

181. Trinh H, Hirth JM, **Berenson AB**. Social Relationships and cancer screening behavior among older women. Poster presentation. Population Association of America Conference. Chicago, IL. April 26-30, 2017.
182. Fuchs EL, **Berenson AB**. Outcomes for gestational carriers versus traditional surrogates in the United States. Poster presentation. 25th Anniversary Congress on Women's Health. Washington, DC. April 28-30, 2017.
183. *Brown VG, Hirth JM, **Berenson AB**. Maternal human papillomavirus knowledge and child vaccination uptake. Poster presentation. 25th Anniversary Congress on Women's Health. Washington, DC. April 28-30, 2017.
184. Matsushita L, Hirth JM, Cofie L, Brown VG, Rupp RE, Kuo YF, **Berenson AB**. Qualitative program evaluation: What practices and information promote pediatric HPV vaccination? Poster presentation. Medical Student Summer Research Program poster presentation. Galveston, TX. June 28, 2017.
185. *Trinh HN, *Cofie LE, Markides KS, **Berenson AB**. Comparison of the association between marital transition and biological risks by gender. Poster presentation. 21st IAGG World Congress of Gerontology and Geriatrics. San Francisco, CA. July 23-27, 2017.
186. *Trinh HN, *Cofie LE, **Berenson AB**, Markides KS. Transitions in marital relationship and allostatic load among older men and women. Poster presentation. American Sociological Association Conference. Montreal, QC, Canada. August 12-15, 2017.
187. Goshtasebi A, Subotic-Brajic T, Scholes D, Goldberg TB, **Berenson AB**, Prior JC. Adolescent use of combined hormonal contraceptives and peak areal bone mineral density accrual in prospective studies: A meta-analysis. Poster presentation. American Society for Bone and Mineral Research Annual Meeting 2017. Denver, CO. September 8-11, 2017.
188. Hirth JM, McGrath C, Kuo YF, Rupp RE, Starkey JM, **Berenson AB**. Impact of HPV vaccination on racial/ethnic disparities in vaccine type HPV prevalence in the U.S. Poster presentation. 2017 American College of Epidemiology Meeting. New Orleans, LA. September 23-26, 2017.
189. Fuchs EL, Starkey J, **Berenson AB**. Uptake of prenatal Tdap vaccination in low-income and multiparous women. Poster presentation. 2017 Building Interdisciplinary Research Careers in Women's Health (BIRCWH) Meeting. Bethesda, MD. October 25, 2017.
190. Guo F, Shih Y, Kuo YF, **Berenson AB**. Trends in breast cancer survival among young women 18-39 years: Effectiveness of cancer treatment, SEER 1973-2014. 2017 Building Interdisciplinary Research Careers in Women's Health (BIRCWH) Meeting. Bethesda, MD. October 25, 2017.
191. Fuchs EL, Starkey JM, **Berenson AB**. Prenatal vaccination of mothers and hepatitis B vaccination of their infants. Podium presentation. APHA 2017 Annual Meeting & Expo. Atlanta, GA. November 4-8, 2017.
192. *Cofie LE, Hirth JM, **Berenson AB**, Wong R. Chronic comorbidities and breast cancer screening among foreign-born women, National Health Interview Survey 2013 and 2015. Poster presentation. APHA 2017 Annual Meeting & Expo. Atlanta, GA. November 4-8, 2017.
193. Cofie LE, Hirth JM, Trinh H, **Berenson AB**. Role of chronic comorbidities and breast cancer screening and adherence among US-born and foreign-born women. Poster presentation. American Public Health Association Annual Meeting. Atlanta, GA. November 6-7, 2017.
194. *Cofie LE, Hirth JM, *Trinh HN, **Berenson AB**. Chronic comorbidities and cervical cancer screening and adherence among US-born and foreign-born women. Poster presentation. APHA 2017 Annual Meeting & Expo. Atlanta, GA. November 4-8, 2017.
195. Guo F, Kuo YF, **Berenson AB**. Breast cancer incidence by stage before and after screening interval change (year 2009): No adverse effect of prolonged interval. Poster presentation. APHA 2017 Annual Meeting & Expo. Atlanta GA. November 4-8, 2017.
196. **Matsushita L, Hirth JM, *Cofie L, *Brown V, Rupp RE, Kuo YF, **Berenson AB**. Qualitative program evaluation: What program practices and information promote pediatric HPV vaccination? Poster presentation. 2017 CPRIT Innovations in Cancer Prevention and Research Conference. Austin, TX. November 13-14, 2017.
197. **Dinehart E, Hirth JM, *Cofie L, *Brown V, Rupp RE, Kuo YF, **Berenson AB**. Implementation of a HPV vaccination program in UTMB pediatric clinics: What are patient navigator and provider perceptions of remaining barriers to vaccination and program benefits? Poster presentation. 2017

- CPRIT Innovations in Cancer Prevention and Research Conference. Austin, TX. November 13-14, 2017.
198. **Berenson AB**, Hirth JM, Rupp RE, Sarpong KO. Postpartum HPV vaccination of young women delivering at a healthcare center in Southeast Texas: A program assessment. Poster presentation. 2017 CPRIT Innovations in Cancer Prevention and Research Conference. Austin, TX. November 13-14, 2017.
 199. **Berenson AB**, Hirth JM, Fuchs EL, Rupp RE, Kuo YF. Medical student willingness to offer the HPV vaccine by vaccination status. Poster presentation. 2017 CPRIT Innovations in Cancer Prevention and Research Conference. Austin, TX. November 13-14, 2017.
 200. *Cofie, LE, Hirth JM, **Berenson AB**, Wong R. Colorectal screening among foreign-born older adults living in the US: Gender and racial differences. Poster presentation. 42nd Annual ASPO Conference. New York, NY. March 10-13, 2018.
 201. **Berenson AB**, Hirth JM, Rupp RE, Kuo YF. Examination of the effectiveness of a program to increase HPV vaccination among 9-17 year old children attending pediatric clinics in Southeast Texas. Poster presentation. 42nd Annual ASPO Conference. New York, NY. March 10-13, 2018.
 202. Guo FG, Hirth JM, Fuchs EL, *Cofie LE, *Brown V, Fernandez ME, **Berenson AB**. Knowledge, attitudes, willingness to pay, and patient preferences about genetic testing and subsequent risk management for cancer prevention among young Hispanic women. Poster presentation. 42nd Annual ASPO Conference. New York, NY. March 10-13, 2018.
 203. Hirth JM, *Cofie LE, Rupp RE, Kuo YF, **Berenson AB**. Reasons that mothers decline the HPV vaccine for their children: A qualitative study. Poster presentation. 42nd Annual ASPO Conference. New York, NY. March 10-13, 2018.
 204. *Brown VG, *Cofie LE, Hirth JM, **Berenson AB**. Examining Predictors of Diagnosed Malignant Neoplasms of the Female Genital Tract in Emergency Department Settings. Poster presentation. 42nd Annual ASPO Conference. New York, NY. March 10-13, 2018.
 205. **Berenson AB**, Hirth JM, Kuo YF, Rupp RE. Evaluation of a postpartum human papillomavirus vaccination program. Poster presentation. AACR Annual Meeting 2018. Chicago, IL. April 14-18, 2018.
 206. **Dinehart E, Hirth JM, *Cofie LE, Rupp RE, Kuo YF, **Berenson AB**. Implementation of a HPV vaccination program in University of Texas Medical Branch pediatric clinics: What are patient coordinator and provider perceptions of remaining barriers to vaccination and program benefits? Poster presentation. 2018 Annual Conference on Vaccinology Research (ACVR). Bethesda, MD. April 23-25, 2018.
 207. Fuchs EL, Starkey J, **Berenson AB**. Uptake of prenatal Tdap vaccination in low-income and multiparous women. Poster presentation. Center for Interdisciplinary Research in Women's Health Poster Session. Galveston, TX. May 23, 2018.
 208. Fuchs EL, **Berenson AB**. Outcomes for gestational carriers versus traditional surrogates in the United States. Poster presentation. Center for Interdisciplinary Research in Women's Health Poster Session. Galveston, TX. May 23, 2018.
 209. Fuchs EL, Hirth JM, Guo F, *Brown VG, *Cofie LE, **Berenson AB**. Influenza vaccination and infant vaccine education preferences by maternal demographic characteristics. Poster presentation. SPER's 31st Annual Meeting. Baltimore, MD. June 18-19, 2018.
 210. Fuchs EL, Hirth JM, Guo FG, *Brown VG, *Cofie LE, **Berenson AB**. Infant vaccination education preferences among low-income pregnant women. Poster presentation. Society for Epidemiologic Research Annual Meeting 2018. Baltimore, MD. June 19-22, 2018.
 211. Gallaga N, Fields A, **Berenson AB**, Rupp R, Kuo Y, Hirth J. Program evaluation of an HPV vaccination program: A qualitative analysis of accurate information retention and lingering misperceptions among patients. Poster presentation. Summer Research Programs 2018 Annual Poster Session. Galveston, TX, June 27, 2018.
 212. Fields AS, Gallaga N, Rupp RE, Kuo YF, **Berenson AB**, Hirth JM. Evaluation of an HPV vaccination program in the Golden Triangle UTMB Regional Maternal and Child Health Program Clinics: A qualitative assessment of provider and patient navigator perceptions of program barriers and facilitators. Poster presentation. Summer Research Programs 2018 Annual Poster Session. Galveston, TX. June 27, 2018.

213. *Brown VG, *Cofie LE, Hirth JM, Guo FG, Fuchs LE, **Berenson AB**. Examining STD/HIV partner notification preferences among women. Poster presentation. 2018 STD Prevention Conference. Washington, DC. August 27-30, 2018.
214. Hirth JM, Chang M, Fernandez ME, Healy CM, **Berenson AB**. Variations in reason for intentions not to vaccinate across time, NIS-Teen (2008-2016). Poster presentation. 2018 American College of Epidemiology Annual Meeting. Cincinnati OH. September 24-25, 2018.
215. **Berenson AB**, Chang M, Hirth JM, Fernandez M. Variations in prevalence of vaccine-type HPV by region and gender in the United States, 2007-2014. Poster presentation. IPVC 2018 32nd International Papillomavirus Conference. Sydney, Australia. October 2-6, 2018.
216. Guo FG, Kuo YF, **Berenson AB**. BRCA testing in unaffected young women. Poster presentation. APHA 2018 Annual Meeting and Expo. San Diego, CA. November 10-14, 2018.
217. Fuchs EL, Westra J, Guo F, Kuo YF, **Berenson AB**. Demographic predictors of prenatal vaccination in a nationwide sample. Poster presentation. APHA 2018 Annual Meeting and Expo. San Diego, CA. November 10-14, 2018.
218. *Cofie LE, Hirth JM, *Brown VG, Guo FG, Fuchs EL, **Berenson AB**. Perceived discrimination and depression among low-income US- and Foreign-born women seeking reproductive healthcare. Poster presentation. APHA 2018 Annual Meeting and Expo. San Diego, CA. November 10-14, 2018.
219. Guo F, Fuchs EL, **Berenson AB**, Kuo YF. BRCA testing and testing results among women 18-65 years old. Poster presentation. 2018 Annual BIRCWH Meeting. Bethesda, MD. November 28, 2018.
220. Guo F, **Berenson AB**, Kuo YF. Regional differences in BRCA testing in unaffected young women. Poster presentation. 11th AACR-JCA Joint Conference on Breakthroughs in Cancer Research: Biology to Precision Medicine. Maui, HI. February 8-12, 2019.
221. Hirth JM, Fuchs EK, Chang M, Fernandez ME, **Berenson AB**. Variations in reason for intentions not to vaccinate across time and by race/ethnicity, NIS-Teen (2008-2016). Poster presentation. 43rd Annual ASPO Conference. Tampa, FL. March 10-12, 2019.
222. Matsushita L, Hirth JM, *Cofie LE, *Brown VG, Rupp RE, Kuo YF, **Berenson AB**. Qualitative program evaluation: What program practices and information promote pediatric HPV vaccination? Online presentation <https://aspo.org/abstracts/abstract-details/?pdb=2430> . 43rd Annual ASPO Conference. Tampa, FL. March 10-12, 2019.
223. Guo FG, Fuchs EL, **Berenson AB**, Kuo YF. Racial/ethnic differences in BRCA testing and testing results among adult women. Poster presentation. AACR Annual Meeting 2019. Atlanta, GA. March 29-April 3, 2019.
224. Hirth JM, Gallaga N, Fields AS, Rupp RE, Kuo YF, **Berenson AB**. Program evaluation of an HPV vaccination program: A qualitative analysis of accurate information retention and lingering misperceptions among patients. Poster presentation. 2019 Annual Conference on Vaccinology Research. Baltimore, MD. April 3-5, 2019.
225. **Berenson AB**, Rupp RE, Kuo YF, Hirth JM. Successful implementation of a postpartum HPV vaccination program among low-income women in Texas. Online presentation. 2019 ASCCP Annual Scientific Meeting on Anogenital and HPV Related Diseases. Atlanta, GA. April 4-7, 2019.
226. Fuchs EL, Kuo YF, Rupp RE, Barrett ADT, **Berenson AB**. Predictors of up-to-date vaccination in the National Immunization Survey-Child. Podium presentation. 2019 SER 52nd Annual Meeting. Minneapolis, MN. June 18-21, 2019.
227. Guo FG, **Berenson AB**, Kuo YF. Racial/ethnic differences in ovarian cancer incidence and mortality among adult women in the United States, 2001-2016. Poster presentation. 12th AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved. San Francisco, CA. September 20-23, 2019.
228. Cofie, LE, Hirth JM, Brown VG, Fuchs EL, Guo F, **Berenson AB**. Chronic conditions associated with social support networks and foreign-birth status. Poster presentation. American Public Health Association's 2019 Annual Meeting and Expo. Philadelphia, PA. November 2-6, 2019.

229. Hirth JM, **Berenson AB**, Cofie LE, Matsushita L, Kuo YF, Rupp RE. Lessons learned from a HPV vaccine intervention project: Expanding into the community. Podium presentation. Vaccines R&D. Boston, MA. November 18-20, 2019.
230. Fuchs EL, Farroni JS, **Berenson AB**, Rupp RE. Exclusion from participation in vaccine clinical trials on reproductive characteristics. Poster presentation. National Institutes of Health - Building Interdisciplinary Research Careers in Women's Health (BIRCWH) Annual Meeting. Bethesda, MD. December 11, 2019.
231. **Berenson AB**, Hirth JM, Southerland J. Knowledge of human papillomavirus among dental providers: A mixed methods study. Accepted for poster presentation (meeting canceled due to COVID-19). IPVC 2019 33rd International Papillomavirus Conference. Barcelona, Spain. March 23-27, 2020.
232. **Berenson AB**, Hirth JM, Starkey JM, Kuo YF, Rupp RE. An examination of the effect of an intervention on human papillomavirus vaccination in 3 pediatric clinics over time. Poster presentation. ASCCP 2020 Annual Scientific Meeting on Anogenital and HPV-Related Diseases. Orlando, FL. March 31-April 3, 2020.
233. **Berenson AB**, Chang M, Hirth JM. Vaginal prevalence of human papillomavirus (HPV) by region and HPV vaccination status. Podium presentation. ASCCP 2020 Annual Scientific Meeting on Anogenital and HPV-Related Diseases. Orlando, FL. March 31-April 3, 2020.
234. Guo F, Fuchs EL, Wong R, Kuo YF, **Berenson AB**. BRCA testing results among women 65 years and older in the United States. Accepted for podium presentation (meeting canceled due to COVID-19). ISPOR (International Society for Pharmacoeconomics and Outcomes Research) 2020. Orlando, FL. May 16-20, 2020.
235. **Berenson AB**, Chang M, Hirth JM. Vaginal prevalence of human papillomavirus (HPV) by region and HPV vaccination status. Online presentation. IPVC 2019 33rd International Papillomavirus Conference (virtual). Barcelona, Spain. July 20-24, 2020.
236. Fuchs EL, **Berenson AB**. Demographic and socioeconomic predictors of vaccination in the National Immunization Survey-Child. Online presentation. 2020 CityMatCH Leadership and MCH Epidemiology Conference (virtual). September 16-18, 2020.
237. Fuchs EL, **Berenson AB**. Examining predictors of pregnancy-related complications among gestational carriers. Online presentation. American Society for Reproductive Medicine 2020 Scientific Congress & Expo (virtual). October 18, 2020.
238. Fuchs EL, **Berenson AB**. Associations between maternal characteristics and childhood influenza vaccination in the National Immunization Survey-Child. Online presentation. 2020 Annual BIRCWH Meeting - Building Interdisciplinary Research Careers in Women's Health (virtual). December 14, 2020.

INVITED LECTURES AT SYMPOSIA AND CONFERENCES:

1. Dysfunctional uterine bleeding in adolescents. North American Society of Pediatric and Adolescent Gynecology. September 30, 1988.
2. Medical liabilities of teen pregnancies. The obstetrical approach to teen pregnancies. Conference on Teenage Pregnancy. Longview, TX. September 15, 1989.
3. Vulvovaginal disorders in children. Cooke Society. Galveston, TX. October 6, 1989.
4. Dysfunctional uterine bleeding. Gynecology update: 1991 Centennial Postgraduate course. October 3, 1991.
5. Birth control in the teenage patient. Pelham P. Staples Educational Symposium. Fort Worth, TX. September 18, 1992.
6. Developmental changes in the hymen. Conference on Responding to Child Maltreatment. San Diego, CA. January 29, 1993.
7. Overview of pediatric gynecology. Ray A. Kroc Visiting Professorship. St. Louis University. February 15-19, 1993.
8. The genital exam in non-abused, prepubertal children. North American Society of Pediatric and Adolescent Gynecology. April 16-18, 1993.

9. Hymenal anatomy: normal variations. The 42nd Annual Pediatric Review and Update. June 17-19, 1993.
10. Menstrual irregularities in adolescents. The 28th Annual Family Practice Review. April 28, 1994.
11. Conference on Responding to Child Maltreatment. San Diego, CA. January 26-27, 1995.
 - Normal genitalia, birth to puberty
 - Doctrine and disagreement: Physical findings, prepubertal aged children (Panel discussion)
12. Contraception and the adolescent patient. American College of Obstetricians and Gynecologists. San Francisco, CA. May 6-10, 1995.
13. Appearance of the external genitalia in children. Sexual assault forensic examination (SAFE) training workshop. Columbia, MO. October 6, 1995.
 - Development of the hymen
 - Conditions which mimic sexual abuse
14. Examining children and adolescents. American College of Obstetricians and Gynecologists Annual Meeting. Denver, CO. April 29, 1996.
15. Moderator of scientific session. American College of Obstetricians and Gynecologists Annual Meeting. Denver, CO. April 29, 1996.
16. Pediatric Gynecology. American College of Obstetricians and Gynecologists Annual Meeting. Denver, CO. April 30, 1996.
17. Osler Institute Obstetrics and Gynecology Board Review Course. Dallas, TX. August 23, 1996.
 - Pediatric Gynecology
 - Sexual Assault
18. Dysfunctional uterine bleeding in adolescents. The 6th National Conference on Women's Health Care. Las Vegas, NV. September 17, 1996.
19. The 4th National Conference on Obstetrics & Gynecology - Issues in women's health in the '90s. St. Thomas, VI. November 20-23, 1996.
 - Vulvar Disorders in Children and Adolescents
 - The Adolescent Gynecologic Exam
 - Dysfunctional Uterine Bleeding in Adolescents
 - Identification/Management of Congenital Anomalies of the Vagina
20. Conference on responding to child maltreatment. San Diego, CA. January 27-31, 1997.
 - What to do about Controversial Findings in Sexual Abuse Cases (Panel Discussion)
 - Vulvar Conditions Which Mimic Sexual Assault (Workshop)
21. The pelvic exam in children and adolescents. (Luncheon Conference) Presented at the American College of Obstetricians and Gynecologists Annual Meeting. Las Vegas, NV. April 28, 1997.
22. Diagnosis and treatment of sexual assault in the pediatric patient. (Clinical Seminar) Presented at the American College of Obstetricians and Gynecologists Annual Meeting. Las Vegas, NV. April 28, 1997.
23. Domestic violence, sexual assault and drug dependency. (Director of 060 course) Presented at the American College of Obstetricians and Gynecologists Annual Meeting. Las Vegas, NV. April 29-30, 1997.
24. Pediatric and adolescent gynecology postgraduate course (Course Director). Presented at the Central Association of Obstetricians and Gynecologists. Scottsdale, AZ. October 30-November 1, 1997.
25. Moderator, poster session on contraception. Society of Adolescent Medicine Annual Meeting. Atlanta, GA. March 4-8, 1998.
26. Postgraduate course on adolescent gynecology (Course Director of 060 course). Presented at American College of Obstetricians and Gynecologists Annual Meeting. New Orleans, LA. May 12-13, 1998.
27. Sammelweis - Waters OB/GYN conference. Sponsored by New Jersey Medical School. March 28-30, 1998.
 - Gynecologic Evaluation of the Adolescent Patient
 - Dysfunctional Uterine Bleeding in Adolescents

- Evaluation of the Sexually Abused Child
28. Workshop on sexual abuse. (Chair) World Congress of Pediatric and Adolescent Gynecology. Helsinki, Finland. June 2, 1998.
 - Sexual Assault and the Adolescent Patient
 29. Psychosomatic problems (Luncheon Conference). World Congress of Pediatric and Adolescent Gynecology. Helsinki, Finland. June 2, 1998.
 30. Pediatric and adolescent gynecology (Course Director). Half-day symposium presented at the District VII Annual Meeting of the American College of Obstetricians and Gynecologists. Birmingham, AL. October 26, 1998.
 31. Gynecologic development of the pediatric patient. Presented at the Intensive Refresher Course in Obstetrics and Gynecology, sponsored by RUSH-Presbyterian-St. Luke's Medical Center. Houston, TX. April 29, 1999.
 32. Postgraduate course on adolescent gynecology (Director of 060 Course). Presented at the American College of Obstetricians & Gynecologists Annual Clinical Meeting. Philadelphia, PA. May 18-19, 1999.
 33. Risk taking, relationship to intimate partner violence, and sexual risk behaviors among adolescents. Presented at the National Conference on Violence and Reproductive Health sponsored by Centers for Disease Control and Prevention (CDC). Atlanta, GA. June 14, 1999.
 34. Evaluation and management of vaginal anomalies. Presented at the Seattle Gynecological Society. Seattle, WA. November 17, 1999.
 35. Date rape for teen health: Strengths, risks and strategies (CME course). Seattle, WA. November 18, 1999.
 36. A Comprehensive Update in Obstetrics and Gynecology. Sundance, UT. February 21-26, 2000.
 - Domestic Violence Against Women-The Gynecologist's Role
 - Dysfunctional Uterine Bleeding in Adolescence
 - Vulvar Disorders-A Common Complaint of Adolescents
 - Vaginal Anomalies-Early Recognition and Treatment
 37. Child sexual abuse. Presented at the Women's Health Research Exhibit on NIH funded projects. Washington, DC. April 4, 2000.
 38. The medical evaluation of the sexually abused child: An introduction. Presented at the Annual Clinical Meeting of Pediatric and Adolescent Gynecology. Atlanta, GA. April 15, 2000.
 39. The pelvic exam in children and adolescents. (Luncheon Conference) Presented at the American College of Obstetricians and Gynecologists Annual Meeting. San Francisco, CA. May 22, 2000.
 40. Common problems in pediatric and adolescent gynecology. (Luncheon conference) Presented at the American College of Obstetricians and Gynecologists Annual Meeting. San Francisco, CA. May 23, 2000.
 41. Postgraduate course on adolescent gynecology (Director of 060 Course). Presented at the American College of Obstetricians & Gynecologists Annual Clinical Meeting. San Francisco, CA. May 24, 2000.
 42. Fall Assembly of the Seattle Gynecologic Society. Seattle, WA. September 22-23, 2000.
 - Dysfunctional Uterine Bleeding
 - Sexual Assault in Adolescents
 43. Date Rape. Presented at the Mini-Medical School Program for Founder's Day. University of Texas Medical Branch. Galveston, TX. October 14, 2000.
 44. Anatomical changes associated with sexual assault. Presented at the Conference on Responding to Child Maltreatment. San Diego, CA. January 24, 2001.
 45. Ask the Expert. Conference on Responding to Child Maltreatment. San Diego, CA. Jan 24, 2001.
 46. Teleconference on the diagnosis of sexual abuse in prepubertal girls. Presented for the Child Advocacy Outreach Project. February 26, 2001.
 47. Postgraduate course (060) on adolescent gynecology. Presented at American College of Obstetricians and Gynecologists Annual Clinical Meeting. Chicago, IL. April 30-May 2, 2001.
 - Dysfunctional uterine bleeding
 - Sexual assault

- Controversies in contraception
48. Diagnosis of sexual abuse in the prepubertal child. (Clinical seminar). Presented at the American College of Obstetricians and Gynecologists Annual Clinical Meeting. Chicago, IL. April 30, 2001.
 49. Tips for performing a pelvic examination on pediatric and adolescent patients. (Luncheon conference). Presented at the American College of Obstetricians and Gynecologists Annual Clinical Meeting. Chicago, IL. May 1, 2001.
 50. A study of hymenal characteristics and measurements in abused and non-abused girls: New research including posterior hymen findings. Presented at San Diego Conference on Child and Family Maltreatment. San Diego, CA. January 25, 2002.
 51. Course director of freestanding postgraduate course, American College of Obstetricians and Gynecologists, "Adolescent Gynecology". Banff, Alberta, Canada. February 6-8, 2003.
 - Development of the female genitalia from birth to puberty
 - Contraception for adolescents
 - Acquaintance/date rape
 52. Controversies in hormonal contraceptive use during adolescence. Presented at the Texas Association of Obstetricians and Gynecologists Annual Meeting. Galveston, TX. April 3-5, 2003.
 53. Dysfunctional uterine bleeding. Presented at The American College of Obstetricians and Gynecologists Annual District meeting. Manhattan, NY. October 29, 2004.
 54. Treatment of dysfunctional uterine bleeding in adolescents. Presented at the 77th Annual Joint Meeting of ACOG Texas Section. San Antonio, TX. March 31, 2006.
 55. Pediatric vulvovaginitis. Presented at the Herman L. Gardner Memorial Lecture at the 18th Biennial Conference on Diseases of the Vulva and Vagina. Houston, TX. February 9, 2007.
 56. Talking to parents about the HPV vaccine. Presented at the 2013 Cervical Cancer Summit sponsored by UT MD Anderson Cancer Center. Houston, TX. January 29, 2013.
 57. The importance of provider recommendation in promoting HPV vaccination. Presented to the Jefferson County Medical Society. Beaumont, TX. June 23, 2016.
 58. Progress on childhood cancer research. Presented at the 2017 Cancer Prevention and Research Institute of Texas. Austin, TX. November 14, 2017.
 59. Increasing HPV vaccination through a pediatric and OBGYN collaboration. Presented at the 42nd Annual ASPO Conference. New York, NY. March 10-13, 2018.
 60. Prevention of HPV-associated cancers with vaccine: role for school nurses. Presented at the 16th Annual Conference 2018 Texas School Nurses Organization. Dallas, TX. November 11, 2018.
 61. Interventions to increase HPV vaccination in the United States. Presented at the PCS 4th Annual Global Obstetrics and Gynaecology Congress-2019. Prague, Czech Republic. June 22-23, 2019.
 62. Interventions to increase HPV vaccination in the United States. The McGanity Lecture. Presented at the 2019 ACOG Meeting of Combined Districts IV, VII, and XI Annual Meeting. New Orleans, LA. September 27-29, 2019.

INVITED LECTURES AT UNIVERSITIES AND MEDICAL CENTERS:

1. Overview of pediatric gynecology. The 24th Annual Family Practice Review. April 9-13, 1990.
2. Update on Mullerian anomalies. Presented at Grand Rounds, Case Western Reserve University. Cleveland, OH. April 19, 1995.
3. Visiting Professorship, Departments of Pediatrics and Ob/Gyn. Santa Clara Valley Medical Center. San Jose, CA. May 15, 1997.
 - Vulvar Disorders in Children
 - Abnormal Uterine Bleeding in Adolescents
 - Gynecologic Evaluation of the Pediatric Patient
4. Dysfunctional uterine bleeding. Presented at Grand Rounds, Yale University. New Haven, CT. May 20, 1999.
5. Dysfunctional uterine bleeding and the adolescent patient. Presented at Grand Rounds, University of Washington. Seattle, WA. November 17, 1999.
6. The David Feld Memorial Lecture, Wayne State University. June 12, 2001.

- Genital findings in abused vs. non-abused prepubertal females
7. Genital findings associated with sexual assault in children. Presented at Ground Rounds, St. Louis University. St. Louis, MO. August 2, 2001.
 8. Contraceptive use during adolescence. Presented at Grand Rounds, Cook Children's Medical Center. Fort Worth, TX. August 3, 2004.
 9. Dysfunctional uterine bleeding in adolescence. Presented at Grand Rounds for Obstetrics and Gynecology at Albert Einstein School of Medicine. March 8, 2005.
 10. Effects of depot medroxyprogesterone acetate on bone mineral density. Presented at Ob/Gyn Grand Rounds at Harvard Medical School. February 11, 2009.
 11. Effects of depot medroxyprogesterone acetate on weight and body composition. Presented at Ob/Gyn Grand Rounds at University of Texas Health Science Center. April 7, 2009.
 12. Effects of depot medroxyprogesterone acetate on weight and body composition. Presented at Ob/Gyn Grand Rounds at Medical University of South Carolina. January 31, 2012.
 13. Relationship of depo medroxyprogesterone acetate to bone mineral density in reproductive age women. Presented as seminar to Sociology Department at The University of Texas at Austin. March 19, 2012.
 14. A novel approach to increasing HPV vaccination rates. Presented at Grand Rounds for Department of Ob/Gyn at University of Texas Medical Branch. Galveston, TX. October 31, 2012.
 15. Vulvar disorders in children. Presented at Grand Rounds for Department of Obstetrics and Gynecology at UCLA Cedars Sinai. April 1, 2015.
 16. A multi-component approach to raising HPV vaccination rates among boys and girls seen in our Pediatric Clinics. Presented at Grand Rounds for Department of Pediatrics at University of Texas Medical Branch. Galveston, TX. August 14, 2015.
 17. Overcoming barriers to HPV vaccination. Presented at Grand Rounds for Department of Gynecology and Obstetrics at Emory University. Atlanta, GA. February 27, 2019.



Appointees to University Advisory Committee (UAC)

- Subhash C. Chauhan, Ph.D.
- Giulio F. Draetta, M.D., Ph.D.

Subhash C. Chauhan, Ph.D.

Professor and Chairman, Department of Immunology and Microbiology
Director, South Texas Centre of Excellence in Cancer Research
School of Medicine, University of Texas Rio Grande Valley (UTRGV), Edinburg, TX

PhD in Reproductive Endocrinology- 1997

Research Interests



Primary research interest of Dr. Chauhan's lab is to identify and characterize the diagnostic and therapeutic targets for cancer. This research is aimed for the identification and characterization of biomarkers that aberrantly express or localize in cancer cells to develop newer tools for early disease diagnosis. We are utilizing genomics and proteomics approach for identification of novel early diagnostic markers. Recently we have identified a novel trans-membrane mucin MUC13 which is highly over-expressed ovarian and pancreatic and colon cancers. This may be potential biomarker for early cancer diagnosis as well as a good target for antibody guided targeted therapy. Nonspecific distribution and suboptimal delivery of the anti-cancer drug(s) to the tumor cells are the major hindrances in the successful use of traditional chemotherapy. Dr. Chauhan's lab is developing novel targeted therapeutic modalities

for the treatment and diagnosis of cancers. Cancer tissues overexpress certain cancer associated antigens, and antibodies against these antigens will potentially recognize cancer cells. These antibodies can be used to deliver the *radionuclides and nanoparticles-encapsulated drugs* specifically to the tumors. My research group includes an outstanding team of basic scientists, physician scientists, clinicians and biostatisticians. Our teamwork has resulted in publication of high impact research articles and significant extramural funding (5 NIH RO1, 2 DOD and 1 Private Foundation, 1 Industry grants). Research work from our lab has been presented at National and International symposiums/conferences. I have been actively involved in the peer review process of manuscripts for numerous journals, NIH study sections, multiple external funding agencies, training of junior faculties and graduate students.

Most Recent Publications:

- 1: Kashyap VK, Dan N, Chauhan N, Wang Q, Setua S, Nagesh PKB, Malik S, Batra V, Yallapu MM, Miller DD, Li W, Hafeez BB, Jaggi M, Chauhan SC. VERU-111 suppresses tumor growth and metastatic phenotypes of cervical cancer cells through the activation of p53 signaling pathway. *Cancer Lett.* 2019 Dec 3. pii: S0304-3835(19)30590-7. doi: 10.1016/j.canlet.2019.11.035. [Epub ahead of print] PubMed PMID: 31809801.
- 2: Samanta K, Setua S, Kumari S, Jaggi M, Yallapu MM, Chauhan SC. Gemcitabine Combination Nano Therapies for Pancreatic Cancer. *Pharmaceutics.* 2019 Nov 4;11(11). pii: E574. doi: 10.3390/pharmaceutics11110574. Review. PubMed PMID:31689930.
- 3: Chauhan N, Maher DM, Hafeez BB, Mandil H, Singh MM, Yallapu MM, Jaggi M, Chauhan SC. Ormeloxifene nanotherapy for cervical cancer treatment. *Int J Nanomedicine.* 2019 Sep 3;14:7107-7121. doi: 10.2147/IJN.S200944. eCollection 2019. PubMed PMID: 31564868; PubMed Central PMCID: PMC6731961.
- 4: Nagesh PKB, Chowdhury P, Hatami E, Kumari S, Kashyap VK, Tripathi MK, Wagh S, Meibohm B, Chauhan SC, Jaggi M, Yallapu MM. Cross-Linked Polyphenol-Based Drug Nano-Self-Assemblies Engineered to Blockade Prostate Cancer Senescence. *ACS Appl Mater Interfaces.* 2019 Oct 23;11(42):38537-38554. doi: 10.1021/acsami.9b14738. Epub 2019 Oct 8. PubMed PMID: 31553876.
- 5: Chauhan N, Maher DM, Yallapu MM, B Hafeez B, Singh MM, Chauhan SC, Jaggi M. A triphenylethylene nonsteroidal SERM attenuates cervical cancer growth. *Sci Rep.* 2019 Jul 29;9(1):10917. doi: 10.1038/s41598-019-46680-0. PubMed PMID: 31358785; PubMed Central PMCID: PMC6662837.

- 6: Massey AE, Sikander M, Chauhan N, Kumari S, Setua S, Shetty AB, Mandil H, Kashyap VK, Khan S, Jaggi M, Yallapu MM, Hafeez BB, Chauhan SC. Next-generation paclitaxel-nanoparticle formulation for pancreatic cancer treatment. *Nanomedicine*. 2019 Aug;20:102027. doi: 10.1016/j.nano.2019.102027. Epub 2019 Jun 4. PubMed PMID: 31170509; PubMed Central PMCID: PMC6705422.
- 7: Khan S, Setua S, Kumari S, Dan N, Massey A, Hafeez BB, Yallapu MM, Stiles ZE, Alabkaa A, Yue J, Ganju A, Behrman S, Jaggi M, Chauhan SC. Superparamagnetic iron oxide nanoparticles of curcumin enhance gemcitabine therapeutic response in pancreatic cancer. *Biomaterials*. 2019 Jul;208:83-97. doi: 10.1016/j.biomaterials.2019.04.005. Epub 2019 Apr 8. PubMed PMID: 30999154.
- 8: Sikander M, Malik S, Chauhan N, Khan P, Kumari S, Kashyap VK, Khan S, Ganju A, Halaweish FT, Yallapu MM, Jaggi M, Chauhan SC. Cucurbitacin D Reprograms Glucose Metabolic Network in Prostate Cancer. *Cancers (Basel)*. 2019 Mar 14;11(3). pii: E364. doi: 10.3390/cancers11030364. PubMed PMID: 30875788; PubMed Central PMCID: PMC6469021.
- 9: Romero LO, Massey AE, Mata-Daboin AD, Sierra-Valdez FJ, Chauhan SC, Cordero-Morales JF, Vásquez V. Dietary fatty acids fine-tune Piezo1 mechanical response. *Nat Commun*. 2019 Mar 13;10(1):1200. doi: 10.1038/s41467-019-09055-7. PubMed PMID: 30867417; PubMed Central PMCID: PMC6416271.
- 10: Hatami E, Mu Y, Shields DN, Chauhan SC, Kumar S, Cory TJ, Yallapu MM. Mannose-decorated hybrid nanoparticles for enhanced macrophage targeting. *Biochem Biophys Rep*. 2019 Jan 25;17:197-207. doi: 10.1016/j.bbrep.2019.01.007. eCollection 2019 Mar. PubMed PMID: 30723809; PubMed Central PMCID: PMC6351286.
- 11: Kashyap VK, Wang Q, Setua S, Nagesh PKB, Chauhan N, Kumari S, Chowdhury P, Miller DD, Yallapu MM, Li W, Jaggi M, Hafeez BB, Chauhan SC. Therapeutic efficacy of a novel β III/ β IV-tubulin inhibitor (VERU-111) in pancreatic cancer. *J Exp Clin Cancer Res*. 2019 Jan 23;38(1):29. doi: 10.1186/s13046-018-1009-7. PubMed PMID:30674344; PubMed Central PMCID: PMC6343279.

Subhash C. Chauhan, PhD.

Dr. Chauhan is a tenured Professor and Chairman of the Immunology and Microbiology Department at the School of Medicine, University of Texas Rio Grande Valley (UTRGV), Edinburg, Texas. Dr. Chauhan is also a Founding Director of the South Texas Center of Excellence in Cancer Research (ST-CECR). Dr. Chauhan has received his PhD degree from Central Drug Research Institute (CDRI), Lucknow, India and completed postdoctoral training in cancer biology from University of Nebraska Medical Center (UNMC), Omaha, Nebraska. Dr. Chauhan joined first faculty position in 2006, at Cancer Biology Research Center, Sanford Research/USD, Sioux Falls, SD and later joined his current position in 2013. Dr. Chauhan published over 120 peer reviewed manuscripts and book chapters along with several patents related to drug delivery systems, nanoparticle formulations and antibodies. Primary research interest of Dr. Chauhan's lab is to identify and characterize diagnostic and therapeutic targets for cancer to develop newer tools for early disease diagnosis and next generation anti-cancer agents. Dr. Chauhan's work has resulted in publication of high impact research articles and attracted significant extramural funding from NIH, DOD, Private Foundations and drug Industry. Dr. Chauhan's research group includes a team of basic scientists, physician scientists, clinicians and biostatisticians. Dr Chauhan is actively involved in the peer review process of manuscripts for numerous journals, NIH study sections, multiple external funding agencies and training of junior faculties and graduate students.

CURRICULUM VITAE

SUBHASH C. CHAUHAN, PhD

Professor and Chairman (Tenured)

UT-STARs Fellow Awardee

Department of Microbiology and Immunology

Director, Institute of Cancer Immunotherapy

School of Medicine

University of Texas Rio Grande Valley (UTRGV)

Edinburg, Texas, 78504

Email: subhash.chauhan@utrgv.edu

Phone: 901-448-2175



EDUCATION:

Ph.D: (December, 1997) Major Reproductive Endocrinology

Title: “**Studies on cytological and molecular mechanism of an anti-implantation action of a triphenylethylene antiestrogen Centchroman in Rat**” from Central Drug Research Institute (CDRI), Lucknow 226 001, India.

M.S: (July, 1990) Zoology, with Honors from H.N.B. Garhwal University, Srinagar, Garhwal, India.

B.S: (July, 1987) Zoology, Botany and Chemistry from H.N.B. Garhwal University, Srinagar, Garhwal, India.

HONORS/AWARDS:

1. Qualified National Eligibility Test (NET) for Lecturer ship conducted by CSIR-UGC, New Delhi, India 1990.
2. Qualified NET for Junior Research Fellowship & Lecturer ship conducted by CSIR-UGC, New Delhi, India 1991.
3. Research Associate awarded by Indian Council of Medical Research (ICMR), 1997.
4. Research Associate awarded by Council for Scientific & Industrial Research (CSIR), 1998.
5. The Corner Stone Club award in System Service Excellence (2010)
6. Outstanding Mentored Academic Inductee 2013-2014 (UTHSC)
7. Outstanding Achievement Award (Society of America Asian Scientist in Cancer Research 2018, SAASCR, USA)
8. Shri R. J. Kinarivala Cancer Research Award 2018-2019 (The Gujarat Cancer & Research Institute and The Gujarat Cancer Society)
9. Mahatma Gandhi Samman, NRI Welfare Society of India, 2018
10. Hind Rattan Award, NRI Welfare Society of India, 2018-2019

SOCIETY MEMBERSHIPS:

1. American Association for Cancer Research (AACR)
2. American Association for Advancement of Science (AAAS)
3. Perinatal Research Society (PRS)
4. South Dakota Academy of Science (SDAS)

UNIVERSITY (AND COLLEGE) APPOINTMENTS:

06/1/19 to present: **Professor and Chairman (Tenured)**

Department of Microbiology and Immunology
Director, Institute of Cancer Immunotherapy
School of Medicine
University of Texas Rio Grande Valley (UTRGV)
Edinburg, Texas, 78504

PRACTICE/PROFESSIONAL EXPERIENCE:

06/17/13-05/31/19: Professor

Department of Pharmaceutical sciences
College of Pharmacy and Cancer Research Center
University of Tennessee Health Science Center (UTHSC)
Memphis, Tennessee, 38163

06/01/17-05/31/19: Director

Institute of Biomarkers and Molecular Therapeutics
University of Tennessee Health Science Center (UTHSC)
Memphis, Tennessee, 38163

8/01/10-06/17/13: Scientist, Cancer Biology Research Center

Sanford Research/USD
Associate Professor
Department of OB/GYN and Basic Biomedical Science Division
Sanford School of Medicine (SSM)
The University of South Dakota
Sioux Falls, South Dakota, 57103

12/01/05-07/30/10: Associate Scientist, Cancer Biology Research Center

Sanford Research/USD
Assistant Professor,
Department of OB/GYN and Basic Biomedical Science Division
Sanford School of Medicine (SSM)
The University of South Dakota
Sioux Falls, South Dakota, 57103

06/01/2004- 12/01/05: Research Associate

Department of Biochemistry and Molecular Biology,

University of Nebraska Medical Center (UNMC)
Omaha, Nebraska, 68191

06/01/2001- 05/30/2004: Post Doctoral Fellow

Department of Biochemistry and Molecular Biology,
University of Nebraska Medical Center (UNMC)
Omaha, Nebraska, 68191

06/02/1999 – 05/30/2001: Post Doctoral Research Associate

Department of OB /GYN
Medical College of Ohio (MCO)
Toledo, Ohio USA

1998 - 1999: **Scientific Officer (Electron Microscopy)**,

Department of Pathology, Sanjay Gandhi Post Graduate Institute of Medical Sciences
(SGPGIMS), Lucknow, India.

1997 -1998: Research Associate, Department of Endocrinology, SGPGIMS, Lucknow, India.

1995 –1997: Senior Research Fellow (SRF), Division of Endocrinology CDRI, Lucknow, India.

1992 –1995: Junior Research Fellow (JRF), Division of Endocrinology CDRI, Lucknow, India.

TEACHING EXPERIENCE:

DELIVERY AND BIOCOMPATIBILITY OF PROTEIN AND NUCLEIC ACID DRUGS
course (PHAC 911; 3 Credit Hrs) was directed and taught to the graduate students (#3
regular one temporary).

Involve in teaching of Foundation of Pharmacy Course (PHCY 115)

One 2 hrs lecture was given to P3 nuclear medicine students (college of pharmacy) (# 8).

Additionally, five graduate students are being directed for PhD degree.

Serving as a graduate student committee member for 7 students.

I am also involved in mentoring a junior faculty member and four postdocs. One other PhD
student is receiving input for his PhD as a committee member.

VISITING PROFESSORSHIPS AND INVITED LECTURES:

1. **Radioimmunotherapy of Cancer with Engineered Single Chain Antibodies:** The
University of North Texas Health Science Center, Fort Worth, Texas (March 2005).

2. **Current advances in ovarian cancer diagnosis and treatment:** (OB/GYN Grand round seminar schedule on February 13, 2009) at USD, Sioux Falls, SD.
3. **Radioimmunotherapy of Cancer with Engineered Single Chain Antibodies:** South Dakota Health Research Foundation (SDHRF), Sioux Falls, South Dakota (September, 2005).
4. **Multi-targeted Radioimmunotherapy for Ovarian Cancer:** Sioux Valley Hospital Tumor Conference, Sioux Falls, South Dakota (April, 2006).
5. **Antibody Guided Cancer Diagnosis and Treatment:** South Dakota State University (SDSU), Brookings, South Dakota (March 23, 2007).
6. **Cell Signaling Through Mucins in Cancer:** South Dakota Academy of Science Annual Conference, Brookings, South Dakota (April 13, 2007)
7. **Role of MUC13 Mucin in Cancer:** Sanford Health, Tumor Conference, Sioux Falls, SD, (May 2007)
8. **Magic Bullets for Cancer Treatment and Diagnosis:** Invited seminar at Industrial Toxicology Research Center (ITRC) Lucknow, India (December 2007)
9. **Mucins in Cancer Progression:** The National Academy of Science India invited seminar at Central Drug Research Institute Lucknow, India (January 2008)
10. **Invited for talk and chair session for First World Congress on Cancer 2009(WCC-2009) January 12-14, 2009, Kottayam, Kerala, India (declined because of time conflict)**
11. **Role of MUC13 mucin in pancreatic cancer diagnosis and pathogenesis** (Invited talk for 3rd International meeting Symposium on Translational Research: Cancer Cell Signaling and Therapy to be held from December 18 through 21, 2009 in Bhubneshawar (Orissa), India. *Organizing committee provided full funding for the hotel accommodation*).
12. **A Novel strategy for sensitizing cancer cells** (Invited talk for IBC's 21st Annual International Conference on Antibody Engineering, San Diego, December 5-9, 2010. *(Organizing committee is providing full funding for the talk)*).
13. **Role of MUC13 mucin in pancreatic cancer** (Invited talk for 2nd Annual Sanford Research/USD Symposium, May 11, 2011), Sioux Falls, SD.
14. **Emerging roles of MUC13 mucin in cancer progression, diagnosis and treatment** (Invited talk at Sanford Research/USD Faculty Seminar Series, Feb 18, 2011), Sioux Falls, SD.

15. **Emerging roles of Transmembrane mucin MUC13 in cancer** (Invited talk at Charles Drew University of Medicine and Science, July 18, 2011), Los Angeles, CA.
16. **Dr. Subhash Chauhan** presented an invited seminar entitled “Role of MUC13 mucin in pancreatic cancer” at Sanford School of Medicine, vermillion
17. **Dr. Subhash Chauhan** presented an invited seminar at PROMISE Lecture Series, Sanford Research/USD entitled “Nano-Radiopharmaceuticals for cancer treatment”
18. Dr. Subhash Chauhan was invited for talk entitled “*Clinico-pathological significance of MUC13 mucin in colon cancer*” and **chaired** a session at 4th International Symposium on Translational Cancer Research December 16-19, 2011, Udaipur, Rajasthan, India.
19. **Dr. Subhash Chauhan** presented an invited seminar at Georgia State University, entitled “Clinico-pathological significance of MUC13 expression in colon cancer” Atlanta, Georgia (2012).
20. **Dr. Subhash Chauhan** presented an invited seminar entitled “Antibody Guided Nano-radiopharmaceuticals for Pancreatic Cancer” at Sanford Research/USD and USD Symposium, Sioux Falls.
21. **Dr. Subhash Chauhan** presented an invited lecture entitled “*MUC13 Mucin in Cancer Progression, Diagnosis and Treatment*” at the Cancer Research Institute Himalayan Institute Hospital Trust, Dehradun, India (05/07/2012).
22. **Dr. Subhash Chauhan** presented an invited lecture entitled “*Role of MUC13 Mucin in Cancer*” at Dr. B.R. Ambedkar Research Centre for Biomedical Research (ACBR), University of Delhi (North Campus), Delhi – 110 007, India (05/14/2012).
23. Dr. Subhash Chauhan presented an invited talk entitled “*MUC13 Mucin in Cancer Progression, Diagnosis and Treatment*” at Sanford Research and SDSU Research Symposium 2012, Sioux Falls, SD.
24. **Dr. Subhash Chauhan** presented SDSU Life Sciences Program Invited Lecture entitled “*Clinical significance of transmembrane mucin MUC13 in Pancreatic Cancer*” at Department of Chemistry and Biochemistry, South Dakota State University, Brookings, South Dakota (09/07/2012).
25. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Significance of MUC13 Mucin in Pancreatic Cancer*” at College of Engineering and Architecture at North Dakota State University (NDSU), Fargo, North Dakota (09/26/2012).

26. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*MUC13 Mucin and Pancreatic Cancer*” at UND COBRE annual symposium, Grand Forks, North Dakota (10/17/2012).
27. **PI Meeting Presentation: Dr. Subhash Chauhan** presented a seminar entitled “Etiology of cervical cancer in Native American women” to other PI’s with funding from the NCI Center to Reduce Cancer Health Disparities (10/28/2012).
28. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Clinical significance of transmembrane mucin MUC13 in Pancreatic Cancer*” at College of Pharmaceuticals Sciences, University of Tennessee Health Science Center (UTHSC), Memphis, Tennessee (11/28/2012).
29. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Clinical significance of transmembrane mucin MUC13 in Pancreatic Cancer*” at Biology Department, Concordia College, Moorhead, MN (12/05/2012).
30. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Smoking, HPV infection and Cervical Cancer Health Disparity*” at 8th Annual Texas Conference on Health Disparities, Fort Worth, Texas (05/30-31/2013).
31. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Role of MUC13 Mucin in Pancreatic Cancer. Randolph Cancer Center, West Virginia University, Morgantown, WA*” (12/04/2013).
32. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Role of MUC13 Mucin in Pancreatic Cancer. Cancer Research Center, University of Tennessee Health Science Center, Memphis, TN*” (01/08/2014).
33. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Novel therapeutic strategies for pancreatic cancer treatment. Department of Pharmacology Tulane University School of Medicine, New Orleans, LA*” (01/10/2014).
34. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Diagnosis and treatment of Pancreatic Cancer. Kosten Foundation Focus Group, Memphis, TN*” (03/08/2014).
35. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Novel Diagnostic and Therapeutic Strategies for Pancreatic Cancer. Department of Physics, University of Memphis, Memphis, TN*” (03/26/2014).

36. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Novel approaches for cancer Diagnosis and Therapy. Sarasvati Dental College and Hospital, Lucknow, UP, India (07/07/2014).*”
37. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Novel approaches for cancer treatment. College of Dentistry, University of Tennessee Health Science Center, Memphis, TN (11/18/2014).*”
38. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Ormeloxifene Nanoparticle Formulation for Pancreatic Cancer. Biomaterial Day 2015, Vanderbilt University, Nashville, TN, (03/23/2014).*”
39. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Novel Therapeutic Strategies for Pancreatic Cancer. College of Pharmacy, University of Texas, Austin, Texas (04/16/2015).*”
40. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Development of New Therapeutic Approaches for Pancreatic Cancer. Department of NanoEngineering, University of California San Diego (UCSD), San Diego, CA (05/19/2015).*”
41. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Development of New Therapeutic Approaches for Pancreatic Cancer. Department of Pharmaceutical Sciences, College of Pharmacy, University of Nebraska Medical Center (UNMC), Omaha, NE (08/27/2015).*”
42. **Dr. Subhash Chauhan** presented Invited Grand Round Lecture entitled “**Development of New Therapeutic Approaches for Pancreatic Cancer**”. *Department of Endocrinology, University of Tennessee Health Science Center (UTHSC), Memphis, TN, USA, (10/8/2015)*
43. **Dr. Subhash Chauhan** presented Invited Lecture entitled “**Tumor Targeting Using Nanotechnology Approach**”. *Department of Pediatrics-Research, University of Texas MD Anderson Cancer Center, Houston, Texas, (11/03/2015)*
44. **Dr. Subhash Chauhan** presented Invited Lecture entitled “**Nanotechnology Approach for the Treatment of Pancreatic Cancer**”. *Ponce School of Medicine and Health Sciences, Ponce, Puerto Rico, (12/09/2015)*
45. **Dr. Subhash Chauhan** presented Invited Lecture entitled “**MUC13: A potential diagnostic and Therapeutic Target in Pancreatic Cancer**”. *Department of Pathology University of Tennessee Health Science Center (UTHSC), Memphis, TN, USA, (01/18/2016)*
46. **Dr. Subhash Chauhan** presented Invited Lecture entitled “**Role of MUC13 Mucin in Cancers**”. *Shri Ram Chandra University, Porur, Chennai, India (Feb 3, 2016)*

47. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*Newer Therapeutic Approaches for Pancreatic Cancer Treatment*”. *6th International Translational Cancer Research Conference 2016, Ahemdabad, Gujrat, India (Feb 4-8, 2016)*
48. **Dr. Subhash Chauhan** presented Invited **Plenary Lecture** entitled “*Newer Therapeutic Approaches for Pancreatic Cancer Treatment*” **1st International conference on Human implications of Biotechnology, Patna, Bihar, India (Feb 12-14).**
49. **Dr. Subhash Chauhan** presented Invited Lecture entitled “*MUC13 Interaction with Receptor Tyrosine Kinase HER2 Drives Pancreatic Ductal Adenocarcinoma Progression. Biomaterial Day 2016, University of Memphis, Memphis, TN, (03/18/2016).*
50. **Dr. Subhash Chauhan** presented Invited **Key Note Lecture** entitled “*Development of New Therapeutic Approaches for Pancreatic Cancer*” **9th World Drug Delivery Summit Pre-conference Workshop on Recent Advances in Drug Delivery Technology held at University of Tennessee Health Science Center (UTHSC), Memphis, TN, USA, (04/25/2016).**
51. **Dr. Subhash Chauhan** presented Invited **Plenary Lecture** entitled “*Newer Therapeutic Approaches for Pancreatic Cancer Treatment*” **1st International conference on Neutraceuticals and Chronic Diseases, Kachin, Kerala, India (Sep 8-11, 2016).**
52. **Dr. Subhash Chauhan** presented Invited **Plenary Lecture** entitled “*Newer Therapeutic Approaches for Pancreatic Cancer Treatment*” **1st International conference on 1st Photochemistry and Applications of Natural Products for Human Welfare, Saint Thomas College Thrissur, Kerala, India (Sep 7, 2016).**
53. **Dr. Subhash Chauhan** presented Invited **Plenary Lecture** entitled “*Therapeutic Approaches for Pancreatic Cancer Treatment*” **Center for Interdisciplinary Research In Basic Sciences, Jamia Melia Islamia University, New Delhi, India (Sep 16, 2016).**
54. **Dr. Subhash Chauhan** presented Invited **Lecture** entitled “*Comorbidity factors Associated with Human Papillomavirus Infectivity: Implications in Cervical Cancer Health Disparity*” **Ninth AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved, Fort Lauderdale, FL, September 25-28, 2016.**
55. **Dr. Subhash Chauhan** presented Invited **Lecture** entitled “*Development of New Therapeutic Approaches for Pancreatic Cancer Treatment*” **The State University of New York at Buffalo, Buffalo, NY, (October 20, 2016).**

56. **Dr. Subhash Chauhan** presented Invited **Lecture** entitled “*Development of New Therapeutic Approaches for Pancreatic Cancer Treatment*” Double Tree by Hilton, Murfreesboro, TN, The UT-CORNET Cancer Conference (November 9, 2016).
57. **Dr. Subhash Chauhan** presented Invited **Lecture** entitled “*Comorbidity factors Associated with Human Papillomavirus Infectivity: Implications in Cervical Cancer Health Disparity*” Spring 2017 Cancer Research Conference, The Freeman Auditorium, Hamilton Eye Institute, Memphis, TN.
58. **Dr. Subhash Chauhan** presented a **Plenary Lecture** entitled “**Targeting Pancreatic Tumor Microenvironment for Effective Pancreatic Cancer Treatment**” Trends in Biochemical and Biomedical Research: Advances and Challenges (TBBR-2018). Organized by: Department of Biochemistry, Institute of Science, **Banaras** Hindu University **Varanasi-221005, INDIA** February 13-15, 2018
59. **Dr. Subhash Chauhan** presented a **Key Note Lecture** entitled “**Targeting Pancreatic Tumor Microenvironment for Effective Pancreatic Cancer Treatment**” 3rd International conference on Nutraceuticals and Chronic Diseases, Rishikesh, Uttarakhand, India (Sep 14-16, 2018).
60. **Dr. Subhash Chauhan** presented a **Endocrine Grand Round Seminar** entitled “**Cancer of the Pancreas: Role of MUC13 Mucin and EGFRs Cross-talk**” at UTHSC, Memphis on August 30, 2018.
61. **Dr. Subhash Chauhan** presented a **Plenary Lecture** entitled “**Mechanisms of Social-Epigenomics in Cancer Health Disparity**” at 14th Annual Conference on Health Disparities: Social Epigenomics and Health Disparities held at UNT, Fort Worth, Texas on June 6-7, 2019.

EVENT ORGANIZATION:

1. **Dr. Subhash Chauhan** organized “**Luncheon**” in the honor of Pancreatic Cancer Patients Survivors and delivered a talk on pancreatic cancer at this event (09/14/2014).
2. **Dr. Subhash Chauhan** organized “**Purple Night**” in the honor of Pancreatic Cancer Patients Survivors and delivered a talk on pancreatic cancer at this event (09/12/2015).
3. **Dr. Subhash Chauhan** organized **9th World Drug Delivery Summit Pre-conference Workshop on Recent Advances in Drug Delivery Technology** held at *University of Tennessee Health Science Center (UTHSC), Memphis, TN, USA*, (04/25/2016)
4. **Dr. Subhash Chauhan** organized “**Purple Night**” in the honor of Pancreatic Cancer Patients Survivors and delivered a talk on pancreatic cancer at this event (November 2016).

5. **Dr. Subhash Chauhan** and his research group share the lab research with *Pancreatic Cancer patients and Kosten Foundation members, Memphis, TN, (Monthly)*
6. **Dr. Subhash Chauhan** participated as key organizer in **1st International conference on Nutraceuticals and Chronic Diseases, Kachin, Kerala, India (Sep 8-11, 2016).**
7. **Dr. Subhash Chauhan** organized “**Purple Night**” in the honor of Pancreatic Cancer Patients Survivors and delivered a talk on pancreatic cancer at this event (November 2017).
8. **Dr. Subhash Chauhan** participated as key organizer in **2nd International conference on Nutraceuticals and Chronic Diseases, Goa, Goa, India (Sep 1-3, 2017).**
9. **Dr. Subhash Chauhan** served as organizing President for **3rd International conference on Nutraceuticals and Chronic Diseases, Rishikesh, Uttarakhand, India (Sep 14-16, 2018).**
10. **Dr. Subhash Chauhan** organized “**Purple Night**” in the honor of Pancreatic Cancer Patients Survivors and delivered a talk on pancreatic cancer at this event (November 2018).

EDITORIAL APPOINTMENTS:

Associate Editor:

Journal of Nutrition Research

Member Editorial Board:

World Journal of Gastrointestinal Pathophysiology (2010-2015)

Pharmaceutica Analytica Acta (2010-2015)

Journal of Ovarian Research (JOR) (2011-2015)

Journal of Carcinogenesis and Mutagenesis (2013-present)

Journal of Cancer Research (2014- present)

Journal Reviewer:

1. Journal of Nuclear Medicine (JNM)

2. European Journal Nuclear Medicine and Molecular Imaging (EJNMMI)

3. Molecular Cancer Therapeutics (MCT)
4. Fertility Sterility
5. Cancer Chemotherapy and Pharmacology
6. Journal of Biomedical Nanotechnology
7. International Journal of Andrology
8. Molecular and Cellular Biochemistry
9. Future Oncology
10. Journal of Ovarian Research
11. Cancer Research
12. Public Health
13. Experimental and Molecular Pathology
14. Oncotarget
15. Oncogene

COMMITTEES AND OFFICES HELD:

1. OB/GYN CME Planning Task Force Committee (2008 to present)
2. Basic Biomedical Science Graduate Student Committee (2008 to present)
3. Health Affairs Informatics Committee, 2010
4. Member Sanford Health IRB (3) (2010-2013)
5. Member Sanford Research/USD EHS Committee (2010-2013)
6. College of Pharmacy Research Committee (2013-June 2019)
7. **Vice-chair** on College's Research and Graduate Education Committees (2014-June 2019)
8. College of Pharmacy Dean's advisory committee (2014-June 2018)
9. Member UTHSC outstanding mentor Academy
10. Member UTHSC Vice Chancellor Research Cabinet (2017-June 2019)
11. Chair UTHSC Vice Chancellor Basic Research Committee (2017-June 2019)

OTHER PROFESSIONAL AFFILIATIONS AND ACTIVITIES: (OPTIONAL)

RESIDENTS/FELLOWS/GRADUATE STUDENTS TRAINED:

Research Associates/Post-Doctoral Fellows

1. Larissa Back, RA (November 2005 to June 2006, admitted to Medical School)
2. Kelly Vannatta, RA (June 2006 to 2007, admitted to PA School)
3. Diane Maher, Post-Doctoral Fellow (September 2006 to June 2013)
4. Mara Ebeling, RA (August 2007-present)
5. Christina Stangel, RA (August 2007-present, admitted to Medical School)
6. **Dr. Murali Mohan Yallapu, Postdoctoral Fellow (October 2007 to 2015; now independent Faculty at UTHSC)**
7. Brij K. Gupta, PhD student (May 2008-2013) (Graduated in May 2013)
8. Neeraj Chauhan, PhD student (August 2010-present)
9. **Sheema Khan, PhD, Post-Doctoral Fellow (October 2011-2015 now Junior Faculty at UTHSC)**
10. Mohd. Sikander, PhD, Post-Doctoral Fellow (November 2011-present)
11. **Mohd. Saif Zaman, PhD, Post-Doctoral Fellow (July 2012-2015; Now lead Scientist in a Pharmaceutical Company)**
12. Vaibhav Gandhi, BTech, MTech, Graduate Student (2014-present)
13. Saini Setua, BTech, MTech, Graduate Student (2014-present)
14. Sonam Kumari, BTech, MTech, Graduate Student (2014-present)
15. Mariatou Sisay, BS, PharmD Student (2014-present)
16. **Bilal B. Hafeez, PhD, Junior Faculty (July 2015-present)**
17. Ninoy Dan, BTech, MTech, Graduate Student (2016-present)
18. Kyle Dexter, BS, Graduate Student (2016-present)
19. Andrew Messey, BS, Graduate Student (2016-present)
20. Poornima Shaji, BS, Masters Student (2020-present)

Medical Residents

1. Saleha Niaz, MD. Internal Medicine Resident (2006)
2. Valerie Schultz (Fourth year medical student) (2006)

3. Preetha Nair, MD. Internal Medicine Resident (2007)
4. Preethi Prakash MD. Internal Medicine Resident (2007)
5. Sana Ullah, MD. Internal Medicine Resident (2008)
6. Douglas Mitch, MD. (Fourth Year Medical Student)
7. Robert Buresh, MD. (Pathology Resident)
8. Rashmi Verma, MD. Internal Medicine Resident (September 2009)
9. Kabir Khan, MD. Internal Medicine Resident (September 2012)

Summer Students

1. Sarah Radel, BS (BRIN Summer student, 2006, working as RA at present)
2. Kristina Wattier, BS (BRIN Summer student, 2006, admitted to Medical School)
3. Jordan Nordquist (Summer Student, 2008, admitted to Medical School)
4. Mitchell Ray Dobberphul (Summer Student, 2008, admitted to Medical School)
5. Kathy (Summer Student, 2008, admitted to Medical School)
6. Amy (Summer Student, 2009)
7. Arunima Chandra (BRIN summer student 2009)
8. Mitchell Ray Dobberphul (Medical Research Forum Medical Student, 2009)
9. Jordan Nordquist (Scholarship Pathway Medical Student, 2009)
10. Amanda Schaefer (BRIN summer student 2011)
11. Emily Gaster (summer student 2011)
12. Hilary Newby (summer student 2012)
13. Amber Evenson (summer student 2012)
14. Nia Johnson (summer student 2014)

Resident and Intern (while in UTHSC)

Resident

14. Deepti Haskoppal

Interns/volunteers

15. Ankita Shah, BS
16. Bhavin Chauhan, BS
17. Swathi Balakrishna, MS
18. Sonam Kumari, MS (prospective PhD student)

Graduate committee member:

1. Na Lu Smith
2. Michelle Phillip
3. Dan K. Cheng
4. Sanam Sane
5. Joshua Hughes
6. Aditya Ganju
7. Qinghui Wang
8. Benjamin Patters
9. Sabina Ranjit
10. Kinsie Arnst

RESEARCH AND OTHER EXTERNAL SUPPORT:

University of Texas System-STARs Fellow (Chauhan-PI) 07-24-2019

Project Title: Cancer Research Capacity Building

UT System

To develop cancer research facility at UTRGV

Total award: 5 M

1R01CA204552-01 NIH/NCI (Chauhan-PI) 07/11/2016-05/31/2021

Project Title: MUC13 Mucin in Colorectal Cancer Health Disparity

NIH/NCI

To investigate role of MUC13 mucin in colorectal cancer health disparity and evaluate its diagnostic/prognostic potential.

Total award: 1.7 M

1R01CA210192-01 NIH/NCI (Chauhan-PI) 06/24/2016 – 05/31/2021

Project Title: Targeted Nanotherapy for Pancreatic Cancer

To evaluate efficacy of a targeted nanoparticle formulation for pancreatic cancer treatment alone and combination with Gemcitabine.

Total award: 1.7 M

1R01CA206069-01A1 NIH/NCI (Chauhan-PI) 06/24/2016 – 05/31/2021

Project Title: Development of a Targeted Nanotechnology Platform for Pancreatic Cancer

To develop a curcumin loaded magnetic nanoparticle formulation for altered tumor microenvironment and chemo-sensitization of pancreatic cancer.

Total award: 1.7 M

Pancreatic Cancer Treatment

Name of PI: Subhash Chauhan

Submission date: 02/01/2020

our Role: PI

Sponsor/Funding source: Kosten Foundation

Total award: \$60,000/year (This funding is initially for one year but likely to be continued for next five years).

Pancreatic Cancer Treatment

Name of PI: Manish Dixit

Funding date: 12/17/2019

Role: Lead Scientific Staff

Sponsor/Funding source: International Atomic

Energy, Vienna, Austria

Project Title: Zr-89 and Zr-89 Radiopharmaceuticals for pancreatic cancer

Total award: €16,000 (This funding is initially for two year but likely to be continued for next five years).

1U01CA162106-01A1 NIH/NCI

(PI: Chauhan, Jaggi, co-PI) 06/21/12 -

06/20/17

Project Title: Etiology of cervical cancer health disparity in American Indian women

To study the effects of smoking on HPV infection and cervical cancer progression in American Indian women.

Total award: 1.6 M

DOD PC130870

(Chauhan-PI)

09/21/2014-08/20/2017

Project Title: A Novel Therapeutic Modality for Advanced Stage Prostate Cancer Treatment

To investigate the ormeloxifene use in prostate cancer therapeutics.

Total award: 0.5 M

UT 14-0558

Kosten Foundation, Memphis(PI:

Chauhan)

03/01/14-02/28/17

Project Title: Pancreatic Cancer Research Support Funds

Total award:0.25 M

Brief Title

Aspects of MUC13 Mucin in Cancer (R01 CA142736-01A1

NCI/NIH)

Name of PI*: Subhash C. Chauhan

Sponsor/Funding source: NCI/NIH Award start and end dates: 07/01/10 - 06/30/14

Your Role (PI, Co-PI, Co-I): PI % effort on grant: 20%

Award amount for this academic year: \$200,000

Award amount to the

College: \$200,000

Total award: 1.1 M

Pancreatic Cancer Treatment

Name of PI: Subhash Chauhan

Submission date: 12/20/2013

Your Role: PI

Sponsor/Funding source: Kosten Foundation

Total award: \$10,000

Pancreatic Cancer Treatment

Name of PI: Subhash Chauhan

Submission date: 08/16/2014-08/15/2015

Your Role: PI

Sponsor/Funding source: Kosten Foundation

Total award: \$30,000/year (This funding is initially for one year but likely to be continued for next five years).

Pancreatic Cancer Treatment

Name of PI: Subhash Chauhan

Submission date: 02/01/2020

our Role: PI

Sponsor/Funding source: Kosten Foundation

Total award: \$60,000/year (This funding is initially for one year but likely to be continued for next five years).

1S10OD016226-01A1 Bernd Meibohm (PI) 4/2014-4/2015
Brief Title: Mass spectrometer for small molecule drug development
This shared instrumentation application is for an AB Sciex Triple Quad 4500 triple quadrupole mass spectrometer as replacement for an outdated shared liquid chromatography-mass spectrometry instrument.
Role: Co-investigator

PENDING SUPPORT:

COMPLETED RESEARCH SUPPORT/GRANTS (Total 9):

1P20RR024219-01A1 (Miskimins – PI; Chauhan – Project PI/Core D Co-Director) 55% effort
NIH/NCRR 05/01/10 – 04/30/15 Total - \$7,500,000 (Graduated from the project in 2013 upon receiving RO1 and UO1 NIH grants)

Center for Cancer Biology Research

Project Title: Antibody Guided Nano-Radiopharmaceuticals for Pancreatic Cancer

Our overall goal is to develop new strategies for treating pancreatic cancer (PanCa) by combining nanoparticle technology with targeted radioimmunotherapy (RIT). Aims: 1) To determine the loading and release characteristics of polylactide-co-glycolide nanoparticles (PLGA-NPs) laden with gemcitabine, paclitaxel, or cisplatin; and to investigate the effects of these particles on the growth of PanCa cell lines. 2) To conjugate PanCa-specific antibodies to drug loaded PLGA-NPs and evaluate the therapeutic efficacy of these formulations in PanCa cell lines and a mouse model. 3) To generate radiolabeled PanCa-specific antibodies conjugated to drug loaded PLGA-NPs and determine their biodistribution and therapeutic efficacy in a PanCa mouse model. This project will have a significant impact toward efforts to develop novel and targeted therapies for PanCa.

Overlap: None

3SB161 (PI: Lee; Project PI: Chauhan) 07/01/09 - 03/31/13

South Dakota State Legislature, Governor's 2010 Initiative

Translational Cancer Research Center-Impacting the Cancer Care of South Dakotans (Rural Underserved and Native Americans) Project Title: Profiling breast cancer markers in American Indian women

To investigate the expression pattern of some known breast cancer markers along with investigating differentially expressed genes in American Indian versus Caucasian women to determine why breast cancer is so aggressive and fatal in this population.

1R01CA142736-01A1 (PI: Chauhan) 07/01/10 - 06/30/14
NIH/NCI

KG100497 (PI: Miskimins) 05/01/10 – 04/30/13
Susan G. Komen for the Cure
Targeting Metabolic Processes in Breast Cancer Cells

The major goals of this grant are to determine how metformin kills breast cancer cells and to discover mechanisms to enhance death in resistant cancer cells in vitro and in vivo.

Role: Collaborator

37392 (PI: Chauhan) 08/01/10 - 07/31/12(no-cost extension)

Merck Pharmaceuticals

Association of Human Papillomavirus Infection with Prostate Cancer in American Indians

To determine if HPV infection status in the prostate cancer tissue of American Indian men and to examine its association with prostate cancer. Also to determine the incidence of HPV infection in this population and to improve general awareness of HPV and PSA screening.

PC073887 (PI: Chauhan) 04/01/08 - 03/31/11 (1 year No cost extension)

Department of Defense

PSMA targeted nano-radioimmunotherapy for prostate cancer

This project is aimed at improving efficacy of RIT for prostate cancer. In project we will combine nanotechnology, RIT for improving efficacy of PSMA based RIT.

PC073643 (PI: Jaggi) 04/01/08 - 03/31/11 (1 year No cost extension)

Department of Defense

Modulation of Beta-Catenin Activity with PKD1 in Prostate Cancer

In this project we propose to investigate how PKD1 modulate beta-catenin activity in prostate cancer cells.

Role: Collaborator

1P20 MD001631 (PI EXPORT Project - Chauhan) 07/01/07 - 06/30/08

NIH, NCMHD

Role of myotonic dystrophy protein kinase (DMPK) in cervical cancer in American Indian women

To determine the expression profile of DMPK in cervical cancer samples of American Indian women and to investigate DMPK function in cervical cancer.

408021 (PI – Chauhan) 04/01/06 - 03/31/07

Role of MUC13 in Ovarian Cancer Progression

To analyze the expression pattern of MUC13 in ovarian cancer samples.

P20 RR016479 (PI – Jaggi) 07/01/06 - 06/30/07

Effect of PKD1 and β -catenin interaction on proliferation of prostate cancer cells.

To determine the effect of PKD1 knock-down on β -catenin subcellular localization and Wnt signaling.

Role: Co-PI

BOOKS AND BOOK CHAPTERS:

1. **Chauhan SC.**, Jaggi M., Bell MC., Verma M. and Kumar D. Epidemiology of human papilloma virus (HPV) in cervical mucosa. "*Cancer Epidemiology*" Vol.1: 439-456. Humana Press, Editor(s): Dr. Mukesh Verma)
2. Maher DM., Bell MC., **Chauhan SC.** Control of Human Papillomavirus gene expression by transcription factors and the upstream regulatory region "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 119-142
3. Gunn A J., Howard T., Jaggi M. and **Chauhan SC.** Current imaging strategies in the diagnosis of ovarian cancer "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 47-64
4. Hughes JE., **Chauhan SC.** and Jaggi M. The Interplay between Cellular Adhesion Molecules and Cervical Cancer "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 93-108
5. Sundram V., **Chauhan SC.** Kumar D. and Jaggi M. Signaling pathways modulated by curcumin in cervical cancer "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 143-162
6. Yallapu MM., Jaggi M and **Chauhan SC.** Design of Nanoparticle Mediated Targeted Drug Delivery: Ovarian Cancer Perspective "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 209-244
7. Kumar D., Srivastava A., **Chauhan SC.** and Verma M. MicroRNAs in Gynecological. Cancers. "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 81-92
8. Verma M., **Chauhan SC.** and Kumar D. Environmental factors in gynecological cancers. "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell Research Signpost Publications, PP 109-118
9. **Chauhan SC.**, Kumar D, Bell MC, Verma M, and Jaggi M. Current Trends in Ovarian Cancer Diagnostics and Therapeutics. "*Current Advances in Gynecological Oncology*" **Editor(s):** Dr. Subhash C. Chauhan and Deepak Kumar, **Co-editors:** Meena Jaggi and Maria C. Bell. Research Signpost Publications, PP 1-28
10. Pluronic Nanotechnology for Overcoming Drug Resistance. Pallabita Chowdhury, Prashanth K.B. Nagesh, Santosh Kumar, Meena Jaggi, **Subhash C. Chauhan**, and Murali

M. Yallapu* In Bioactivity of engineered nanoparticles (Editors: Bing Yan, Hongyu Zhou, and Jorge Gardea-Torresdey), Publisher Springer, 2017.

11. Multifunctional magnetic nanoparticles for cancer treatment. Saini Setua, Meena Jaggi, Murali M. Yallapu*, **Subhash C. Chauhan*** in Nanotechnologies in Preventive and Regenerative Medicine (Editor: Vuk Uskokovic), Publisher Elsevier, 2017

Book(s) Edited

1. **Current Advances in Gynecological Oncology.** Editor(s): Dr. Subhash C. Chauhan and Deepak Kumar, Co-editor(s): Meena Jaggi and Maria C. Bell, Publisher: Research Signpost/Transworld Research Network

PEER-REVIEWED JOURNAL ARTICLES:

1. Shetty AB, Nagesh, PKB, Setua S, Hafeez BB, Jaggi M, Yallapu MM*, **Chauhan SC***. Novel paclitaxel nanoformulation impairs de novo lipid synthesis in pancreatic cancer cells and enhance gemcitabine efficacy, *ACS Omega*, 10.1021/acsomega.0c00793, April 10, 2020. (Cover Page)
2. Chauhan N, Kruse A, Newby H, Jaggi M, Yallapu MM*, **Chauhan SC***. Pluronic Polymer-Based Ormeloxifene Nanoformulations Induce Superior Anticancer Effects in Pancreatic Cancer Cells. *ACS Omega*. 2020 Jan 9;5(2):1147-1156. doi: 10.1021/acsomega.9b03382. eCollection 2020 Jan 21. PubMed PMID: 31984272; PubMed Central PMCID: PMC6977081. (Cover Page)
3. Nagesh PKB, Chowdhury P, Hatami E, Jain S, Dan N, Kashyap VK, **Chauhan SC**, Jaggi M, Yallapu MM. Tannic acid inhibits lipid metabolism and induce ROS in prostate cancer cells. *Scientific Reports*. 2020 Jan 22;10(1):980. doi: 10.1038/s41598-020-57932-9. PubMed PMID: 31969643; PubMed Central PMCID: PMC6976712.
4. Massey AE, Doxtater KA, Yallapu MM, **Chauhan SC***. Biophysical changes caused by altered MUC13 expression in pancreatic cancer cells. *Micron*. 2020 Mar;130:102822. doi: 10.1016/j.micron.2019.102822. Epub 2020 Jan 3. PubMed PMID: 31927412; PubMed Central PMCID: PMC7014956.
5. Sikander M, Malik S, Khan S, Kumari S, Chauhan N, Khan P, Halaweish FT, Chauhan B, Yallapu MM, Jaggi M*, **Chauhan SC***. Novel Mechanistic Insight into the Anticancer Activity of Cucurbitacin D against Pancreatic Cancer (Cuc D Attenuates Pancreatic Cancer). *Cells*. 2019 Dec 31;9(1). pii: E103. doi: 10.3390/cells9010103. PubMed PMID: 31906106; PubMed Central PMCID: PMC7017063.
6. Kumari S, Khan S, Sekhri R, Mandil H, Behrman S, Yallapu MM, **Chauhan SC***, Jaggi M*. Protein kinase D1 regulates metabolic switch in pancreatic cancer via modulation of mTORC1. *Br J Cancer*. 2020 Jan;122(1):121-131. doi: 10.1038/s41416-019-0629-9. Epub 2019 Dec 10. PubMed PMID: 31819177; PubMed Central PMCID: PMC6964700.
7. Kashyap VK, Dan N, Chauhan N, Wang Q, Setua S, Nagesh PKB, Malik S, Batra V, Yallapu MM, Miller DD, Li W, Hafeez BB, Jaggi M, **Chauhan SC***. VERU-111 suppresses tumor growth and metastatic phenotypes of cervical cancer cells through the activation of p53 signaling pathway. *Cancer Letters*. 2020 Feb 1;470:64-74. doi: 10.1016/j.canlet.2019.11.035. Epub 2019 Dec 3. PubMed PMID: 31809801.
8. Chauhan N, Maher DM, Hafeez BB, Mandil H, Singh MM, Yallapu MM, Jaggi M, **Chauhan SC**. Ormeloxifene nanotherapy for cervical cancer treatment. *Int J Nanomedicine*. 2019 Sep 3;14:7107-7121. doi: 10.2147/IJN.S200944. eCollection 2019. PubMed PMID: 31564868; PubMed Central PMCID: PMC6731961.
9. Nagesh PKB, Chowdhury P, Hatami E, Kumari S, Kashyap VK, Tripathi MK, Wagh S, Meibohm B, **Chauhan SC**, Jaggi M, **Yallapu MM***. Cross-Linked Polyphenol-Based Drug Nano-Self-Assemblies Engineered to Blockade Prostate Cancer Senescence. *ACS Appl Mater Interfaces*. 2019 Oct 23;11(42):38537-38554. doi: 10.1021/acsaami.9b14738. Epub 2019 Oct 8. PubMed PMID: 31553876.

10. Chauhan N, Maher DM, Yallapu MM, B Hafeez B, Singh MM, **Chauhan SC***, Jaggi M*. A triphenylethylene nonsteroidal SERM attenuates cervical cancer growth. *Scientific Report*. 2019 Jul 29;9(1):10917. doi: 10.1038/s41598-019-46680-0. PubMed PMID: 31358785; PubMed Central PMCID: PMC6662837.
11. Samanta K, Setua S, Kumari S, Jaggi M, Yallapu MM*, **Chauhan SC***. Gemcitabine Combination Nano Therapies for Pancreatic Cancer. *Pharmaceutics*. 2019 Nov 4;11(11). pii: E574. doi: 10.3390/pharmaceutics11110574. Review. PubMed PMID: 31689930; PubMed Central PMCID: PMC6920852.
12. Adhikari P, Nagesh PKB, Alharthi F, **Chauhan SC**, Jaggi M, Yallapu MM, Pradhan P. Optical detection of the structural properties of tumor tissue generated by xenografting of drug-sensitive and drug-resistant cancer cells using partial wave spectroscopy (PWS). *Biomed Opt Express*. 2019 Nov 21;10(12):6422-6431. doi:10.1364/BOE.10.006422. eCollection 2019 Dec 1. PubMed PMID: 31853408; PubMed Central PMCID: PMC6913405.
13. Massey AE, Sikander M, Chauhan N, Kumari S, Setua S, Shetty AB, Mandil H, Kashyap VK, Khan S, Jaggi M, Yallapu MM, Hafeez BB, Chauhan SC. Next-generation paclitaxel-nanoparticle formulation for pancreatic cancer treatment. *Nanomedicine*. 2019 Jun 4;102027. doi: 10.1016/j.nano.2019.102027. PMID: 31170509.
14. Khan S, Setua S, Kumari S, Dan N, Massey A, Hafeez BB, Yallapu MM, Stiles ZE, Alabkaa A, Yue J, Ganju A, Behrman S, Jaggi M, Chauhan SC. Superparamagnetic iron oxide nanoparticles of curcumin enhance gemcitabine therapeutic response in pancreatic cancer. *Biomaterials*. 2019 Jul;208:83-97. doi:10.1016/j.biomaterials.2019.04.005. Epub 2019 Apr 8. PubMed PMID: 30999154.
15. Sikander M, Malik S, Chauhan N, Khan P, Kumari S, Kashyap VK, Khan S, Ganju A, Halaweish FT, Yallapu MM, Jaggi M, Chauhan SC. Cucurbitacin D Reprograms Glucose Metabolic Network in Prostate **Cancer**. *Cancers (Basel)*. 2019 Mar 14;11(3). pii:E364. doi: 10.3390/cancers11030364. PubMed PMID: 30875788; PubMed Central PMCID: PMC6469021.
16. Romero LO, Massey AE, Mata-Daboín AD, Sierra-Valdez FJ, Chauhan SC, Cordero-Morales JF, Vásquez V. Dietary fatty acids fine-tune Piezo1 mechanical response. *Nature Communication*. 2019 Mar 13;10(1):1200. doi: 10.1038/s41467-019-09055-7. PubMed PMID: 30867417; PubMed Central PMCID: PMC6416271.
17. Chowdhury P, Nagesh PKB, Hatami E, Wagh S, Dan N, Tripathi MK, Khan S, Hafeez BB, Meibohm B, Chauhan SC, Jaggi M, Yallapu MM. Tannic acid-inspired paclitaxel nanoparticles for enhanced anticancer effects in breast cancer cells. *J Colloid Interface Sci*. 2019 Feb 1;535:133-148. doi: 10.1016/j.jcis.2018.09.072. Epub 2018 Sep 22. PubMed PMID: 30292104.
18. Tripathi MK, Zacheaus C, Doxtater K, Keramatnia F, Gao C, Yallapu MM, Jaggi M, Chauhan SC. Z Probe, An Efficient Tool for Characterizing Long Non-Coding RNA in FFPE Tissues. *Noncoding RNA*. 2018 Sep 5;4(3). pii: E20. doi:10.3390/ncrna4030020. PubMed PMID: 30189670; PubMed Central PMCID: PMC6162476.
19. Nagesh PKB, Chowdhury P, Hatami E, Boya VKN, Kashyap VK, Khan S, Hafeez BB, Chauhan SC, Jaggi M, Yallapu MM. miRNA-205 Nanoformulation Sensitizes Prostate Cancer Cells to Chemotherapy. *Cancers (Basel)*. 2018 Aug 25;10(9). pii: E289. doi: 10.3390/cancers10090289. PubMed PMID: 30149628; PubMed Central PMCID: PMC6162422.
20. Stiles ZE, Khan S, Patton KT, Jaggi M, Behrman SW, Chauhan SC. Transmembrane mucin MUC13 distinguishes intraductal papillary mucinous neoplasms from non-mucinous cysts and is associated with high-risk lesions. *HPB (Oxford)*. 2018 Aug 13. pii: S1365-182X(18)32694-7. doi: 10.1016/j.hpb.2018.07.009. [Epub ahead of print] PubMed PMID: 30115565.
21. Chowdhury P, Nagesh PKB, Khan S, Hafeez BB, Chauhan SC, Jaggi M, Yallapu MM. Development of polyvinylpyrrolidone/paclitaxel self-assemblies for breast cancer. *Acta Pharm Sin B*. 2018 Jul;8(4):602-

614. doi: 10.1016/j.apsb.2017.10.004. Epub 2017 Dec 10. PubMed PMID: 30109184; PubMed Central PMCID: PMC6090082.
22. Hatami E, Nagesh PKB, Chowdhury P, Chauhan SC, Jaggi M, Samarasinghe AE, Yallapu MM. Tannic Acid-Lung Fluid Assemblies Promote Interaction and Delivery of Drugs to Lung Cancer Cells. *Pharmaceutics*. 2018 Aug 1;10(3). pii: E111. doi: 10.3390/pharmaceutics10030111. PubMed PMID: 30071698; PubMed Central PMCID: PMC6161105.
23. Almadadi HM, Nagesh PKB, Sahay P, Bhandari S, Eckstein EC, Jaggi M, Chauhan SC, Yallapu MM, Pradhan P. Optical study of chemotherapy efficiency in cancer treatment via intracellular structural disorder analysis using partial wave spectroscopy. *J Biophotonics*. 2018 Dec;11(12):e201800056. doi: 10.1002/jbio.201800056. Epub 2018 Sep 26. PubMed PMID: 29869394.
24. Tripathi MK, Doxtater K, Keramatnia F, Zacheaus C, Yallapu MM, Jaggi M, Chauhan SC. Role of lncRNAs in ovarian cancer: defining new biomarkers for therapeutic purposes. *Drug Discov Today*. 2018 Apr 23. pii: S1359-6446(18)30071-0. doi: 10.1016/j.drudis.2018.04.010. [Epub ahead of print] Review. PubMed PMID: 29698834.
25. Dan N, Setua S, Kashyap VK, Khan S, Jaggi M, Yallapu MM, Chauhan SC. Antibody-Drug Conjugates for Cancer Therapy: Chemistry to Clinical Implications. *Pharmaceutics* (Basel). 2018 Apr 9;11(2). pii: E32. doi: 10.3390/ph11020032. Review. PubMed PMID: 29642542.
26. Nagesh PKB, Hatami E, Chowdhury P, Kashyap VK, Khan S, Hafeez BB, Chauhan SC, Jaggi M, Yallapu MM. Tannic Acid Induces Endoplasmic Reticulum Stress-Mediated Apoptosis in Prostate Cancer. *Cancers* (Basel). 2018 Mar 7;10(3). pii: E68. doi: 10.3390/cancers10030068. PubMed PMID: 29518944; PubMed Central PMCID: PMC5876643.
27. Awasthee N, Rai V, Chava S, Nallasamy P, Kunnumakkara AB, Bishayee A, Chauhan SC, Challagundla KB, Gupta SC. Targeting IkappaB kinases for cancer therapy. *Semin Cancer Biol*. 2018 Feb 24. pii: S1044-579X(17)30046-9. doi: 10.1016/j.semcancer.2018.02.007. [Epub ahead of print] Review. PubMed PMID: 29486318.
28. Kumari S, Khan S, Gupta SC, Kashyap VK, Yallapu MM, Chauhan SC, Jaggi M. MUC13 contributes to rewiring of glucose metabolism in pancreatic cancer. *Oncogenesis*. 2018 Feb 22;7(2):19. doi: 10.1038/s41389-018-0031-0. PubMed PMID: 29467405; PubMed Central PMCID: PMC5833644.
29. Ganju A, Chauhan SC, Hafeez BB, Doxtater K, Tripathi MK, Zafar N, Yallapu MM, Kumar R, Jaggi M. Protein kinase D1 regulates subcellular localisation and metastatic function of metastasis-associated protein 1. *Br J Cancer*. 2018 Feb 20;118(4):587-599. doi: 10.1038/bjc.2017.431. Epub 2018 Feb 20. PubMed PMID: 29465084; PubMed Central PMCID: PMC5830591.
30. Khan S, Zafar N, Khan SS, Setua S, Behrman SW, Stiles ZE, Yallapu MM, Sahay P, Ghimire H, Ise T, Nagata S, Wang L, Wan JY, Pradhan P, Jaggi M, Chauhan SC. Clinical significance of MUC13 in pancreatic ductal adenocarcinoma. *HPB (Oxford)*. 2018 Jan 15. pii: S1365-182X(17)31184-X. doi: 10.1016/j.hpb.2017.12.003. [Epub ahead of print] PubMed PMID: 29352660.
31. Sahay P, Ganju A, Almadadi HM, Ghimire HM, Yallapu MM, Skalli O, Jaggi M, Chauhan SC, Pradhan P. Quantification of photonic localization properties of targeted nuclear mass density variations: Application in cancer-stage detection. *J Biophotonics*. 2017 Dec 9. doi: 10.1002/jbio.201700257. [Epub ahead of print] PubMed PMID: 29222925.
32. Setua S, Khan S, Doxtater K, Yallapu MM, Jaggi M, Chauhan SC. miR-145: Revival of a Dragon in Pancreatic Cancer. *J Nat Sci*. 2017 Mar;3(3). pii: e332. PubMed PMID: 28616589; PubMed Central PMCID: PMC5467535.
33. Hafeez BB, Ganju A, Sikander M, Kashyap VK, Hafeez ZB, Chauhan N, Malik S, Massey AE, Tripathi MK, Halaweish FT, Zafar N, Singh MM, Yallapu MM, Chauhan SC, Jaggi M. Ormeloxifene Suppresses Prostate Tumor Growth and Metastatic Phenotypes via Inhibition of Oncogenic β -catenin Signaling and

- EMT Progression. *Mol Cancer Ther*. 2017 Oct;16(10):2267-2280. doi: 10.1158/1535-7163.MCT-17-0157. Epub 2017 Jun 14. PubMed PMID: 28615299; PubMed Central PMCID: PMC5774234.
34. Chowdhury P, Roberts AM, Khan S, Hafeez BB, Chauhan SC, Jaggi M, Yallapu MM. Magnetic nanoformulations for prostate cancer. *Drug Discov Today*. 2017 Aug;22(8):1233-1241. doi: 10.1016/j.drudis.2017.04.018. Epub 2017 May 16. Review. PubMed PMID: 28526660; PubMed Central PMCID: PMC5565688.
 35. Karuri AR, Kashyap VK, Yallapu MM, Zafar N, Kedia SK, Jaggi M, Chauhan SC. Disparity in rates of HPV infection and cervical cancer in underserved US populations. *Front Biosci* (Schol Ed). 2017 Jun 1;9:254-269. Review. PubMed PMID: 28410118.
 36. Boya VN, Lovett R, Setua S, Gandhi V, Nagesh PK, Khan S, Jaggi M, Yallapu MM*, **Chauhan SC***. Probing mucin interaction behavior of magnetic nanoparticles. *J Colloid Interface Sci*. 488:258-268, 2017.
 37. Ganju A, Khan S, Hafeez BB, Behrman SW, Yallapu MM*, **Chauhan SC***, Jaggi M*. miRNA nanotherapeutics for cancer. *Drug Discov Today*. 22(2):424-432, 2017.
 38. Karuri AR, Kashyap VK, Yallapu MM, Zafar N, Kedia SK, Jaggi M, **Chauhan SC***. Disparity in rates of HPV infection and cervical cancer in underserved US populations. *Front Biosci* (Schol Ed). 2017 Jun 1;9:254-269.
 39. Sikander M, Hafeez BB, Malik S, Alsayari A, Halaweish FT, Yallapu MM, **Chauhan SC***, Jaggi M. Cucurbitacin D exhibits potent anti-cancer activity in cervical cancer. *Sci Rep*. 8;6:36594, 2017.
 40. Setua S, Khan S, Yallapu MM, Behrman SW, Sikander M, Khan SS, Jaggi M, **Chauhan SC**. Restitution of Tumor Suppressor MicroRNA-145 Using Magnetic Nanoformulation for Pancreatic Cancer Therapy. *J Gastrointest Surg*. 21(1):94-105, 2017.
 41. Khan S, Sikander M, Ebeling MC, Ganju A, Kumari S, Yallapu MM, Hafeez BB, Ise T, Nagata S, Zafar N, Behrman SW, Wan JY, Ghimire HM, Sahay P, Pradhan P, **Chauhan SC***, Jaggi M*. MUC13 interaction with receptor tyrosine kinase HER2 drives pancreatic ductal adenocarcinoma progression. *Oncogene* (Nature Publishing Group). 36(4):491-500, 2017.
 42. Saini Setua, Sheema Khan, Kyle Doxtater, Murali M. Yallapu, Meena Jaggi, and **Subhash C. Chauhan**. miR-145: Revival of a Dragon in Pancreatic Cancer. *Journal of Nature and Science (JNSCI)*, 3(3):e332, 2017
 43. Setua S, Khan S, Yallapu MM, Behrman SW, Sikander M, Khan SS, Jaggi M, **Chauhan SC**. Restitution of Tumor Suppressor MicroRNA-145 Using Magnetic Nanoformulation for Pancreatic Cancer Therapy. *J Gastrointest Surg*. 2016 Aug 9. [Epub ahead of print] PubMed PMID: 27507554.
 44. Khan S, Sikander M, Ebeling MC, Ganju A, Kumari S, Yallapu MM, Hafeez BB, Ise T, Nagata S, Zafar N, Behrman SW, Wan JY, Ghimire HM, Sahay P, Pradhan P, **Chauhan SC**, Jaggi M. MUC13 interaction with receptor tyrosine kinase HER2 drives pancreatic ductal adenocarcinoma progression. *Oncogene*. 2016 Jun 20. doi:10.1038/onc.2016.218. [Epub ahead of print] PubMed PMID: 27321183
 45. Nagesh PK, Johnson NR, Boya VK, Chowdhury P, Othman SF, Khalilzad-Sharghi V, Hafeez BB, Ganju A, Khan S, Behrman SW, Zafar N, **Chauhan SC**, Jaggi M, Yallapu MM. PSMA targeted docetaxel-loaded superparamagnetic iron oxide nanoparticles for prostate cancer. *Colloids Surf B Biointerfaces*. 2016 Mar 26;144:8-20. doi: 10.1016/j.colsurfb.2016.03.071. [Epub ahead of print] PubMed PMID: 27058278.
 46. Zaman MS, Chauhan N, Yallapu MM, Gara RK, Maher DM, Kumari S, Sikander M, Khan S, Zafar N, Jaggi M, **Chauhan SC**. Curcumin Nanoformulation for Cervical Cancer Treatment. *Sci Rep*. 2016 Feb 3;6:20051. doi: 10.1038/srep20051. PubMed PMID: 26837852; PubMed Central PMCID: PMC4738284.
 47. Khan S, Jaggi M, **Chauhan SC**. Revisiting stroma in pancreatic cancer. *Oncoscience*. 2015 Aug 21;2(10):819-20. *eCollection* 2015. PubMed PMID: 26682261; PubMed Central PMCID: PMC4671936.
 48. Yallapu MM, Nagesh PK, Jaggi M, **Chauhan SC**. Therapeutic Applications of Curcumin Nanoformulations. *AAPS J*. 2015 Nov;17(6):1341-56. doi: 10.1208/s12248-015-9811-z. Epub 2015 Sep 3. PubMed PMID: 26335307; PubMed Central PMCID: PMC4627456.
 49. Khan S, Ebeling MC, Chauhan N, Thompson PA, Gara R, Ganju A, Yallapu MM, Behrman SW, Zhao H, Zafar N, Singh MM, Jaggi M, **Chauhan SC***, Ormeloxifene Suppresses Desmoplasia and Enhances Sensitivity of Gemcitabine in Pancreatic Cancer. *Can Res*, 2015, 1:75(11):2292-304. PMID: 25840985.

50. Yallapu MM, Nagesh PK, Jaggi M, Chauhan SC. Therapeutic Applications of Curcumin Nanoformulations. *AAPS J.* 2015 Sep 3. [Epub ahead of print] PubMed PMID:26335307
51. El-Senduny FF, Badria FA, El-Waseef AM, Chauhan SC, Halaweish F. Approach for chemosensitization of cisplatin-resistant ovarian cancer by cucurbitacin B. *Tumour Biol.* 2015 Aug 5. [Epub ahead of print] PubMed PMID: 26242260
52. Khan S, Chauhan N, Yallapu MM, Ebeling MC, Balakrishna S, Ellis RT, Thompson PA, Balabathula P, Behrman SW, Zafar N, Singh MM, Halaweish FT, Jaggi M, **Chauhan SC***, Nanoparticle formulation of ormeloxifene for pancreatic cancer. *Biomaterials*, 2015, 53:731-743
53. Yallapu MM, Chauhan N, Othman SF, Khalilzad-Sharghi V, Ebeling MC, Khan S, Jaggi M, **Chauhan SC***. Implications of protein corona on physico-chemical and biological properties of magnetic nanoparticles. *Biomaterials*. 2015, 46:1-12. PubMed PMID: 25678111.
54. Khan S., Ebeling MC., Zaman MS., Sikander M., Yallapu MM., Chauhan N., Yacoubian AM., Behrman SW., Zafar N., Kumar D., Thompson PA., Jaggi M. and **Chauhan SC**. MicroRNA-145 targets MUC13 and suppresses growth and invasion of pancreatic cancer. *Oncotarget*. 5(17):7599-7609
55. Maher DM, Khan S, Nordquist J, Ebeling MC, Bauer NA, Kopel L, Singh MM, Halaweish F, Bell MC, Jaggi M, Chauhan SC. Ormeloxifene efficiently inhibits ovarian cancer growth. *Cancer Letters*. 2014 Oct 9. pii: S0304-3835(14)00597-7. doi: 10.1016/j.canlet.2014.10.009. [Epub ahead of print] PubMed PMID: 25306892.
56. Ganju A, Yallapu MM., Khan S, Behrman SW., **Chauhan SC** and Jaggi M. Nanoways to Overcome Docetaxel Resistance in Prostate Cancer, *Drug Resistance Updates* (Impact factor 11), 2014 Apr;17(1-2):13-23. doi: 10.1016/j.drup.2014.04.001. Epub 2014 Apr 5. PMID: 24853766
57. Gara RK, Kumari S, Ganju A, Yallapu MM, Jaggi M, **Chauhan SC***. Slit/Robo pathway: a promising therapeutic target for cancer. *Drug Discov Today*. 2014 Sep 19. pii: S1359-6446(14)00357-2. doi: 10.1016/j.drudis.2014.09.008. [Epub ahead of print] Review. PubMed PMID: 25245168.
58. Sundram V, Ganju A, Hughes JE, Khan S, **Chauhan SC**, Jaggi M. Protein kinase D1 attenuates tumorigenesis in colon cancer by modulating β -catenin/T cell factor activity. *Oncotarget*. 2014;5(16):6867-84. PubMed PMID: 25149539.
59. Yallapu MM, Katti KS, Katti DR, Mishra SR, Khan S, Jaggi M, **Chauhan SC***. The Roles of Cellular Nanomechanics in Cancer. *Med Res Rev*. 2014. doi:10.1002/med.21329. [Epub ahead of print] PubMed PMID: 25137233.
60. Yallapu MM, Khan S, Maher DM, Ebeling MC, Sundram V, Chauhan N, Ganju A, Balakrishna S, Gupta BK, Zafar N, Jaggi M, **Chauhan SC***. Anti-cancer activity of curcumin loaded nanoparticles in prostate cancer. *Biomaterials*. 2014;35(30):8635-48. doi: 10.1016/j.biomaterials.2014.06.040. Epub 2014 Jul 12. PubMed PMID: 25028336.
61. Rezvani K, Sane S, Boudreau D, Gupta BK, Autenried R, Wang X, Wang H, Schlenker E, Zhang D, Telleria C, Huang L, **Chauhan SC**, and Abdullah A. Ubiquitin-like (UBX)-domain-containing protein, UBXN2A, promotes cell death by interfering with the p53-Mortalin interactions in colon cancer cells. *Cell Death & Disease* 2014 13;5:e1118. doi: 10.1038/cddis.2014.100.
62. Gupta BK., Maher DM., Ebeling MC., Stephenson PD., Puumala SE., Koch MRD., Aburatani H., Jaggi M and **Chauhan SC***. Functions and regulation of MUC13 mucin in colon cancer cells. *Journal of Gastroenterology* (In Press). PMID: 24097071
63. Khan S., Ansarullah., Kumar D., Jaggi M. and **Chauhan SC***. Targeting microRNAs in pancreatic cancer: microplayers in the big game. *Cancer Research*, 2013; 15;73(22):6541-7. PMID: 24204026
64. Srivastava, A., Goldberger, H., Dimtchev, A., Ramalinga, M., Chijioke, J., Marian, C., Oermann, E., Uhm, S., Kim, J.S., Chen, L.N., Li, X., Berry, D.L., Kallakury, B.V.S., **Chauhan, S.C.**, Collins, S.P., Suy, S., Kumar, D., MicroRNA Profiling in Prostate Cancer -The Diagnostic Potential of Urinary miR-205 and miR-214. *PLOS One*, 2013. 8(10):e76994. PMID: 24167554
65. Yallapu MM, Ebeling MC, Jaggi M, **Chauhan SC**. Plasma proteins interaction with curcumin nanoparticles: implications in cancer therapeutics. 2013;14(4):504-15 PMID: 23566382

66. Gara RK, Sundram V., **Chauhan SC.** and Jaggi M. Anti-cancer potential of a novel SERM ormeloxifene. *Current Medicinal Chemistry* 2013; 20(33):4177-84. PMID 23895678
67. Yallapu MM., Ebeling MC., Khan S., Sundram V., Chauhan N., Gupta BK., Puumala SE., Jaggi M and **Chauhan SC.** Novel curcumin loaded magnetic nanoparticles for pancreatic cancer treatment. *Molecular Cancer Therapeutics* 2013; 8: 1471-80. PMID 23704793
68. Yallapu MM., Jaggi M, and **Chauhan SC***. Curcumin Nanomedicine: A Road to cancer therapeutics. *Current Pharmaceuticals Designs* 2013 19(11):1994-2010. PMID: 23116309
69. Zaman MS., Maher DM., Khan S., Jaggi M. and **Chauhan SC***. Current status and implications of microRNAs in ovarian cancer diagnosis and therapy. *J Ovarian Res.* 2012 Dec 13;5(1):44.
70. Gupta BK, Maher DM, Ebeling MC, Sundram V, Koch MD, Lynch DW, Bohlmeier T, Watanabe A, Aburatani H, Puumala SE, Jaggi M, **Chauhan SC***. Increased expression and aberrant localization of mucin 13 in metastatic colon cancer. *J Histochem Cytochem.* 2012 Nov;60(11):822-31 PMID: 22914648
71. Yallapu MM., Othman SF., Curtis ET., Nichole AB., Chauhan N., Kumar D., Jaggi M and **Chauhan SC.** Curcumin loaded magnetic nanoparticles for breast cancer therapeutics and imaging applications. *International Journal of Nanotechnology* 2012;7:1761-79 (***Corresponding Author**)
72. Sundram V., **Chauhan SC.** and Jaggi M. Curcumin attenuates β -catenin signaling in prostate cancer cells through activation of protein kinase D1. *PLoS One* 2012;7(4):e35368
73. **Chauhan SC.**, Ebeling MC., Maher DM., Watanabe A., Koch MD., Aburatani H., Lio Y. and Jaggi M. MUC13 mucin augments pancreatic tumorigenesis. *Molecular Cancer Therapeutics* 2012 11(1):24-33 (**Selected for cover page**) (***Corresponding Author**)
74. Patacsil D., Osayi S., Tran AT., Saenz F., Yimer L., Shajahan AN., Gokhale PC., Verma M., Clarke R., **Chauhan SC.** and Kumar D. Vitamin E Succinate inhibits survivin and induces apoptosis in pancreatic cancer cells. *Genes & Nutrition* 2012 7(1):83-9
75. Yallapu MM., Ebeling MC., Chauhan N., Jaggi M. and **Chauhan SC***. Interaction of curcumin nanoformulations with human plasma proteins and erythrocytes. *International Journal of Nanotechnology* 2011;6:2779-90 (***Corresponding Author**)
76. Schmidt-Grimminger DC, Bel MC, Muller CJ, Maher DM, **Chauhan SC**, Buchwald DS. HPV infection among rural American Indian women and urban White women in South Dakota: an HPV prevalence study. *BMC Infect Dis.* 2011 24;11(1):252
77. Yallapu MM., Doberphool M., Maher DM., Jaggi M. and **Chauhan SC***. Design of Curcumin loaded Cellulose Nanoparticles for Prostate Cancer. *Current Drug Metabolism* 2012;13(1):120-8 (***Corresponding Author**)
78. Yallapu MM., Jaggi M, and **Chauhan SC***. Curcumin Nanoformulations: A Future Nanomedicine for Cancer. *Drug Discovery Today* 2012 Jan;17(1-2):71-80. (***Corresponding Author**)
79. Sundram V., Chauhan SC. and Jaggi M. Emerging roles of protein kinase D1 in cancer. *Molecular Cancer Research* 2011 9(8):985-96.
80. Yallapu MM., Jaggi M, and **Chauhan SC***. Design and engineering of nanogels for cancer treatment. *Drug Discovery Today* 2011; 16(9-10):457-63 (***Corresponding Author**)
81. Yellepeddi VK, Kumar A, Maher DM, **Chauhan SC**, Vangara KK, Palakurthi S. Biotinylated PAMAM Dendrimers for Intracellular Delivery of Cisplatin to Ovarian Cancer: Role of SMVT. *Anticancer Research* 2011;31(3):897-906.
82. Bell MC., Schmidt-Grimminger D., Jacobsen C., **Chauhan SC**, Maher D. and Buchwald D. Risk Factors for HPV Infection among American Indian and White Women in the Northern Plains. *Gynecologic Oncology* 2011; 121(3):532-6.
83. Maher DM., Gupta B.K., Nagata S., Jaggi M, and **Chauhan SC***. MUC13: structure, function and role in cancer pathogenesis. *Molecular Cancer Research* 2011 May;9(5):531-7. (***Corresponding Author**)
84. Maher DM., Bell MC., O'Donnell E., Gupta B.K., Jaggi M, and **Chauhan SC***. Curcumin suppresses Human Papillomavirus oncoproteins, restores expression of p53, pRb and PTPN13 proteins and inhibits benzo[a]pyrene induced upregulation of HPV E7. *Molecular Carcinogenesis* 2011;50(1):47-57. (***Corresponding Author**)

85. Yallapu MM., Othman SF., Curtis ET., Gupta B., Jaggi M and **Chauhan SC**. Multi-functional Magnetic Nanoparticles for Magnetic Resonance Imaging and Cancer Therapy. *Biomaterials* 2011 Mar;32(7):1890-905 (***Corresponding Author**)
86. Yallapu MM., Jaggi M, and **Chauhan SC***. Scope of nanotechnology in ovarian cancer therapeutics. *Journal of Ovarian Research* 2010, Aug 6;3:19 (***Corresponding Author**)
87. Yallapu MM., Gupta B., Jaggi M and **Chauhan SC**. Fabrication of curcumin encapsulated PLGA nanoparticles for improved therapeutic effects in metastatic cancer cells. *Journal of Colloid & Interface Science* 2010;1;351(1):19-29. (***Corresponding Author**) (**Cover illustration**)
88. Yallapu MM., Jaggi M, and **Chauhan SC***. β -Cyclodextrin-Curcumin Self-assembly Enhances Curcumin Delivery in Prostate Cancer Cells. *Colloids and Surfaces B: Biointerfaces*, 2010 Aug 1;79(1):113-25 (***Corresponding Author**)
89. Yallapu MM., Jaggi M, and **Chauhan SC***. Poly(β -cyclodextrin)-Curcumin Self-assembly : A Novel Approach to Improve Curcumin Delivery and its Therapeutic Efficacy in Prostate Cancer Cells. *Macromolecular Bioscience* 2010, 8;10(10):1141-51. (***Corresponding Author**) (**Cover illustration**)
90. Yallapu MM., Maher DM., Sundram V., Jaggi M, and **Chauhan SC***. Curcumin induces chemo/radio-sensitization in ovarian cancer cells and curcumin nanoparticles inhibit ovarian cancer cell growth. *Journal of Ovarian Research* 2010 Apr 29;3:11 (***Corresponding Author**)
91. **Chauhan SC***, Kumar D. and Jaggi M. Mucins in ovarian cancer diagnosis and therapy. *Journal of Ovarian Research* 2009 Dec 24;2(1):21) (***Corresponding Author**)
92. **Chauhan SC.**,* Vannatta K., Vinayek N., Watanabe A., Pandey KK., Maher D., Bell MC., Koch MD., Aburatani H., Lio Y. and Jaggi M. Expression and *in vitro* functions of transmembrane mucin MUC13 in ovarian cancer. *Cancer Research* Feb 2009 69(3) 765-774 (***Corresponding Author**)
93. Chauhan SC*, Jaggi M, Bell MC, Verma M, Kumar D. Epidemiology of Human Papilloma Virus (HPV) in Cervical Mucosa. *Methods Mol Biol.* 2009;471:439-56. (***Corresponding Author**)
94. **Chauhan SC.**,* Vinayek N., Dunham K., Lio Y., Koch MD. and Jaggi M. Analysis for MUC1, MUC16 and TAG-72 expression in ovarian cancer: Antigens of multi-targeted antibody guided therapy. *Journal of Histochemistry and Cytochemistry* 2007; 55(8):867-875 (***Corresponding Author**)
95. Chaturvedi P., Singh AP., Chakraborty S., Chauhan SC., Bafna S., Meza JL., Singh PK., Hollingsworth MA., Mehta PP., Batra SK. MUC4 mucin interacts with and stabilizes the HER2 oncoprotein in human pancreatic cancer cells. *Cancer Research* 2008 1;68(7):2065-70
96. Paul M., Jaggi M., Viqar S., **Chauhan SC.**, Hassan S., Biswas H., Balaji K.C. Protein kinase D1 (PKD1) influences androgen receptor (AR) function in prostate cancer cells. *Biochemical and Biophysical Research Communications* 2008 Sep 373:618-23
97. Jaggi BK., **Chauhan SC.** and Jaggi M. Effect of curcumin on signaling pathways in cancer. *Proceedings of South Dakota Academy of Science* 2007 86: 283-293
98. **Jaggi M., Chauhan SC., Du C. and Balaji KC.** Bryostatins modulates beta-catenin subcellular localization and transcription activity through protein kinase D1 activation *Molecular Cancer Therapeutics* 2008 Sep;7(9):2703-2712. (**Cover illustration**)
99. **Chauhan SC.**, Kumar D., Bell MC., Koch MD. and Verma M. Molecular Markers of Miscellaneous Primary and Metastatic Tumors of the Uterine Cervix. *European J. Gynecological Oncology* 2007;28(1):5-14.
100. Bell MC., Schmidt-Grimminger D., Patrick S., Ryschon T., Linz L. and ***Chauhan SC**. Analysis on Human Papillomavirus (HPV) Infection in Women in Northern Plains American Indian Reservation. *Gynecological Oncology* 2007;107(2):236-41 (*** Corresponding Author**)
101. Venkatraman G, Moorthy PP, Singh AP, **Chauhan SC**, Johansson SL, Jain M, Smith L, Davis JS, Remmenga SW and Batra SK. Expression of TAG-72 in ovarian cancer and its correlation with tumor stage and patient prognosis. *Cancer Letters*, 28;251(2):247-57 Jan 2007.
102. **Chauhan SC.**, Singh AP., Ruiz F., Johansson SL., Jain M., Smith L., Moniaux N. and Batra SK. Aberrant expression of MUC4 in ovarian cancer: Diagnostic significance alone and in combination with MUC1 and MUC16. *Modern Pathology* 19(10):1386-94; Oct 2006.
103. Singh AP., **Chauhan SC.**, Andrianifahanana M., Moniaux N., Meza JL., Copin MC., Hollingsworth MA., Aubert JP. and Batra SK. Inverse association of CFTR and MUC4 in pancreatic adenocarcinoma cells:

Regulation of MUC4 by transcriptional and post-translational mechanisms. *Oncogene*, 4;26(1):30-41 Jan 2007.

104. Andrianifahanana M., Chauhan SC., Choudhury A., Moniaux N., Brand RE., Sasson AA., Pour PM. and Batra SK. MUC4-expressing pancreatic adenocarcinomas show elevated levels of both T1 and T2 cytokines: potential pathobiologic implications. *American Journal of Gastroenterology*, 101(10):2319-29 Oct 2006.
105. Moniaux N., Nemos C., Schmied BM., **Chauhan SC.**, Deb S., Morikane K., Choudhury A., Vanlith M., Sutherlin M., Sikela JM., Hollingsworth MA and Batra SK. The human homologue of the RNA polymerase II-associated factor 1 (hPaf1), localized on the 19q13 amplicon, is associated with tumorigenesis. *Oncogene* 1;25(23):3247-57 Jun 2006
106. Singh AP., **Chauhan SC.**, Johansson SL., Lin MF., and Batra SK. Aberrant expression of transmembrane mucins, MUC1 and MUC4 in human prostate carcinomas and cell lines *The Prostate* 1;65 (17):7840-6 2006.
107. Jain M., **Chauhan SC.**, Singh AP., Venketraman G., Colcher D. and Batra SK. Penetratin improves tumor retention of single-chain antibodies: A novel step towards optimization of radioimmunotherapy of solid tumors. *Cancer Research* Sep 1;65 (17):7840-6 2005.
108. **Chauhan SC.**, Jain M., Moore E.D., Wittel UA., Li J., Gwilt PR., Colcher D. and Batra SK. Pharmacokinetic and biodistribution of ¹⁷⁷Lu-labeled multivalent single chain Fv construct of monoclonal antibody CC49 *European J. Nuclear Medicine and Mol Imaging* 32: 264-73 2005.
109. Wittel UA., Jain M., Goel A., **Chauhan SC.** and Batra SK. The *in vivo* characteristics of genetically engineered divalent and tetravalent single chain antibody constructs. *J. Nuclear Medicine and Biology* 32: 157-64 2005.
110. Wittel UA., Jain M., Goel A., Baranowska-Kortylewicz J., Kurizaki T., **Chauhan SC.**, Agrawal DK., Colcher D., and Batra, SK. Engineering and characterization of a divalent single-chain Fv angiotensin II fusion construct of monoclonal antibody CC49. *Biochem Biophys Res Commun.* 329(1):168-76 2005.
111. Moniaux, N., Varshney GC., **Chauhan, SC.**, Copin, MC., Jain, M., Wittel, UA., Andrianifahanana, M., Aubert, JP., and Batra, SK. Generation and characterization of anti-MUC4 monoclonal antibodies reactive with normal and cancer cells in humans. *J Histochem Cytochem.* 52(2):253-61. 2004.
112. Singh, A.P., Moniaux, N., **Chauhan, SC.**, Meza JL. and Batra SK. Inhibition of MUC4 expression suppresses pancreatic tumor cell growth and metastasis. *Cancer Research* 64:622-630 2004.
113. Batra SK., Jain M., Wittel UA., **Chauhan SC.** and Colcher D. Pharmacokinetics and biodistribution of genetically engineered antibodies. *Curr Opin Biotechnol.* 13(6):603-8 2002.
114. Standop J., Schneider MB., Ulrich A., **Chauhan SC.**, Moniaux N., Bichler MW., Batra SK. and Pour PM. The pattern of xenobiotic-metabolizing enzymes in the human pancreas. *J. Toxicol. Environ. Health*, 65(19):1379-400, 2002
115. Naz RK. and **Chauhan SC.** Human sperm-specific Peptide vaccine that causes long-term reversible contraception. *Biol Reprod.* 67(2):674-80 2002
116. **Chauhan SC.** and Naz RK. Effect of antibodies to sperm specific recombinant contraceptive vaccinogen (rCV) on murine fertilization: Search for an animal model to examine its contraceptive potential. *Molecular Reproduction and Development* 60(3):425-32 2001.
117. Naz RK., **Chauhan SC.** and Trivedi RN. Monoclonal antibodies against human sperm- specific YLP12 peptide sequence involved in oocyte binding. *Arch Androl.* 48(3):169-75 2002.
118. Naz RK. and **Chauhan SC.** Presence of YLP12 synthetic peptide in sera and seminal plasma of Immunoinfertile men. *Molecular Human Reproduction* 7(1): 21-26 2001.
119. Naz RK., **Chauhan, SC.** and Rose L. Expression of alpha and gamma interferon receptors in the sperm cell *Molecular Reproduction and Development* 54(2):189-197 2000.
120. Basnode FW., **Chauhan SC.**, Makker A. and Singh MM. Uterine luminal epithelial alkaline phosphatase activity and pinopod development in relation to endometrial sensitivity in rat. *Contraception* 58(1) 61-68 1998.
121. Singh MM., **Chauhan SC.**, Maitra SC., Trivedi RN. and Kamboj VP. Correlation of pinopod development on uterine luminal epithelial surface with hormonal events and endometrial sensitivity in rat. *Eur.J. Endocrinology* 135, 107-117 1996.

122. Singh MM., Trivedi RN., **Chauhan SC.**, Srivastava VML. and Kamboj VP. Uterine estradiol and progesterone receptor concentration, activities of certain antioxidant enzymes and dehydrogenases and histoarchitecture in relation to time of secretion of nidatory estrogen and high endometrial sensitivity in rat. *J Steroid Biochem Mol Biol* 59(4) 215-224 1996.
123. **Chauhan SC.**, Singh MM., Maitra SC. and Kamboj VP. Inhibition of progesterone induced development of giant mitochondria in uterine glandular epithelial cells by an antiestrogen in rat. *Contraception* 54, 259-264, 1996.
124. Trivedi RN., **Chauhan SC.**, Dwivedi A., Maitra SC., Kamboj VP. and Singh MM. Time related effects of a triphenylethylene antiestrogen on estrogen induced changes in uterine weight, estrogen receptors and endometrial sensitivity in immature rats. *Contraception* 51, 367-379, 1995.
125. Saxena AK., Arya S., Singh SK. and **Chauhan SC.** SEM studies on the microtopography of eggs of poultry shaft louse, *Menopon gallinae*. (Pthiroptera: Amblycera). *Rivista di Parasitologia* XI(LV)N2, 275-281, 1994
126. **Chauhan SC.** and Ahmad M. Plant parasitic and soil nematodes infesting leguminous crops in Rishikesh and Haridwar regions (U. P.). *J Nat. & Physical Sciences* 4, 179-186, 1990.

OTHER PUBLICATIONS:

Radio Interview:

Subhash Chauhan

South Dakota Public Broadcasting

Title: Cervical Cancer in American Indian Women

Date: 08-24-2012

TV Interview:

Subhash Chauhan

Keloland TV, Sioux Falls. South Dakota

Title: Sanford Research 2012 progress and future prospects

Date: 12-24-2012

<http://www.keloland.com/videoarchive/index.cfm?VideoFile=121223insidekeloland>

News Interview

Subhash Chauhan

Published in Indian Country Today Media Network

Title: Sanford Health Researching Cervical Cancer in Native American Women

<http://indiancountrytodaymedianetwork.com/2012/09/12/sanford-health-researching-cervical-cancer-in-native-american-women-132928#ixzz26I1tyiGx>

Date: 09-12-2012

RECENT PRESENTATIONS:

1. **Stiles ZE**, Khan S, Patton KT, Behrman SW, Chauhan SC. *Transmembrane Mucin MUC13 Distinguishes Intraductal Papillary Mucinous Neoplasms from Non-Mucinous Cysts and is Associated With High-Risk Lesions*. *Mini-oral presentation at Americas Hepato-Pancreato-Biliary Association (AHPBA) 2018 Annual Meeting, Miami, FL. March 9th, 2018.
2. **Stiles ZE**, Khan S, Patton KT, Behrman SW, Chauhan SC. *MUC13 Distinguishes IPMNs from Non-Mucinous Lesions and is Associated With High-Risk Features*. *To be presented as a long-oral podium presentation at The Pancreas Club 2018 Annual Meeting, Washington D.C. June 2nd, 2018.
3. 679 / 2 - ABI-231: A novel small molecule suppresses tumor growth and metastatic phenotypes of cervical cancer cells via targeting HPV E6 and E7, V. K. Kashyap, B. B. Hafeez, Q. Wang, N. Chauhan, P. K. B. Nagesh, N. Dan, S. Kumari, S. Malik, S. Setua, A. Ganju, M. M. Yallapu, D. D. Miller, W. Li, M. Jaggi, S. C. Chauhan, April 15, 2018, 1:00 PM - 5:00 PM, AACR 2018, Chicago, Illinois.
4. LB-011 / 11 - Novel nano-formulation of paclitaxel for pancreatic cancer therapy, B. B. Hafeez, A. E. Massey, V. K. Kashyap, M. Sikander, A. Shetty, M. Chaib, H. Mandil, M. Yallapu, M. Jaggi, S. C. Chauhan, April 15, 2018, 1:00 PM - 5:00 PM, AACR 2018, Chicago, Illinois.
5. 198 / 28 - MUC13 promotes pancreatic tumor-stromal interactions by influencing tumor microenvironment, S. S. Khan, K. Doxtater, S. Kumari, S. Setua, M. Sikander, S. Malik, M. M. Yallapu, S. W. Behrman, S. C. Chauhan, M. Jaggi, April 15, 2018, 1:00 PM - 5:00 PM, AACR 2018, Chicago, Illinois.
6. 1449 / 19 - Aberrant expression of protein kinase D1 influences metabolic reconditioning in pancreatic cancer, S. Kumari, S. Khan, M. M. Yallapu, S. C. Chauhan, M. Jaggi, April 16, 2018, 8:00 AM - 12:00 PM, AACR 2018, Chicago, Illinois.
7. 2110 / 25 - Therapeutic intervention for pancreatic cancer using autologous exosomes, S. Setua, S. Khan, M. Yallapu, S. Kumari, M. Jaggi, S. C. Chauhan, April 16, 2018, 1:00 PM - 5:00 PM, Chicago, Illinois.
8. 4657 / 20 - Docetaxel nanoformulation reverts drug resistance in prostate cancer, P. B. Nagesh, P. Chowdhury, E. Hatami, V. K. Kashyap, B. B. Hafeez, S. Khan, S. C. Chauhan, M. Jaggi, M. Yallapu, April 17, 2018, 1:00 PM - 5:00 PM, AACR 2018, Chicago, Illinois.
9. LB-400 / 28 - Tannic acid induces prostate cancer cell death via unfolded protein response (UPR) and modulation of CHOP, E. Hatami, P. Bhusetty Nagesh, P. Chowdhury, V. K. Kashyap, S. Khan, B. Hafeez, M. Jaggi, S. C. Chauhan, M. Yallapu, April 18, 2018, 8:00 AM - 12:00 PM, AACR 2018, Chicago, Illinois.
10. 5777 / 3 - Ormeloxifene augments the therapeutic response of enzalutamide via targeting androgen receptor splice variant 7, B. B. Hafeez, A. E. Massey, V. K. Kashyap, M. Sikander, A. Shetty, M. Chaib, H. Mandil, S. Malik, M. M. Yallapu, M. Jaggi, S. C. Chauhan, April 18, 2018, 8:00 AM - 12:00 PM AACR 2018, Chicago, Illinois.
11. 2934 / 14 - Cucurbitacin D enhances the therapeutic efficacy of docetaxel via targeting cancer stem cells and miR-145, M. Sikander, S. Malik, B. B. Hafeez, H. Mandil, F. T. Halaweish, M. Jaggi, S. C. Chauhan, April 16, 2018, 1:00 PM - 5:00 PM, AACR 2018, Chicago, Illinois.
12. 5178 / 10 - MUC13 is a novel molecular signature, for early detection and metastatic colorectal cancer, M. K. Tripathi, C. Zacheaus, K. Doxtater, Z. Stiles, F. Keramatnia, N. Zafar, M. Amin, M. Jaggi, S. Chauhan, April 18, 2018, 8:00 AM - 12:00 PM, AACR 2018, Chicago, Illinois.
13. 5138 / 19 - Comparative profiling for bacterial inhabitation in pancreatic ductal adenocarcinoma and matched

- adjacent normal tissues, S. S. Khan, P. Banerjee, S. Setua, D. Higgins, S. Kedia, Y. Jiang, M. Jaggi, S. Chauhan, April 18, 2018, 8:00 AM - 12:00 PM, AACR 2018, Chicago, Illinois.
14. M4065 - Docetaxel Loaded Magnetic Nanoparticles for Overcoming Drug Resistance in Prostate Cancer, Pallabita Chowdhury, Prashanth Kumar Nagesh, Elham Hatami, Sheema Khan, Subhash Chauhan, Meena Jaggi, Murali Yallapu, November 13 – Monday Time: 12:00 pm - 01:00 pm, AAPS 2017, San Diego.
 15. W1020 - Physico-Chemical and Biological Interactions of Protein Corona of Human Lung Fluid with Tannic Acid Nanoformulation, Elham Hatami, Pallabita Chowdhury, Prashanth Bhusetty, Subhash Chauhan, Meena Jaggi, Murali Yallapu, 9:00 AM–10:00 AM Nov 15, 2017, AAPS 2017, San Diego.
 16. M7068 - Self- Targeting Nanoparticles as a Potential Therapeutic Model for Targeting Cancer, Pallabita Chowdhury, Elham Hatami, Prashanth Kumar Nagesh, Sheema Khan, Subhash Chauhan, Meena Jaggi, Murali Yallapu, 3:00 PM–4:00 PM Nov 13, 2017, AAPS 2017, San Diego.
 17. M5029 - Mir-145 Mediated TRAIL Sensitization In Pancreatic Cancer: Novel Combined Treatment Strategy, Saini Setua, Sheema Khan, Murali Yallapu, Stephen Behrman, Meena Jaggi, Subhash Chauhan, Poster Forum 2 - Monday - 01:00 pm, AAPS 2017, San Diego.
 18. M7015 - Therapeutic Perspectives of Tannic Acid in Inducing ER Stress Mediated Unfolded Protein Response (UPR) in Prostate Cancer Cell Death, Prashanth Kumar Bhusetty Nagesh, Pallabita Chowdhury, Vivek Kumar Kashyap, Elham Hatami, Sheema Khan, Bilal Hafeez, Meena Jaggi, Subhash Chauhan, Murali Yallapu, Poster Forum 2 - Monday - 03:00 pm, AAPS 2017, San Diego.
 19. W1128 - ABI-231: A novel microtubule inhibitor suppresses tumor growth and metastatic phenotypes of cervical cancer cells via targeting HPV E6 and E7, Vivek Kashyap, Bilal Hafeez, Qinghai Wang, Neeraj Chauhan, Prashanth K B Nagesh, Nirnoy Dan, Shabnam Malik, Saini Setua, Aditya Ganju, Murali Yallapu, Duane Miller, Wei Li, Meena Jaggi, Subhash Chauhan, Poster Forum 6 - Wednesday - 09:00 am, AAPS 2017, San Diego.
 20. Efficacy of Different Chitosan Nanoparticle Combinations in Inhibiting Growth of Two Strains of: PR71 Enterococcus Faecalis: PR71, M. James; P. Chowdhury; M. Yallapu; A. Lloyd; J. O'Dell; J. Babu; F. Garcia-Godoy; S. Chauhan; G. Huang; M. Marchesan, Journal of Endodontics. 44(3):e37, MAR 2018,
 21. Partial wave spectroscopy based nanoscale structural disorder analysis for cancer diagnosis and treatment, Almadadi, Huda; Sahay, Peeyush; Nagesh, Prashanth K. B.; Yallapu, Murali M.; Jaggi, Meena; Chauhan, Subhash C.; Pradhan, Prabhakar, APS March Meeting 2017, abstract id. Y6.008
 22. MUC13 PEPTIDE MODULATES TME OF PANCREATIC CANCER BY INDUCTION OF TAMs AND ACTIVATION OF CAFs: Mehdi Chaib, Advait Shetty, Andrew Massey, Sonam Kumari, Vivek Kashyab, Manish Tripathi, Bilal Hafeez, Meena Jaggi, Subhash C. Chauhan, April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
 23. DOCETAXEL LOADED MAGNETIC NANOPARTICLES FOR OVERCOMING DRUG RESISTANCE IN PROSTATE CANCER: Pallabita Chowdhury, Prashanth K.B. Nagesh, Elham Hatami, Sheema Khan, Subhash C. Chauhan, Meena Jaggi, Murali M. Yallapu. April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
 24. TARGETED DRUG DELIVERY USING NOVEL ANTI_MUC13 CONJUGATED NANOPARTICLES FOR PANCREATIC CANCER: Nirnoy Dan, Saini Setua, Sheema Khan, Murali M. Yallapu, Meena Jaggi, Subhash C. Chauhan April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
 25. TANNIC ACID INDUCES ENDOPLASMIC RETICULUM STRESS-MEDIATED APOPTOSIS IN PROSTATE CANCER: Elham Hatami, Prashanth K.B. Nagesh, Pallabita Chowdhury, Vivek Kashyab, Sheema Khan, Bilal Hafeez, Subhash C. Chauhan, Meena Jaggi, Murali M. Yallapu, April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
 26. ABERRANT EXPRESSION OF PROTEIN KINASE D1 INFLUENCES METABOLIC RECONDITIONING IN PANCREATIC CANCER: Sonam Kumari, Sheema Khan, Murali M. Yallapu,

- Subhash C. Chauhan, Meena Jaggi. April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
27. ASSESSMENT OF PHYSICAL CHARACTERISTICS OF CANCER CELLS AND NANOPARTICLES BY ATOMIC FORCE MICROSCOPY: Andrew Massey, April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
 28. TARGETING MUC12 TO IMPROVE SURVIVAL IN PATIENTS WHO SMOKE AND DRINK: Kamalika Samanta, Sheema Khan, Saini Setua, Sonam Kumari, Nirnoy Dan, Kyle Doxtater, Pragathi Reddy Gunnam, Murali M. Yallapu, Meena Jaggi, Subhash C. Chauhan, April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA.
 29. THERAPEUTIC INTERVENTION FOR PANCREATIC CANCER USING AUTOLOGOUS EXOSOMES: Saini Setua, Sheema Khan, Andrew Massey, Murali M. Yallapu, Meena Jaggi, Subhash C. Chauhan, April 20th, 2018, 1:00-3:00 PM, Graduate Research Day, University of Tennessee Health Science Center, Memphis, TN, USA
 30. Sheema Khan, Stephen W Behrman, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. MUC13- An early diagnostic marker for pancreatic ductal adenocarcinoma. SSAT, 57th Annual Meeting May 21-24, 2016, San Diego California. 50th Annual Pancreas Club Meeting May 20-21, 2016, San Diego California.
 31. Saini Setua, MS, Sheema Khan, Murali M Yallapu, Stephen W Behrman, Meena Jaggi, **Subhash C. Chauhan**. Restitution of tumor suppressor mir-145 using magnetic nanoparticles inhibits pancreatic cancer. *Invited Oral Talk*; 50th Annual Pancreas Club Meeting May 20-21, 2016, San Diego California. SSAT, 57th Annual Meeting May 21-24, 2016, San Diego California.
 32. Stephen W Behrman, Sheema Khan, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. MUC13 interaction with receptor tyrosine kinase HER2 drives pancreatic ductal adenocarcinoma progression. SSAT, 57th Annual Meeting May 21-24, 2016, San Diego California. 50th Annual Pancreas Club Meeting May 20-21, 2016, San Diego California.
 33. Saini Setua, Sheema Khan, Murali M. Yallapu, Stephen W. Behrman, Nadeem Zafar, Meena Jaggi, Subhash C. Chauhan. Targeting MUC13 to Overcome the Survival Mechanisms for Improved Response to Chemotherapy. *AACR Annual Meeting 2017*, April 1 – 5, 2017, Washington, D.C.
 34. Saini Setua, Sheema Khan, Murali M. Yallapu, Mohammed Sikander, Meena Jaggi, **Subhash C. Chauhan**. Development of a microRNA-145 magnetic nanoformulation for pancreatic cancer therapy. *AAPS Annual Meeting 2016*, November 13-17, 2016, Colorado, Denver.
 35. Saini Setua, Sheema Khan, Murali M. Yallapu, Meena Jaggi, **Subhash C. Chauhan**. MicroRNA-145 overcomes chemo-resistance in pancreatic cancer leading to combined treatment interventions. *Graduate research day, 2016*. University of Tennessee Health Science Center, USA.
 36. Saini Setua, Sheema Khan, Murali M. Yallapu, Meena Jaggi, **Subhash C. Chauhan**.
 37. MUC13 is involved in TRAIL resistance in pancreatic cancer. *Graduate research day, 2017*. University of Tennessee Health Science Center, USA.
 38. Saini Setua, Sheema Khan, Kyle Doxtater, Murali M. Yallapu, Meena Jaggi, and **Subhash C. Chauhan**. miR-145: Revival of a Dragon in Pancreatic Cancer. *Journal of Nature and Science (JNSCI)*, 3(3):e332, 2017
 39. Saini Setua, Saini Setua, Meena Jaggi, Murali M. Yallapu, **Subhash C. Chauhan**. Multifunctional magnetic nanoparticles for cancer treatment. *Nanotechnologies in Preventive and Regenerative Medicine*. Elsevier Book chapter. [Epub ahead of print].

40. Bilal B Hafeez, Vivek K Kashyap, Vijayakumar N Boya, Aditya Ganju, Mohammad Sikander, Murali M Yallapu, Meena Jaggi, **Subhash C. Chauhan**. Novel nanoparticle formulation of Plumbagin for pancreatic cancer treatment. *AAPS Annual Meeting 2016*, November 13-17, 2016, Colorado, Denver.
41. Mohammed Sikander, Bilal Bin Hafeez, Shabnam Malik, Aditya Ganju, Fathi T. Halaweish², Murali Mohan Yallapu, Subhash C. Chauhan, Meena Jaggi. Cucurbitacin D inhibits prostate tumor growth via targeting glucose metabolism. *AACR Annual Meeting 2017*, April 1 – 5, 2017, Washington, D.C.
42. Nirnoy Dan, Saini Setua, Sheema Khan, Murali M. Yallapu, Meena Jaggi, **Subhash C. Chauhan**. Targeted drug delivery using a novel anti-MUC13 conjugated nanoparticles for pancreatic cancer. *Graduate research day, 2017*. University of Tennessee Health Science Center, USA.
43. Kyle Doxtater, Sheema Khan, Sonam Kumari, Saini Setua, Mohammad Sikander, Shabnam Malik, Murali M. Yallapu, **Subhash C. Chauhan**, Meena Jaggi. MUC13 promotes pancreatic tumor-stromal interactions by influencing tumor microenvironment. *Graduate research day, 2017*. University of Tennessee Health Science Center, USA.
44. Sonam Kumari, Sheema Khan, Subash C. Gupta, Vivek K. Kashyap Murali M. Yallapu, **Subhash C. Chauhan**, Meena Jaggi. MUC13 induced NF κ B activation regulates metabolic reprogramming by promoting crosstalk with GLUT-1 receptor. *AACR Annual Meeting 2017*, April 1 – 5, 2017, Washington, D.C.
45. Sonam Kumari, Sheema Khan, Subash C. Gupta, Vivek K. Kashyap Murali M. Yallapu, **Subhash C. Chauhan**, Meena Jaggi. MUC13 induced NF κ B activation regulates metabolic reprogramming by promoting crosstalk with GLUT-1. *Graduate research day, 2017*. University of Tennessee Health Science Center, USA.
46. Vivek K Kashyap, Bilal B. Hafeez., Qinghui Wang, Saini Setua, Aditya Ganju, Murali M. Yallapu, Duane D. Miller, Wei Li , Meena Jaggi, **Subhash C. Chauhan**. Attenuation of pancreatic tumor growth by a small molecule tubulin inhibitor. *AACR Annual Meeting 2017*, April 1 – 5, 2017, Washington, D.C.
47. V. K. Kashyap, Q. Wang, B. B. Hafeez, A. K. Ganju, M. M. Yallapu, D. Miller, L. Wei, M. Jaggi, **S. C. Chauhan**. ABI-231 Inhibits the Growth of Pancreatic Cancer Cells In Vitro and In Vivo via Targeting BetaTubulin. . *AAPS Annual Meeting 2016*, November 13-17, 2016, Colorado, Denver.
48. Aditya Ganju, Bilal B. Hafeez, Mohammad Sikander, Vivek K Kashyap, Murali M. Yallapu, **Subhash C. Chauhan**, Meena Jaggi. Ormeloxifene suppress the growth of prostate tumor via inhibition of β -catenin induced AR signaling. *AACR Annual Meeting 2017*, April 1 – 5, 2017, Washington, D.C.
49. Aditya Ganju, Bilal Bin Hafeez, Fathi Halaweish, Wei Li, Man Mohan Singh, Murali Mohan Yallapu, Subhash Chauhan, **Meena Jaggi**. Ormeloxifene, a novel pharmacological activator of PKD1 enhances docetaxel sensitivity in prostate cancer. Abstract Number 3862, Poster Session 19, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA*.
50. Sonam Kumari, Sheema Khan, Subhash Chauhan, **Meena Jaggi**. Role of MUC13 as non-hypoxic stimuli inducing HIF-1 α in pancreatic cancer under normoxia. Abstract Number 51, Poster Session 2, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA*.
51. Sheema Khan, Mara C. Ebeling, Mohammad Sikander, Aditya Ganju, Murali M. Yallapu, Tomoko Ise, Satoshi Nagata, Stephen W. Behrman, Nadeem Zafar, Jim Y. Wan, Hemendra M. Ghimire, Peeyush Sahay, Prabhakar Pradhan, **Meena Jaggi**, Subhash C. Chauhan. MUC13 interaction with receptor tyrosine kinase HER2 drives pancreatic ductal adenocarcinoma progression. Abstract

- Number 4592, Poster Session 8, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
52. Mohammed Sikander, Bilal Bin Hafeez, Fathi T. Halaweish, Murali M. Yallapu, **Meena Jaggi**, Subhash C. Chauhan. Novel cucurbitacin analogue Cuc D exhibits potent anti-cancer activity in cervical cancer. Abstract Number 3081, Poster Session 19, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
 53. Vivek K. Kashyap, Sheema Khan, Mohammad Sikander, Diane M. Maher, Santosh Kumar, Namita Sinha, Murali M. Yallapu, Nadeem Zafar, **Meena Jaggi**, Subhash C. Chauhan. Comorbidity factors associated with human papillomavirus infectivity: Implications in cervical cancer health disparity. Abstract Number 1745, Poster Session 35, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
 54. Saini Setua, Sheema Khan, Murali Mohan Yallapu, Mohammed Sikander, Stephen W. Behrman, **Meena Jaggi**, Subhash C. Chauhan. Mir-145 based magnetic nanoformulation for pancreatic cancer therapy. Abstract Number 1071, Poster Session 6, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
 55. Prashanth Kumar Bhusetty Nagesh, Nia Johnson, Vijaya K.N. Boya, Pallabita Chowdhury, Aditya Ganju, Bilal Hafeez, Sheema Khan, **Meena Jaggi**, Subhash C. Chauhan, Murali M. Yallapu. PSMA antibody functionalized docetaxel-loaded magnetic nanoparticles for prostate cancer therapy. Abstract Number 1312, Poster Session 19, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
 56. Vijayakumar N. Boya, Renn Lovett, Saini Satua, Vaibhav Gandhi, Prashanth K.B. Nagesh, **Meena Jaggi**, Subhash C. Chauhan, Murali M. Yallapu. Mucopenetrating magnetic nanoparticles for drug delivery. Abstract Number 2197, Poster Session 20, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
 57. Bilal B. Hafeez, Vivek K. Kashyap, Vijayakumar N. Boya, Aditya Ganju, Mohammad Sikander, Murali M. Yallapu, **Meena Jaggi**, Subhash C. Chauhan. Novel nanoparticle formulation of Plumbagin for pancreatic cancer treatment. Abstract Number 2208, Poster Session 20, *American Association of Cancer Research (AACR) Annual Meeting 2016 (April 16-20), New Orleans, LA.*
 58. Saini Setua, Stephen Behrman, Sheema Khan, Murali M. Yallapu, Meena Jaggi, **Subhash C. Chauhan**. Restitution of tumor suppressor mIR-145 using magnetic nanoparticles inhibits pancreatic cancer. **50th Annual Pancreas Club Meeting May 20-21, 2016, the Hyatt Regency Mission Bay, San Diego California**
 59. Sheema Khan, Stephen Behrman, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. MUC13- An Early Diagnostic Marker for Pancreatic Ductal Adenocarcinoma. **50th Annual Pancreas Club Meeting May 20-21, 2016, the Hyatt Regency Mission Bay, San Diego California**
 60. Sheema Khan, Stephen Behrman, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. MUC13 Interaction with Receptor Tyrosine Kinase HER2 Drives Pancreatic Ductal Adenocarcinoma Progression. **50th Annual Pancreas Club Meeting May 20-21, 2016, the Hyatt Regency Mission Bay, San Diego California**
 61. Saini Setua, Stephen Behrman, Sheema Khan, Murali M. Yallapu, Meena Jaggi, **Subhash C. Chauhan**. Restitution of tumor suppressor mIR-145 using magnetic nanoparticles inhibits pancreatic cancer. **Digestive Disease Week (DDW), May 21-24, 2016, Convention Center, San Diego, California**

62. Sheema Khan, Stephen Behrman, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. MUC13- An Early Diagnostic Marker for Pancreatic Ductal Adenocarcinoma. **Digestive Disease Week (DDW), May 21-24, 2016, Convention Center, San Diego, California**
63. Sheema Khan, Stephen Behrman, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. MUC13 Interaction with Receptor Tyrosine Kinase HER2 Drives Pancreatic Ductal Adenocarcinoma Progression. **Digestive Disease Week (DDW), May 21-24, 2016, Convention Center, San Diego, California**
64. Mohd Saif Zaman, Neeraj Chauhan, Rishi K. Gara, Diane Maher, Sonam Kumari, Mohammed Sikander, Sheema Khan, Murali M. Yallapu, Meena Jaggi, **Subhash C. Chauhan**. Smoking Carcinogen (BaP) enhances tumorigenic phenotypes of cervical cancer cells by modulation of HPV oncogenes and microRNA profiles, 182 Poster Session, [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
65. Rishi K. Gara, Sonam Kumari, Sheema Khan, Neeraj Chauhan, Aditya Ganju, **Subhash C. Chauhan**, Meena Jaggi. Protein Kinase D1 induces autophagic cell death through activation of endoplasmic reticulum stress in prostate cancer cells, 1001 Poster Session, [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
66. Aditya Ganju, Rishi Gara, Sonam Kumari, Man Mohan Singh, **Subhash C. Chauhan**, Meena Jaggi. Ormeloxifene attenuates wnt/ β -catenin signaling in colon cancer cells by modulation of PKD1 and glycolytic pathways 2072 Poster Session, [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
67. Sheema Khan, Murali M. Yallapu, Sonam Kumari, Aditya Ganju, Swathi Balakrishna, Stephen W. Behrman, Nadeem Zafar, Meena Jaggi, **Subhash C. Chauhan**. Attenuation of pancreatic cancer stemness and growth by a novel magnetic nanoparticle formulation, 3676 Poster Session, [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
68. Sheema Khan, Neeraj Chauhan, Murali M. Yallapu, Mara C. Ebeling, Swathi Balakrishna, Robert T. Ellis, Paul A. Thompson, Stephen W. Behrman, Nadeem Zafar, Man M. Singh, Fathi T. Halaweish, Meena Jaggi, **Subhash C. Chauhan**. Generation of a novel ormeloxifene nanoparticle formulation for pancreatic cancer treatment, 4392 Poster Session. [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
69. Mohammed Sikander, Sheema Khan, Neeraj Chauhan, Mohd Saif Zaman, Murali Mohan Yallapu, Fathi T. Halaweish, Bhavin Chauhan, Shabnam Malik, Meena Jaggi, **Subhash C. Chauhan**. Anticancer activity of novel cucurbitacin analogue in pancreatic cancer, 4468 Poster Session, [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
70. Murali M. Yallapu, Neeraj Chauhan, Sheema Khan, Meena Jaggi, Aditya Ganju, Diane M. Maher, Mara C. Ebeling, **Subhash C. Chauhan**. Novel pluronic F127-coated paclitaxel nanoparticles formulation for pancreatic cancer. 5534 Poster Session, [106](#) *American Association of Cancer Research (AACR) Annual Meeting 2015 (April 18-22), Philadelphia, PA.*
71. Zafar Nadeem, Khan Sheema, Behrman Stephen W, Jaggi Meena and **Chauhan Subhash**. Suppression of Pancreatic Ductal Carcinoma Growth and Invasion By Targeting MUC13 Mucin Through MicroRNA-145- A Tumor Heterograft Study in Mice (Abstract 2467). **2015 United States & Canadian Academy of Pathology Annual Meeting (USCAP), March 23-27 2015, Boston, MA.**

72. Behrman Stephen W, Zafar Nadeem, Khan Sheema, Jaggi Meena and **Chauhan Subhash**. Surgical management of complicated pancreatic pseudocysts following acute pancreatitis. **49th Annual Pancreas Club meeting**, May 15-16, 2015, Washington, DC.
73. Gara RK, Kumari S, Ganju A, Yallapu MM, Shah A, Khan S, Singh MM, **Chauhan SC** and **Jaggi M**. Induction of Autophagy by ormeloxifene and mevastatin through protein kinase D1 in prostate cancer cells. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
74. Sikander M, Zaman MS, Chauhan N, Yallapu MM, Khan S, Halaweish FT, Chauhan B, Kumari S, **Jaggi M** and **Chauhan SC**. A multi-targeted approach for pancreatic cancer treatment by a novel cucurbitacin analogue. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
75. Yallapu MM, Chauhan N, Othman SF, Khalilzad-Sharghi V, Jaggi M and **Chauhan SC**. Characterization of a novel magnetic nanoparticles formulation for cancer therapeutic applications. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
76. Chauhan N, Zaman MS, Maher DM, Ebeling MC, Yallapu MM, Jaggi M and **Chauhan SC**. Ormeloxifene inhibits cervical cancer cell growth through intrinsic apoptotic pathway. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
77. Ganju A, Sundram V, Miskimins K, Gara R, Khan S, Singh MM, **Chauhan SC** and Jaggi M. Ormeloxifene attenuates metastatic and glycolytic pathways in breast cancer cells. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
78. Khan S, Ebeling M, Ansarullah, Chauhan N, Gara R, Jaggi M, Zhao H, **Chauhan SC**. Approach to enhance delivery and sensitivity of gemcitabine in pancreatic cancer by suppression of desmoplasia. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
79. Zaman MS, Chauhan N, Maher DM, Yallapu MM, Jaggi M and **Chauhan SC**. Curcumin nanoformulation. A new therapeutic approach for cervical cancer treatment. ***105 American Association of Cancer Research (AACR) Annual Meeting 2014 (April 5-9), San Diego CA.***
80. Onishi, C., Kopel L. C., Halaweish, F. T., **Chauhan, S.C.** Drug Design and Molecular Modeling of Ormeloxifene Analogs Targeting Ovarian Cancer: ***48th ACS Midwest Regional Meeting 2013 (Oct 16-19), Springfield, Missouri.***
81. Yallapu MM., Ebleling MC., Khan S., Chauhan N., Gupta BK., Sundram V., Jaggi M. and **Chauhan SC**. Novel curcumin loaded magnetic nanoparticles for pancreatic cancer treatment. ***104 American Association of Cancer Research (AACR) Annual Meeting 2013 (April 6-10), Washington DC.***
82. Khan S., Maher D., Ebleling MC., Kumar D., Jaggi M. and **Chauhan SC**. MicroRNA-145 targets MUC13 and suppresses invasion and metastasis of pancreatic cancer cells. ***104 American Association of Cancer Research (AACR) Annual Meeting 2013 (April 6-10), Washington DC.***
83. Maher D., Bell M., Schaefer A., Jaggi M. and **Chauhan SC**. Benzo(a)pyrene exposure increases expression of HPV oncoproteins: a potential co-factor for increased cervical cancer among Northern

- Plains American Indian women. *104 American Association of Cancer Research (AACR) Annual Meeting 2013 (April 6-10), Washington DC.*
84. Sundram V., Gara R., Singh MM., **Chauhan SC** and Jaggi M. Ormeloxifene modulates beta-catenin/TCF pathway in colon cancer. *104 American Association of Cancer Research (AACR) Annual Meeting 2013 (April 6-10), Washington DC.*
 85. Sundram V., Radel S., Hughes J., Singh MM., **Chauhan SC.** and Jaggi M. Suppression of prostate cancer growth and invasion by a triphenyl ethylene compound ormeloxifene. *103 American Association of Cancer Research (AACR) Annual Meeting 2012, Chicago, IL.*
 86. Yallapu MM., Othman SF., Curtis ET., Chauhan N., Bauer NA., Jaggi M. and **Chauhan SC.** Curcumin loaded magnetic nanoparticles for breast cancer therapeutics and imaging applications. *103 American Association of Cancer Research (AACR) Annual Meeting 2012, Chicago, IL.*
 87. Chauhan N., Maher DM., Yallapu MM., Ebeling MC., Jaggi M. and **Chauhan SC.** Therapeutic effects of ormeloxifene on cervical cancer. *103 American Association of Cancer Research (AACR) Annual Meeting 2012, Chicago, IL.*
 88. Maher DM., Stephenson P., Gupta BK., Bauer NA., Koch MD., Eliason S., Jaggi M. and **Chauhan SC.** Comparative expression profile of transmembrane mucin MUC1 in breast cancer from American Indian and Caucasian women. *103 American Association of Cancer Research (AACR) Annual Meeting 2012, Chicago, IL.*
 89. Gupta BK., Maher DM., Ebeling MC., Lynch DW., Koch MD., Puumala SE., Aburatani H., Jaggi M. and **Chauhan SC.** Role of MUC13 in colon cancer progression. *103 American Association of Cancer Research (AACR) Annual Meeting 2012, Chicago, IL.*
 90. Sundram V., **Chauhan SC.** and Jaggi M. *Curcumin Modulates Protein Kinase D1 Signaling in Prostate Cancer.* Fourth International Conference on Translational Cancer Research. Rajasthan, India. *December 17, 2011.*
 91. Gupta BK., Jaggi M. and **Chauhan SC.** Clinio-pathological significance of MUC13 mucin in colon cancer. Fourth International Conference on Translational Cancer Research. Rajasthan, India. *December 17, 2011.*
 92. Nordquist J., Maher DM., Ebeling M., Jaggi M. and **Chauhan SC.** Ormeloxifene treatment inhibits growth of cisplatin-resistant ovarian cancer cells. *102 AACR Annual Meeting 2011, Orlando, FL*
 93. Gupta BK., Maher DM., Verma R., Ebeling M., Lynch D., Koch M., Watanabe A., Aburatani H., Jaggi M. and **Chauhan SC.** MUC13 expression enhances colon cancer progression. *102 AACR Annual Meeting 2011, Orlando, FL*
 94. Yallapu MM., Othman SF., Curtis ET., Gupta BK., Jaggi M. and **Chauhan SC.** Multifunctional magnetic nanoparticles for theranostic applications. *102 AACR Annual Meeting 2011, Orlando, FL*
 95. Hughes JE., Radel S., Sundram V., Jepperson TN., Koch MRD., **Chauhan SC.** and Jaggi M. Protein Kinase D1 expression attenuates colon cancer progression. *102 AACR Annual Meeting 2011, Orlando, FL*
 96. Yallapu MM., Ebeling M., Maher DM., Jaggi M. and **Chauhan SC.** Targeted curcumin delivery approach for improved prostate cancer therapeutics. *DOD IMPACT Meeting 2011, Orlando, FL*
 97. Jaggi M., Sundram V., Radel S. and **Chauhan SC.** Protein Kinase D1 suppresses B-catenin/T cell factor activity and attenuates prostate cancer growth. *DOD IMPACT Meeting 2011, Orlando, FL*
 98. Dobberpuhl M., Yallapu MM., Maher DM., Gupta BK., Jaggi M. and **Chauhan SC** Enhancing the efficacy of curcumin for prostate cancer treatment using cellulose nanoparticles. *8th International Nanomedicine and drug delivery systems-Omaha NanoDDS10, Oct 3-5, Omaha, NE*
 99. **Chauhan SC.** A novel strategy for sensitizing cancer cells. *21st Annual Antibody Engineering Conference, San Diego, December 5-9, 2010*

100. Yallapu MM, Othman SF., Curtis ET., Gupta BK., Jaggi M, and Chauhan SC. Multi-functional Magnetic Nanoparticles for magnetic Resonance Imaging and Cancer Therapy. 8th International Nanomedicine and drug delivery systems-Omaha NanoDDS10, Oct 3-5, Hilton Omaha, Omaha, NE
101. **Chauhan SC.**, Ebeling MC., Maher DM., Koch MRD., Friez MH., Watanabe A., Aburatani Hiroyuki., Lio Y., Pandey KK and Jaggi M. MUC13 mucin augments pancreatic tumorigenesis. **101 AACR Annual Meeting 2010**, Washington DC
102. Nordquist J., Jaggi M and **Chauhan SC.** Effects of drug X on cisplatin-resistant and cisplatin-sensitive ovarian cancer cells. **21st Annual Meeting of the European Association for Cancer Research (EACR) 2010.** Oslo, Norway, June 26-29.
103. Maher D., Yallapu MM., Sundram V., Bell MC., Jaggi M., **Chauhan SC.** Curcumin induces chemo/radio-sensitization in ovarian cancer cells and curcumin nanoparticles inhibit ovarian cancer cell growth. **101 AACR Annual Meeting 2010**, Washington DC.
104. Prakash Preethi., Freiz MH., Bohlmeier T., Koch MRD., **Chauhan SC.**, Jaggi M. Downregulation of Protein Kinase D1 in hepatocellular carcinoma (HCC): Potential as a diagnostic/prognostic molecular marker. **101 AACR Annual Meeting 2010**, Washington DC.
105. Yallapu MM., Jaggi M., **Chauhan SC.** Design of β -cyclodextrin-curcumin self-assembly: A new approach for enhanced curcumin delivery and therapeutic efficacy in prostate cancer cells. **101 AACR Annual Meeting 2010**, Washington DC.
106. Sundram V., Chauhan SC. and Jaggi M. Curcumin suppresses prostate cancer cells through modulation of β -catenin and protein kinase D1. **101 AACR Annual Meeting 2010**, Washington DC.
107. Jepperson . N, Tyler., Hughes J., Hausser A., **Chauhan SC.** and Jaggi M. Protein Kinase D1 reduces cellular proliferation and invasiveness via suppression of β -catenin/T-cell factor activity in SW480 colon cancer cells. AACR Centennial Meeting 2009, Denver, CO.
108. Ebeling MC., Jaggi M. and **Chauhan SC.** Role of MUC13 mucin in pancreatic cancer diagnosis and pathogenesis. 3rd International Symposium on Translational Cancer Research December 18-21, 2009, Bhubaneswar, Orissa, India.
109. Hughes JE., **Chauhan SC.**, and **Jaggi M.** Protein kinase D1 attenuates tumorigenesis in SW 480 colon cancer cells by modulation β -catenin/T cell factor activity. 3rd International Symposium on Translational Cancer Research December 18-21, 2009, Bhubaneswar, Orissa, India.
110. **Chauhan SC.** and Jaggi M. Role of MUC13 mucin in cancer diagnosis and cancer progression. 1st annual conference of Society for Professional Biotechnologists, December 1 through 2, 2009, Kanpur, India
111. Ebeling MC, Jaggi M and **Chauhan SC.** Role of MUC13 mucin in pancreatic cancer diagnosis and pathogenesis. 3rd International meeting Symposium on Translational Research: Cancer Cell Signaling and Therapy, December 18 through 21, 2009 in Bhubneshawar (Orissa), India.
112. Hughes JE, **Chauhan SC.** and Jaggi M. Protein kinase D1 attenuates tumorigenesis in SW 480 colon cancer cells by modulation β -catenin/T cell factor activity. 3rd International meeting Symposium on Translational Research: Cancer Cell Signaling and Therapy, December 18 through 21, 2009 in Bhubneshawar (Orissa), India.
113. Prakash. P., Freiz. M., Bohlmeier, T., **Chauhan SC.** and Jaggi M. Differential expression of protein kinase D1 (PKD1) in various cancers and overexpression in thyroid cancer. AACR Centennial Meeting 2009, Denver, CO.
114. Maher DM., Bell MC., O'Donnell EA., Jaggi M, **Chauhan SC.** Curcumin inhibits the growth of cervical cancer cells and suppresses HPV oncoproteins E6 and E7. AACR Centennial Meeting 2009, Denver, CO.

115. **Chauhan SC.**, Ebeling MC., Bell MC., Koch MD., Watanabe A., Aburatani H., Lio Y, Pandey KK., Jaggi M. Functional aspects of a membrane anchored mucin MUC13 in ovarian cancer. AACR Centennial Meeting 2009, Denver, CO.
116. **Chauhan SC**, Stangl CM., Christianson AB., Shearer GC., Harris WS. and Jaggi M Long Chain Omega-3-Fatty Acids (n-3 FA) Suppress Colon Cancer Cells Proliferation via Inhibition of β -catenin Transcription Activity . **AACR Annual Meeting 2008**, San Diego, CA
117. **Chauhan SC.**, Yang J., Vinayek N., Koch MD., Harmon M., Bohlmeier T., Jaggi M. and Perryman MB. Deregulated expression of myotonic dystrophy protein kinase (DMPK) in cervical cancer. **AACR Centennial Meeting 2007**, Washington DC.
118. Friez MH., Maher D., Vinayek N., Jaggi M., Vannatta K., Watanabe A., Aburantani H., Koch RD., and **Chauhan SC**. Overexpression of transmembrane mucin MUC13 in pancreatic ductal adenocarcinoma. **Pathology of the 21st Century Integrating Diagnostic and Molecular Pathology May 11-12, 2007, Houston Texas, USA**
119. Maher D., Bell MC., Jaggi M, and **Chauhan SC**. Natural Products for cervical cancer prevention and treatment. **2nd International Meeting on Translational Cancer Research and Natural Products 2007, Lonawala, India.**
120. **Jaggi M. and Chauhan SC**. Bryostatin suppresses β -catenin transcription activity by PKD1 activation in prostate cancer cells **2nd International Meeting on Translational Cancer Research and Natural Products, 11-14 December, 2007, Lonawala, India.**
121. **Chauhan SC** and Jaggi M. Cell signaling through mucins in cancer. *Proceedings of South Dakota Academy of Science (PSDAS) 2007, Volume 86*
122. Vannatta K., Vinayek N, Watanabe A, Dunham K, Bell MC, Koch MD, Aburatani H., Jaggi M. and **Chauhan SC**. MUC13 expression and its *in vitro* functions in ovarian cancer. *Proceedings of South Dakota Academy of Science (PSDAS) 2007, Volume 86*
123. Maher D., Bell M., Wattier K., Vannatta K., Jaggi M., Srivastava S. and **Chauhan SC**. Inhibition of cervical cancer cell proliferation with chemopreventive agents and modulation of E-cadherin expression by I3C in cervical intraepithelial neoplasia **AACR Centennial Meeting 2007**, Washington DC.
124. Hughes J., Dunham K., Vinayek N., Cheng D., Balaji KC., Hausser A., **Chauhan SC**. and Jaggi M. Modulation of β -catenin/T cell by protein kinase D1 in SW 480 colon cancer cells. **AACR Centennial Meeting 2007, Washington DC.**
125. Vinayek N., Dunham K., Wattier K., Koch MD., **Chauhan SC**. and Jaggi M. Differential expression of cadherins and catenins in gynecological cancers. **AACR Centennial Meeting 2007**, Washington DC.
126. Vinayek N., Vannatta K., Watanabe A., Dunham K., Bell M C., Koch MD., Aburatan H., Jaggi M. and **Chauhan SC**. Aberrant expression of a transmembrane mucin MUC13 in ovarian cancer. 7th Joint Conference of the AACR- Japanese Cancer Association: *In the Forefront of Basic and Translational Cancer Research*, 2007 January 21-25, Waikola, Hawaii.
127. Dunham K., Vinayek N., Hughes J., Balaji KC., **Chauhan SC**. and Jaggi M. Effect of Protein Kinase D1 on β -catenin transcription activity and cell cycle in prostate cancer cells. 7th Joint Conference of the AACR- Japanese Cancer Association: *In the Forefront of Basic and Translational Cancer Research*, 2007 January 21-25, Waikola, Hawaii.
128. **Chauhan SC.**, Vinayek N., Dunham K., Lio Y., Koch MD. and Jaggi M. Analysis for MUC1, MUC16 and TAG-72 expression in ovarian cancer: Antigens of multi-targeted antibody guided therapy. **2006 AACR International Conference on Molecular Diagnostics in Cancer Therapeutic Development**, September 12-15, Chicago, IL

129. Bell MC., Schmidt-Grimminger D., Patrick S., Ryschon T., Linz L. Beck L. and **Chauhan SC.** Prevalence of Human Papillomavirus (HPV) Infection in American Indian Women in Northern Plains. *Frontiers in Women's Health: Pioneering Researchers in South Dakota*, May 15, 2006.
130. Radel S., Bell MC., Vannatta K. and **Chauhan SC.** Human Papillomavirus 59 infection induces cellular differentiation in primary human keratinocytes. *SD Biomedical Research Infrastructure Network Symposium*, August 1, 2006.
131. Wattier K., Bell MC. and **Chauhan SC.** Chemoprevention in cervical cancer. *SD Biomedical Research Infrastructure Network Symposium*, August 1, 2006.
132. Dunham K., Koch MD., **Chauhan SC.** and **Jaggi M.** Aberrant expression of E-cadherin and β -catenin in gynecological cancers. *Frontiers in Women's Health: Pioneering Researchers in South Dakota*, May 15, 2006.
133. Bell MC., Schmidt-Grimminger D., Patrick S., Ryschon T., Linz L. and **Chauhan SC.** Analysis on Human Papillomavirus (HPV) Infection in Women in Northern Plains American Indian Reservation. *97th Annual AACR Meeting, Washington DC* (2006)
134. Jain M., **Chauhan SC.**, Singh AP. and Batra SK. Improved tumor retention of divalent single chain antibody fragment by co-administration of a cell penetrating peptide penetratin. *96th Annual AACR Meeting, Anaheim, CA* (2005)
135. **Chauhan SC.**, Jain M., Baranowska-Kortylewicz J. and Batra SK. Pharmacokinetics and biodistribution of ^{177}Lu -labeled multivalent single chain constructs of the pancarcinoma monoclonal antibody CC49. *94th Annual AACR Meeting, Washington DC* (2003)
136. Singh AP., Moniaux N., **Chauhan SC.**, Pandey KK, Andrianifahanana M., Jain M., Hollingsworth MA., and Batra SK, 2003. Inhibition of MUC4 expression suppresses pancreatic tumor cell growth and metastasis. *11th SPORE Investigators' Workshop, Baltimore, Maryland* (July 8-10, 2003), p68.
137. Singh AP., Andrianifahanana, M., **Chauhan, SC.**, Pandey, KK., Moniaux, N., Hollingsworth, MA. and Batra SK. (2002). MUC4 mucin overexpression is associated with the cystic fibrosis phenotype. *Sixteenth Annual North American Cystic Fibrosis Conference, New Orleans, Louisiana* (October 3-6, 2002). *Pediatr. Pulmon. (suppl 24)*. p200.
138. Bansode FW., **Chauhan SC.**, Makker A and Singh MM. Uterine luminal epithelial alkaline phosphatase activity and pinopod development in relation to endometrial sensitivity in rat. *International Conference on Reproductive Health, Mumbai*, 15-19 Mar 1998, pp 352-353.
139. **Chauhan SC.**, Makker A. and Singh MM. Endometrial protein profile in relation to period of maximal endometrial sensitivity in rat. *International Conference on Reproductive Health, Mumbai*, 15-19 Mar 1998, p 350.
140. Singh MM., **Chauhan SC.**, Trivedi RN., Makker A., Arshad M. and Kamboj VP. Characterization of endometrial sensitivity: A potential target for contraception. *International Conference on Reproductive Health, Mumbai*, 15-19 Mar 1998, p 351.
141. **Chauhan SC.**, Singh MM., Maitra SC., Chandra R. and Kamboj VP. Cytological changes in the uterus during high endometrial sensitivity in rat. *Proceedings of ICMR Young Scientists Symposium Frontiers in Reproductive Biology Research, Shimla*, October 8-11, 1996.
142. Trivedi RN., Singh MM., **Chauhan SC.**, Srivastava VML., Makker A. and KambojVP. Activities of certain antioxidant enzymes and dehydrogenases and histoarchitecture in relation to time of secretion of nidatory estrogen and high endometrial sensitivity in rat. *Proceedings of ICMR Young Scientists Symposium Frontiers in Reproductive Biology Research, Shimla*, 1996.
143. Makker A., Singh MM., **Chauhan SC.** & Kamboj VP. Biochemical and surface ultrastructural changes in the guinea pig uterus during high endometrial sensitivity and induced decidualization.

Proceedings of VII Annual Meeting of Indian Society of Study on Reproduction and Fertility, New Delhi, Dec 2-5, 1995.

144. **Chauhan SC.**, Singh MM., Maitra SC., Trivedi RN. & Kamboj VP. Correlation between hormonal events and endometrial sensitivity with development of pinopods on rat uterine luminal epithelium. ***Proceedings of ICMR Young Scientists Symposium Frontiers in Reproductive Biology Research, Bombay, Feb10-11, p 17, 1995.***
145. Singh MM., **Chauhan SC.**, Maitra SC., Trivedi RN. and Kamboj VP. Uterine surface ultrastructure during high endometrial sensitivity in rats. ***Proceedings of the Symposium on Cell Signaling and Ovo-Implantation, New Delhi, 1994.***
146. Singh MM., Makker A., **Chauhan SC.**, Dwivedi A. and Kamboj VP. Uterine estradiol and progesterone receptor concentration during high endometrial sensitivity in guinea pig. ***Proceedings of the Conference on Steroid Receptors and Antihormones, USA, Sept 20-23, abstr, 1994.***
147. Singh MM., **Chauhan SC.**, Maitra SC. and Kamboj VP. Effect of estrogen and progesterone antagonists on mitochondria in uterine glandular epithelial cells in rat. ***Proceedings of the Conference on Steroid Receptors and Antihormones, USA, Sept 20-23, 1994.***
148. Singh MM., Maitra SC., **Chauhan SC.**, Trivedi RN. and Kamboj VP. Displacement in appearance of pinopods on endometrial surface, but not Endometrial sensitivity, by the antiestrogen centchroman. ***Proceedings of the Conference on Steroid Receptors and Antihormones, USA, Sept 20-23, 1994.***
149. Singh MM., **Chauhan SC.**, Maitra SC., Trivedi RN. and Kamboj VP. Uterine surface ultrastructure during endometrial sensitivity in rat. ***Proceedings of National Symposium on Reproductive Health Care & 5th Annual Meeting of Indian Society Study of Reproduction and Fertility, Jaipur, Feb 4-6, 1994.***
150. **Chauhan SC.**, Singh MM., Maitra SC. and Kamboj VP. Displacement of the time of appearance of pinopods on rat endometrial surface by an antiestrogen. ***Proceedings of National Symposium on Reproductive Health Care & 5th Annual Meeting of Indian Society Study of Reproduction and Fertility, Jaipur, Feb 4-6, 1994.***

Radio Interview:

Subhash Chauhan

South Dakota Public Broadcasting

Title: Cervical Cancer in American Indian Women

Date: 08-24-2012

TV Interview:

Subhash Chauhan

Keloland TV, Sioux Falls. South Dakota

Title: Sanford Research 2012 progress and future prospects

Date: 12-24-2012

<http://www.keloland.com/videoarchive/index.cfm?VideoFile=121223insidekeloland>

News Interview

Subhash Chauhan

Published in Indian Country Today Media Network

Title: Sanford Health Researching Cervical Cancer in Native American Women

<http://indiancountrytodaymedianetwork.com/2012/09/12/sanford-health-researching-cervical-cancer-in-native-american-women-132928#ixzz26I1tyiGx>

Date: 09-12-2012

PATENT APPLICATIONS AND AWARDS:

1. Applied for **four** US Provisional Patents for developing a novel anti-cancer drug and one patent is already approved (PCT/US2011/063723).
2. One product is pending for technology transfer to Advance Orthomolecular Research (a Canada based company)

CONSULTATION ACTIVITIES:

Grant Review Panel:

1. Texas Center for Health Disparities Univ. of North Texas Health Science Center
2. Manitoba Health Research Council, Winnipeg, Manitoba, Canada
3. U.S. Civilian Research and Development Foundation (Cooperative Grants Program)
4. Grant Reviewer NIH (Challenge Grant Panel #10 (ZRG1) 2009
5. Ad hoc member gene and drug delivery (GDD) NIH study section 2010
6. Grant Reviewer NIH Topics in Biomedical Engineering [BST-M (02)]
7. 2011 Ad hoc member gene and drug delivery (GDD) NIH study section 2011
8. Grant reviewer NIMHD Science Education Initiative Special Emphasis Panel 2011
9. Grant reviewer NIMHD RO1 grants review Special Emphasis Panel 2011
10. Grant reviewer NIMHD P20 grants review Special Emphasis Panel 2011

11. Grant reviewer NIMHD R13 grants review Special Emphasis Panel 2011
12. DOD BCRP Idea Development Grant Review panel 2011
13. Grant reviewer NIMHD P60 grants review Special Emphasis Panel 2012
14. Grant reviewer NIMHD 24 grants review Special Emphasis Panel 2012
15. Grant reviewer NIMHD R13 grants review Special Emphasis Panel 2012
16. 2012 Ad hoc member gene and drug delivery (GDD) NIH study section 2012
17. November 2012 ZRG1 OBT-Z (55) R PAR Panel: Cancer Health Disparities/Diversity in Basic Cancer Research
18. March 2013 ZRG1 OBT-Z (55) R PAR Panel: Cancer Health Disparities/Diversity in Basic Cancer Research
19. November 2013 ZRG1 OBT-Z (55) R PAR Panel: Cancer Health Disparities/Diversity in Basic Cancer Research
20. April 2014 ZRG1 OBT-Z (55) R PAR Panel: Cancer Health Disparities/Diversity in Basic Cancer Research
- 21. Permanent member gene and drug delivery (GDD) NIH study section 2013-2017***
22. DOD 2013 Peer Reviewed Medical Research Program, Pre-application-Nanomedicine for Drug Delivery Science-2, PRE-NDDS-2
23. DOD 2013 Peer Reviewed Medical Research Program, Pre-IBS Panel
24. 2013 Texas Center for Health Disparities Univ. of North Texas Health Science Center
25. 2014 Texas Center for Health Disparities Univ. of North Texas Health Science Center
26. 2014 Swiss Cancer League review panel
27. 2014 West Cancer Intramural Grant review panel
28. 2014 KY Lung Cancer Research Program Grant review panel
29. 2015 Danish Council for Independent Research grant review panel
30. 2015 National Research Mentoring Network (NRMN) grant review panel.
31. UTHSC, College of Pharmacy seed grant review panel
32. Served on a NIH special emphasis panel ZMD1 XLN (2) (09/2015)
33. Served as reviewer NIA AACP review panel
34. Served as NCI Reviewer: NCI Small Grants Program for Cancer Research and NCI Exploratory/Development Research Grant Program (Ominbus R03 and R21) ZCA1 TCRB-6 M1

Research Interest: Developing Molecular Markers for Early Cancer Diagnosis and Targeted Therapy for Cancer Treatment

Biomarkers for Early Cancer Diagnosis: Primary research interest of Dr. Chauhan's lab is to identify and characterize the diagnostic and therapeutic targets for cancer. Main focus of our research group is to elucidate the regulatory mechanisms of cell-cell adhesion and anti-adhesion molecules that cause cancers. This research is aimed for the identification and characterization of biomarkers that aberrantly express or localize in cancer cells in order to develop newer tools for early disease diagnosis. We are utilizing genomics and proteomics approach for identification of novel early diagnostic markers. Recently we have identified a novel trans-membrane mucin MUC13 which is highly over-expressed ovarian and pancreatic and colon cancer cells. This may be potential biomarker for early cancer diagnosis as well as a good target for antibody guided targeted cancer therapy.

Optimization of Radioimmunotherapy for Cancer Treatment: The other research interest of Dr. Chauhan's lab is to develop novel radioimmunotherapy (RIT) and radioimmunodiagnostic (RID) modalities for the treatment and diagnosis of gynecological malignancies. Monoclonal antibodies/engineered single-chain Fvs offer a powerful approach to cancer therapy in view of their exquisite specificity and targeting capability via the delivery of cytotoxic agents (i.e. radionuclides, enzymes, genes, drugs and cytotoxins). This research project is aimed to develop novel genetically engineered antibody molecules with reduced immunogenicity, desirable size and altered pharmacokinetics for the RID/RIT applications.

Development of a Novel Nanotechnology Based Therapy: Nonspecific distribution and suboptimal delivery of the anti-cancer drug(s) to the tumor cells are the major hindrances in the successful use of traditional chemotherapy. The cancer tissues overexpress TAG-72, MUC1, MUC13 and MUC16 antigens, and a combination of the antibodies against these three antigens will potentially recognize 100% of the cancer cells. These antibodies can be used to deliver the *radionuclides and nanoparticles-encapsulated drugs* specifically to the cancer cells. In addition, antibodies that have been labeled with alpha and beta emitting radionuclides (²¹¹At, ¹⁷⁷Lu and ¹³¹I) of different linear energy transfer (LET) and have been designed against these tumor antigens will effectively target various sizes of metastatic lesions. Additionally, we are also developing a novel nanotechnology based gene therapy for cancer.

Information for the Lay Person:

Primary research interest of Dr. Chauhan's lab is to identify and characterize the diagnostic and therapeutic targets for cancer, such as ovarian cancer, cervical cancer, prostate cancer, pancreatic cancer. This research is aimed for the identification and characterization of biomarkers that aberrantly express or localize in cancer cells in order to develop newer tools for early disease diagnosis. Recently we have identified a novel trans-membrane mucin MUC13 which is highly over-expressed ovarian and pancreatic cancer cells. This may be potential biomarker for early cancer diagnosis as well as a good target for antibody guided targeted cancer therapy.

Press Releases:

Curcumin nanoparticles the key to resistant cancers

Pre-treatment with curcumin, a component of the spice turmeric, makes ovarian cancer cells more vulnerable to chemo- and radio-therapy. Researchers writing in BioMed Central's open access *Journal of Ovarian Research* found that delivering the curcumin via very small (less than 100nm) nanoparticles enhanced the sensitizing effect.

Subhash Chauhan, PhD and Meena Jaggi, PhD led a team of researchers from the Sanford Research/USD and University of South Dakota, USA, carried out the in vitro study. They said, "One

strategy to improve the effectiveness and limit the toxicity of cancer therapy is to induce chemo/radio-sensitization in cancer cells using natural dietary phytochemicals like curcumin. However, curcumin is poorly absorbed by the body, which limits its effectiveness; therefore, we have developed a nanoparticle formulation, Nano-CUR, to provide increased bioavailability as well as targeted delivery of curcumin into tumors”.

The researchers tested the effects of their curcumin formulation on therapy-resistant ovarian cancer cells. They were able to show, for the first time, that the pre-treatment lowers the dose of cisplatin and radiation treatment needed to suppress the growth of the cancer cells. According to Chauhan, “Nanoparticle mediated curcumin delivery will further improve the sensitization and therapeutic capabilities. This study demonstrates a novel pre-treatment strategy that could be implemented in pre-clinical animal models and in future clinical trials”.

CURRICULUM VITAE
GIULIO F. DRAETTA, MD, PHD

PRESENT AFFILIATION

Chief Scientific Officer, The University of Texas MD Anderson Cancer Center, Houston, TX
Sewell Family Chair, Department of Genomic Medicine, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX

CITIZENSHIP

United States, Italy

OFFICE ADDRESS

The University of Texas MD Anderson Cancer Center, 1881 East Road, Unit Number: 1954, Houston, TX 77054, Room Number: 3SCR6.3418. Email: GDraetta@mdanderson.org

EDUCATION

Degree-Granting Education

University of Naples Medical School, Naples, Italy, MD, summa cum laude, 1981, Medicine
University of Naples Medical School, Naples, Italy, PHD, 1985, Clinical Pathology and Biochemistry

Postgraduate Training

Intern, Institute of Biochemistry, Medical School, Naples, Italy, 1976-1981
Resident, Emergency Medicine, San Gennaro Hospital, Naples, Italy, 1981-1983
Clinical Fellow, University of Naples Medical School, Naples, Italy, 1981-1983
Fogarty International Center Fellow, National Institutes of Health, National Cancer Institute, Laboratory of Biochemistry, Bethesda, MD, 1983-1986
Robertson Fellow, Cold Spring Harbor Laboratory, New York, NY, 1986-1987

ACADEMIC APPOINTMENTS

Cold Spring Harbor Laboratory

Staff Scientist, Cold Spring Harbor Laboratory, New York, NY, 1987-1988
Senior Staff Investigator, Cold Spring Harbor Laboratory, New York, NY, 1989

European Molecular Biology Laboratory

Group Leader, Differentiation Program, European Molecular Biology Laboratory, Heidelberg, Germany, 1990-1992

European Institute of Oncology

Division Director of the Department of Experimental Oncology, European Institute of Oncology, Milan, Italy, 1996-1999

Professor of Biochemistry, University of Milan, Bicocca, Milan, Italy, 1999

Dana-Farber Cancer Institute

Deputy Director for Science, Belfer Institute for Applied Cancer Science, Dana-Farber Cancer Institute, Boston, MA, 2008-2011

Presidential Scholar, Dana-Farber Cancer Institute, Boston, MA, 2008-2011

Chief Research Business Development Officer, Dana-Farber Cancer Institute, Boston, MA, 2009-2011

MD Anderson Cancer Center

Professor, Department of Genomic Medicine, Division of Cancer Medicine, The University of Texas MD Anderson Cancer Center, Houston, TX, 9/2011-present

Professor, Department of Molecular and Cellular Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX, 9/2013-8/2016

Director, Institute for Applied Cancer Science, The University of Texas MD Anderson Cancer Center, Houston, TX, 11/2011-12/2016

Vice-President for Operations, Strategic Research Programs, ad interim, The University of Texas MD Anderson Cancer Center, Houston, TX, 3/2013-6/2016

Co-Leader, Moon Shots Program, The University of Texas MD Anderson Cancer Center, Houston, TX, 5/2013-present

Vice-President, ad interim, Therapeutics Discovery, The University of Texas MD Anderson Cancer Center, Houston, TX, 7/2016-2/2017

Vice President, Therapeutics Discovery, The University of Texas MD Anderson Cancer Center, Houston, TX, 3/2017-6/2017

Sr. Vice President, Discovery and Platforms, The University of Texas MD Anderson Cancer Center, Houston, TX, 7/2017-3/2019

Chief Academic Officer, The University of Texas MD Anderson Cancer Center, Houston, TX, 11/2017-07/2018

Chief Scientific Officer, ad interim, The University of Texas MD Anderson Cancer Center, Houston, TX, 08/2018-02/2019

Chief Scientific Officer, The University of Texas MD Anderson Cancer Center, Houston, TX, 03/2019-

INDUSTRY APPOINTMENTS

Mitotix, Inc

Co-Founder and Vice President, Biological Research, Mitotix, Inc., Cambridge, MA, 1993-1995; Chair, Scientific Advisory Board, 1995-1999

Pharmacia/Pfizer

Director, Department of Worldwide Oncology Pharmacology, Pharmacia & Upjohn Oncology Research, Milan, Italy, 1999-2000

Director, Therapeutic Area Team, Pharmacia Oncology, Milan, Italy, 2001

Director and Site Head, Pharmacia Oncology Research, Milan, Italy, 2002

Executive Director and Site Head, Discovery Research Europe, Milan, Italy, 2002-2004

Vice President and Head, Oncology R&D, Nerviano Medical Science (NMS), Nerviano, Milan, Italy, 2004

Merck Oncology

Vice-President and Worldwide Basic Franchise Head, Oncology, Merck Research Laboratories, Boston, MA, 2007-2008

Executive Director and Worldwide Head, Basic Research, Merck Research Laboratories, Boston, MA, 2004-2006

Executive Director, Cancer Research, Merck Research Laboratories, Pomezia, Italy, 2004

Member, Oncology Coordinating Committee, Merck Research Laboratories, Boston, MA, 2007-2008

Member, Preclinical Development Review Committee, Merck Research Laboratories, Boston, MA, 2007-2008

Member, Basic Discovery Review Committee, Merck Research Laboratories, Boston, MA, 2007-2008

ADVISORY BOARDS/CONSULTING

MetaboMed, Member, Scientific Advisory Board, 3/2018-present

Taiho Pharmaceutical Company, Tokyo, Japan, Member, Scientific Advisory Board, 2010-present

Helsinn International Services SARL, 11/2016 – present,

Karyopharm Therapeutics, Inc., Natick, MA, Chair, Member, Scientific Advisory Board, 2010-present

BiovelocITA, Member, Scientific Advisory Board, 5/2017-present

Forma Therapeutics, Inc., Cambridge, MA, Chair, Scientific Advisory Board, 2011-present

Symphogen, Copenhagen, Denmark, Member, Scientific Advisory Board, 2013-present

Nurix, Inc., San Francisco, CA, Member, Scientific Advisory Board, 2015-present

Vescor Therapeutics, LLC, Member, Board of Directors (MD Anderson representative), 9/2017-present

Orion Biosciences, Member, Scientific Advisory Board, 12/2017-present

IFOM - The FIRC Institute of Molecular Oncology Therapeutics Program, Member, Scientific Advisory Board, 2/2017-present

Blueprint Medicines, Member, Scientific Advisory Board, 9/2011-present

Pharmacia & Upjohn, London, England, Scientific Consultant, 1999

Eutropics Pharmaceuticals, Cambridge, MA, Scientific Advisor, 2009

Genzyme, Inc., Cambridge, MA, Scientific Advisor, 2009-2010

Epitherapeutics, Copenhagen, Denmark, Scientific Advisor, 2009-2015

European Institute of Oncology, Milan, Italy, Chair, Strategic Advisory Board, 2010-2014

Enumeral, Inc., Cambridge, MA, Member, Scientific Advisory Board, 2015-2017

Sanofi-Aventis, Bridgewater, NJ, Scientific Advisor, 2010

European Institute of Oncology, Novel Therapeutics Program, Milan, Italy, Chair, Scientific Advisory Board, 2010-2016

ShangPharma, Member, Scientific Advisory Board, 5/2015-5/2017

HONORS AND AWARDS

Chiara d'Onofrio Memorial Award, Fondazione Chiara d'Onofrio, 1997

Elected Member, European Molecular Biology Organization, 1997-present

Harrington Institute Scholar-Innovator, Harrington Discovery Institute, 2016-present

Pato Rao Award for Excellence in Basic Science, Division of Cancer Medicine, 2016-2017

SOCIETY MEMBERSHIPS

American Society of Clinical Oncology, Member

American Association for Cancer Research, Member

MD ANDERSON TRAINEES – GRADUATE STUDENTS

Er-Yen Yen, 1/2018 – present

Johnathon Rose, 1/2014-present

Jintan Liu, 4/2015-present

Chieh-Yuan 'Alex' Li, 3/2016-present (jointly with Dr. Andrea Viale)

Sanjana Srinivasan, 3/2017-present (jointly with Dr. Traver Hart)

Melinda Soeung, 5/2017-present (jointly with Dr. Giannicola Genovese)

I-Lin Ho, 6/2017-present (jointly with Dr. Andrea Viale)

Sahil Seth, 10/2017-present

MennatAllah Shaheen, 1/2018-present

Alessandro Carugo, 8/2012-12/2015, currently Research Scientist, Center for Clinical Trials, MD Anderson

Pushan R. Dasgupta, MD, PhD, 10/2013-6/2017, currently enrolled in Medical School, UT-Health

Denise Corti, 4/2014-8/2015, currently postdoctoral fellow, ETH-Zurich, Switzerland

Katarzyna Tomczak, 1/2015-12/2015; currently, post-doctoral fellow, Genomic Medicine, MD Anderson

MD ANDERSON TRAINEES - POSTDOCTORAL FELLOWS AND INSTRUCTORS

Luigi Sapio, 11/2016-present

Ziheng Chen, 6/2017-present

Wantong Yao, Instructor, 9/2012-present

Hideo Tomihara, 3/2013-present

Francesca Puca, 4/2015-present

Rosalba Minelli, 4/2015-present

Cecilia Leung, 6/2015-present

Giannicola Genovese, 5/2015-12/2017; currently, Tenure-Track Assistant Professor, Genitourinary Medical Oncology

Tony Gutschner, 7/2015-12/2016; currently, Tenure-Track Assistant Professor, Martin Luther University Halle-Wittenberg

Teresa Manzo, PhD, 9/2015-12/2017; currently, Tenure-Track Group Leader, European Institute of Oncology

Akira Inoue, 4/2016-present; currently, Staff Physician, Osaka Medical University, Japan

Piergiorgio Pettazzoni, 5/2012-8/2015; currently, Group Leader, Roche Pharmaceuticals, Basel, Switzerland

Andrea Viale, 12/2013-12/2016; currently, Tenure Track Assistant Professor, Genomic Medicine, MD Anderson

Sharmistha Sarkar, 5/2015-8/2016; currently, Instructor, Genomic Medicine

Luigi Nezi, 12/2013-12/2017; currently, Tenure-Track Group Leader, European Institute of Oncology

Nora Sanchez, 9/2012-3/2015; currently, Precision Oncology Scientist, IPCT, MD Anderson

EDITORIAL BOARD(S)

Molecular Cancer Research; Sr. Editor, Cancer Research. Past: Cell Cycle; Cell Division; BBA Reviews in Cancer; Cell Growth & Differentiation; EMBO Reports; , Journal of Cellular Physiology, Oncogene, Sr. Editor, Molecular Cancer Therapeutics, The EMBO Journal

JOURNAL REVIEWER

Cancer Cell, Cell, EMBO Journal, Journal of Cell Biology, Nature, Nature Cell Biology, Oncogene, Science, Cell Metabolism, Cell Stem Cells

GRANT REVIEWER/SERVICE ON STUDY SECTIONS OF FUNDING AGENCIES

Human Frontiers Science Program, Member, Grant Committee, 1997-2002

Pezcoller Foundation, Member, Scientific Committee, 1998-2003

Leukemia & Lymphoma Society, Therapy Acceleration Program, Rye Brook, NY Member, 1/2013-present

Leukemia and Lymphoma Society, Translational Grants, Member, 2013-present

Pancreatic Cancer Action Network, Research Acceleration Network, Member, 2016-present

French Ministry of Science, Government, (past) Member

Human Frontier Science Program Committee, Industry, (past) Member

Italian Association for Cancer Research, (past) Member

Italian Ministry of Science and Education, (past) Member

Italian National Research Council, (past) Member

National Center for Oncology Research (CNIO), Madrid, Spain, (past) Member

National Institutes of Health, NIH, (past) Member

Swiss Cancer Research Agency, (past) Member

Telethon, Italy, (past) Member

CURRENT RESEARCH FUNDING

Principal Investigator, 10%, The Nexus of Epigenetics and Immune-oncology: Translational Research to Develop Combined Therapies, W81XWH-11-1-0418, DOD/Congressionally Directed Medical Research Programs (DOD/CDMRP), 9/1/2014-8/31/2018, \$827,419

Principal Investigator, Development of an inhibitor of protein arginine methyltransferase 1 PRMT1 in pancreatic cancer and positioning for first-inhuman trials, Harrington Discovery Institute, 1/1/2017-12/31/2018 (\$50,000/year)

Principal Investigator, 15%, Identifying new epigenetic vulnerabilities in pancreatic cancer, RP160471, Cancer Prevention & Research Institute of Texas (CPRIT), 3/1/2016-2/28/2019, \$900,000 (\$300,000/year)

Principal Investigator, 0.6 months, Therapeutic vulnerabilities of mesenchymal pancreatic cancer cells, Pancreatic Cancer Action Network, 7/1/2017-6/30/2019, \$136,364

Principal Investigator, 0.6 months, Identification of critical dependencies and actionable therapeutic options in Smarcb1-deficient pediatric tumors, RP170722, Cancer Prevention & Research Institute of Texas (CPRIT), 9/1/2017-8/31/2020, \$94,524

Principal Investigator, 1.8 months, Medium-chain acyl-coenzyme A dehydrogenase as an essential feeder of glioblastoma multiforme, 1 R01 CA218139 01 A1, NIH/NCI, 9/1/2017-8/31/2022, \$1,240,805 (\$248,161/year)

Co-Investigator, 5%, Cancer Center Support Grant-Targeted Therapy Program, CA016672 40, NIH/NCI, PI - William Plunkett, 7/1/2013-6/30/2018, \$23,002

Co-Investigator, 10%, SPORE in Brain Cancer, Project 2: Targeting the PI3K pathway in malignant glioma, P50 CA127001-07, NIH/NCI, PI - Lang/Fueyo, 9/1/2013-8/31/2018, \$1,056,745 (\$211,349/year)

Co-Investigator, 1%, CCSG Multidisciplinary Research Program, CA016672 39, NIH/NCI, PI - DePinho, 3/1/2014-4/13/2018, \$250,000 (\$100,000/year)

Co-Principal Investigator, 5%, Developing a novel oxidative phosphorylation inhibitor in pancreatic cancer, 14-90-25-DRAE, American Association for Cancer Research (AACR), 7/1/2014-6/30/2017, \$900,000 (\$335,460/year)

Co-Principal Investigator, 5%, Pancreatic Cancer Moon Shot, UT MD Anderson Cancer Center/Philanthropic Gifts, PI - Wolff, Fleming, Maitra, 9/1/2014-8/31/2019, \$14,825,698 (\$1,000,000/year)

Co-Principal Investigator, 1.2 months, Genetics and Biology of Pancreatic Ductal Adenocarcinoma, RP160652, Cancer Prevention & Research Institute of Texas (CPRIT), 4/1/2016-3/31/2021 (\$2,046,289/year)

Co-Investigator, Defining and Defeating Mechanistic Subtypes of KRAS-mutant Lung Cancers-Preclinical and Pathology Core, RP160652, Cancer Prevention & Research Institute of Texas (CPRIT), 6/1/2016-5/31/2021

Mentor, 0.24 months, Patient-Specific Strategies for Targeting Therapy-Resistant Cells, DOD/Congressionally Directed Medical Research Programs (DOD/CDMRP), 1/1/2017-12/31/2019, \$19,063

Co-Principal Investigator, 0.6 months, Therapeutic potential of dual leucine zipper kinase inhibitors in Alzheimer's disease, Alzheimer's Drug Discovery Foundation, 4/1/2017-3/31/2018, \$538,620

PUBLICATIONS

1. **Discovery of IACS-9439, a Potent, Exquisitely Selective, and Orally Bioavailable Inhibitor of CSF1R.** Czako B, Marszalek JR, Burke JP, Mandal P, Leonard PG, Cross JB, Mseeh F, Jiang Y, Chang EQ, Suzuki E, Kovacs JJ,

- Feng N, Gera S, Harris AL, Liu Z, Mullinax RA, Pang J, Parker CA, Spencer ND, Yu SS, Wu Q, Tremblay MR, Mikule K, Wilcoxon K, Heffernan TP, Draetta GF, Jones PJ. *Med Chem.* 2020 Aug 18. doi: 10.1021/acs.jmedchem.0c00936. Online ahead of print.PMID: 32787110
2. **Accumulation of long-chain fatty acids in the tumor microenvironment drives dysfunction in intrapancreatic CD8+ T cells.** Manzo T, Prentice BM, Anderson KG, Raman A, Schalck A, Codreanu GS, Nava Lauson CB, Tiberti S, Raimondi A, Jones MA, Reyzer M, Bates BM, Spraggins JM, Patterson NH, McLean JA, Rai K, Tacchetti C, Tucci S, Wargo JA, Rodighiero S, Clise-Dwyer K, Sherrod SD, Kim M, Navin NE, Caprioli RM, Greenberg PD, Draetta G, Nezi LJ. *Exp Med.* 2020 Aug 3;217(8):e20191920. doi: 10.1084/jem.20191920.PMID: 32491160
3. **YAP1 oncogene is a context-specific driver for pancreatic ductal adenocarcinoma.** Tu B, Yao J, Ferri-Borgogno S, Zhao J, Chen S, Wang Q, Yan L, Zhou X, Zhu C, Bang S, Chang Q, Bristow CA, Kang Y, Zheng H, Wang H, Fleming JB, Kim M, Heffernan TP, Draetta GF, Pan D, Maitra A, Yao W, Gupta S, Ying H. *JCI Insight.* 2019 Nov 1;4(21):e130811. doi: 10.1172/jci.insight.130811.PMID: 31557131 Free PMC article.
4. **Current and Future Horizons of Patient-Derived Xenograft Models in Colorectal Cancer Translational Research.** Inoue A, Deem AK, Kopetz S, Heffernan TP, Draetta GF, Carugo A. *Cancers (Basel).* 2019 Sep 6;11(9):1321. doi: 10.3390/cancers11091321.PMID: 31500168 Free PMC article. Review.
5. **Predictive Signatures Inform the Effective Repurposing of Decitabine to Treat KRAS-Dependent Pancreatic Ductal Adenocarcinoma.** Mottini C, Tomihara H, Carrella D, Lamolinara A, Iezzi M, Huang JK, Amoreo CA, Buglioni S, Manni I, Robinson FS, Minelli R, Kang Y, Fleming JB, Kim MP, Bristow CA, Triscioglio D, Iuliano A, Del Bufalo D, Di Bernardo D, Melisi D, Draetta GF, Ciliberto G, Carugo A, Cardone L. *Cancer Res.* 2019 Nov 1;79(21):5612-5625. doi: 10.1158/0008-5472.CAN-19-0187. Epub 2019 Sep 5.PMID: 31492820 Free article.
6. **Pooled library screening with multiplexed Cpf1 library.** Liu J, Srinivasan S, Li CY, Ho IL, Rose J, Shaheen M, Wang G, Yao W, Deem A, Bristow C, Hart T, Draetta G. *Nat Commun.* 2019 Jul 17;10(1):3144. doi: 10.1038/s41467-019-10963-x.PMID: 31316073 Free PMC article.
7. **Metabolic reprogramming toward oxidative phosphorylation identifies a therapeutic target for mantle cell lymphoma.** Zhang L, Yao Y, Zhang S, Liu Y, Guo H, Ahmed M, Bell T, Zhang H, Han G, Lorence E, Badillo M, Zhou S, Sun Y, Di Francesco ME, Feng N, Haun R, Lan R, Mackintosh SG, Mao X, Song X, Zhang J, Pham LV, Lorenzi PL, Marszalek J, Heffernan T, Draetta G, Jones P, Futreal A, Nomie K, Wang L, Wang M. *Sci Transl Med.* 2019 May 8;11(491):eaau1167. doi: 10.1126/scitranslmed.aau1167.PMID: 31068440
8. **Syndecan 1 is a critical mediator of macropinocytosis in pancreatic cancer.** Yao W, Rose JL, Wang W, Seth S, Jiang H, Taguchi A, Liu J, Yan L, Kapoor A, Hou P, Chen Z, Wang Q, Nezi L, Xu Z, Yao J, Hu B, Pettazzoni PF, Ho IL, Feng N, Ramamoorthy V, Jiang S, Deng P, Ma GJ, Den P, Tan Z, Zhang SX, Wang H, Wang YA, Deem AK, Fleming JB, Carugo A, Heffernan TP, Maitra A, Viale A, Ying H, Hanash S, DePinho RA, Draetta GF. *Nature.* 2019 Apr;568(7752):410-414. doi: 10.1038/s41586-019-1062-1. Epub 2019 Mar 27.PMID: 30918400
9. **Critical questions in ovarian cancer research and treatment: Report of an American Association for Cancer Research Special Conference.** Bast RC Jr, Matulonis UA, Sood AK, Ahmed AA, Amobi AE, Balkwill FR, Wielgos-Bonvallet M, Bowtell DDL, Brenton JD, Brugge JS, Coleman RL, Draetta GF, Doberstein K, Drapkin RI, Eckert MA, Edwards RP, Elias KM, Ennis D, Futreal A, Gershenson DM, Greenberg RA, Huntsman DG, Ji JXY, Kohn EC, Iavarone C, Lengyel ER, Levine DA, Lord CJ, Lu Z, Mills GB, Modugno F, Nelson BH, Odunsi K, Pilsworth JA, Rottapel RK, Powell DJ Jr, Shen L, Shih IM, Spriggs DR, Walton J, Zhang K, Zhang R, Zou L. *Cancer.* 2019 Jun 15;125(12):1963-1972. doi: 10.1002/cncr.32004. Epub 2019 Mar 5.PMID: 30835824
10. **p53 Is a Master Regulator of Proteostasis in SMARCB1-Deficient Malignant Rhabdoid Tumors.** Carugo A, Minelli R, Sapio L, Soeung M, Carbone F, Robinson FS, Tepper J, Chen Z, Lovisa S, Svelto M, Amin S, Srinivasan S, Del Poggetto E, Loponte S, Puca F, Dey P, Malouf GG, Su X, Li L, Lopez-Terrada D, Rakheja D, Lazar AJ, Netto GJ, Rao P, Sgambato A, Maitra A, Tripathi DN, Walker CL, Karam JA, Heffernan TP, Viale A, Roberts CWM, Msaouel P, Tannir NM, Draetta GF, Genovese G. *Cancer Cell.* 2019 Feb 11;35(2):204-220.e9. doi: 10.1016/j.ccell.2019.01.006.PMID: 30753823

11. **Pre-existing Functional Heterogeneity of Tumorigenic Compartment as the Origin of Chemoresistance in Pancreatic Tumors.** Seth S, Li CY, Ho IL, Corti D, Loponte S, Sapio L, Del Poggetto E, Yen EY, Robinson FS, Peoples M, Karpinets T, Deem AK, Kumar T, Song X, Jiang S, Kang Y, Fleming J, Kim M, Zhang J, Maitra A, Heffernan TP, Giuliani V, Genovese G, Futreal A, Draetta GF, Carugo A, Viale A. *Cell Rep.* 2019 Feb 5;26(6):1518-1532.e9. doi: 10.1016/j.celrep.2019.01.048.PMID: 30726735
12. **Functional Genomics Reveals Synthetic Lethality between Phosphogluconate Dehydrogenase and Oxidative Phosphorylation.** Sun Y, Bandi M, Lofton T, Smith M, Bristow CA, Carugo A, Rogers N, Leonard P, Chang Q, Mullinax R, Han J, Shi X, Seth S, Meyers BA, Miller M, Miao L, Ma X, Feng N, Giuliani V, Geck Do M, Czako B, Palmer WS, Mseeh F, Asara JM, Jiang Y, Morlacchi P, Zhao S, Peoples M, Tieu TN, Warmoes MO, Lorenzi PL, Muller FL, DePinho RA, Draetta GF, Toniatti C, Jones P, Heffernan TP, Marszalek JR. *Cell Rep.* 2019 Jan 8;26(2):469-482.e5. doi: 10.1016/j.celrep.2018.12.043.PMID: 30625329
13. **High-resolution clonal mapping of multi-organ metastasis in triple negative breast cancer.** Echeverria GV, Powell E, Seth S, Ge Z, Carugo A, Bristow C, Peoples M, Robinson F, Qiu H, Shao J, Jeter-Jones SL, Zhang X, Ramamoorthy V, Cai S, Wu W, Draetta G, Moulder SL, Symmans WF, Chang JT, Heffernan TP, Piwnicka-Worms H. *Nat Commun.* 2018 Nov 29;9(1):5079. doi: 10.1038/s41467-018-07406-4.PMID: 30498242
14. **An inhibitor of oxidative phosphorylation exploits cancer vulnerability.** Molina JR, Sun Y, Protopopova M, Gera S, Bandi M, Bristow C, McAfoos T, Morlacchi P, Ackroyd J, Agip AA, Al-Atrash G, Asara J, Bardenhagen J, Carrillo CC, Carroll C, Chang E, Ciurea S, Cross JB, Czako B, Deem A, Daver N, de Groot JF, Dong JW, Feng N, Gao G, Gay J, Do MG, Greer J, Giuliani V, Han J, Han L, Henry VK, Hirst J, Huang S, Jiang Y, Kang Z, Khor T, Konoplev S, Lin YH, Liu G, Lodi A, Lofton T, Ma H, Mahendra M, Matre P, Mullinax R, Peoples M, Petrocchi A, Rodriguez-Canale J, Serreli R, Shi T, Smith M, Tabe Y, Theroff J, Tiziani S, Xu Q, Zhang Q, Muller F, DePinho RA, Toniatti C, Draetta GF, Heffernan TP, Konopleva M, Jones P, Di Francesco ME, Marszalek JR. *Nat Med.* 2018 Jul;24(7):1036-1046. doi: 10.1038/s41591-018-0052-4. Epub 2018 Jun 11.PMID: 29892070
15. **Collapsing the Tumor Ecosystem: Preventing Adaptive Response to Treatment by Inhibiting Transcription.** Carugo A, Draetta GF. *Cancer Discov.* 2018 Jan;8(1):17-19. doi: 10.1158/2159-8290.CD-17-1245.PMID: 29311224
16. **Future cancer research priorities in the USA: a Lancet Oncology Commission.** Jaffee EM, Dang CV, Agus DB, Alexander BM, Anderson KC, Ashworth A, Barker AD, Bastani R, Bhatia S, Bluestone JA, Brawley O, Butte AJ, Coit DG, Davidson NE, Davis M, DePinho RA, Diasio RB, Draetta G, Frazier AL, Futreal A, Gambhir SS, Ganz PA, Garraway L, Gerson S, Gupta S, Heath J, Hoffman RI, Hudis C, Hughes-Halbert C, Ibrahim R, Jadvar H, Kavanagh B, Kittles R, Le QT, Lippman SM, Mankoff D, Mardis ER, Mayer DK, McMasters K, Meropol NJ, Mitchell B, Naredi P, Ornish D, Pawlik TM, Peppercorn J, Pomper MG, Raghavan D, Ritchie C, Schwarz SW, Sullivan R, Wahl R, Wolchok JD, Wong SL, Yung A. *Lancet Oncol.* 2017 Nov;18(11):e653-e706. doi: 10.1016/S1470-2045(17)30698-8. Epub 2017 Oct 31.PMID: 29208398
17. **EZH2 Modifies Sunitinib Resistance in Renal Cell Carcinoma by Kinome Reprogramming.** Adelaiye-Ogala R, Budka J, Damayanti NP, Arrington J, Ferris M, Hsu CC, Chintala S, Orillion A, Miles KM, Shen L, Elbanna M, Ciamporcerio E, Arisa S, Pettazzoni P, Draetta GF, Seshadri M, Hancock B, Radovich M, Kota J, Buck M, Keilhack H, McCarthy BP, Persohn SA, Territo PR, Zang Y, Irudayaraj J, Tao WA, Hollenhorst P, Pili R. *Cancer Res.* 2017 Dec 1;77(23):6651-6666. doi: 10.1158/0008-5472.CAN-17-0899. Epub 2017 Oct 4.PMID: 28978636 Free PMC article.
18. **ILF2 Is a Regulator of RNA Splicing and DNA Damage Response in 1q21-Amplified Multiple Myeloma.** Marchesini M, Ogoti Y, Fiorini E, Aktas Samur A, Nezi L, D'Anca M, Storti P, Samur MK, Ganan-Gomez I, Fulciniti MT, Mistry N, Jiang S, Bao N, Marchica V, Neri A, Bueso-Ramos C, Wu CJ, Zhang L, Liang H, Peng X, Giuliani N, Draetta G, Clise-Dwyer K, Kantarjian H, Munshi N, Orlowski R, Garcia-Manero G, DePinho RA, Colla S. *Cancer Cell.* 2017 Jul 10;32(1):88-100.e6. doi: 10.1016/j.ccell.2017.05.011. Epub 2017 Jun 29.PMID: 28669490 Free PMC article.
19. **PRKCI promotes immune suppression in ovarian cancer.** Sarkar S, Bristow CA, Dey P, Rai K, Perets R, Ramirez-Cardenas A, Malasi S, Huang-Hobbs E, Haemmerle M, Wu SY, McGuire M, Protopopov A, Jiang S,

- Liu JF, Hirsch MS, Chang Q, Lazar AJ, Sood AK, Drapkin R, DePinho R, Draetta G, Chin L. *Genes Dev.* 2017 Jun 1;31(11):1109-1121. doi: 10.1101/gad.296640.117. Epub 2017 Jul 11. PMID: 28698296 Free PMC article.
20. **Academic Discovery of Anticancer Drugs: Historic and Future Perspectives** Carugo A., & Draetta G.F., *Annual Review of Cancer Biology*, 2019, Vol. 3:385-408
21. **TP53 is a master regulator of proteostasis in SMARCB1-deficient malignant rhabdoid tumors** Carugo, A, Minelli, Sapio, L. Soeung, M., Carbone, F., Robinson, FS, Tepper J., Chen, Z., Lovisa, S., Svelto, M., Samirkumar, A., Srinivasan, S., Del Poggetto, E., Loponte, S., Puca, F., Dey, P., Malouf, GG., Su., X., Li, L., Lopez-Terrada, D., Rakheja, D., Lazar, AJ., Netto, G., Rao, P., Sgambato., A., Maitra, A., Tripathi, D., Walker, C., Karama, J., Heffernan, TP, Viale, A., Roberts, CWM., Msaouel, P., Tannir, N., Draetta, GF., Genovese, G.. *Cancer Cell*, in press
22. **High-resolution clonal mapping of multi-organ metastasis in triple negative breast cancer.** Echeverria GV, Powell E, Seth S, Ge Z, Carugo A, Bristow C, Peoples M, Robinson F, Qiu H, Shao J, Jeter-Jones SL, Zhang X, Ramamoorthy V, Cai S, Wu W, Draetta G, Moulder SL, Symmans WF, Chang JT, Heffernan TP, Piwnicka-Worms H. *Nat Commun.* 2018 Nov 29;9(1):5079.
23. **An inhibitor of oxidative phosphorylation exploits cancer vulnerability.** Molina JR, Sun Y, Protopopova M, Gera S, Bandi M, Bristow C, McAfoos T, Morlacchi P, Ackroyd J, Agip AA, Al-Atrash G, Asara J, Bardenhagen J, Carrillo, CC, Carroll C, Chang E, Ciurea S, Cross JB, Czako B, Deem A, Daver N, de Groot, JF, Dong JW, Feng N, Gao G, Gay J, Do MG, Greer J, Giuliani V, Han J, Han L, Henry VK, Hirst J, Huang S, Jiang Y, Kang Z, Khor T, Konoplev S, Lin YH, Liu G, Lodi A, Lofton T, Ma H, Mahendra M, Matre P, Mullinax R, Peoples M, Petrocchi A, Rodriguez-Canale J, Serreli R, Shi T, Smith M, Tabe Y, Theroff J, Tiziani S, Xu, Q, Zhang Q, Muller F, DePinho RA, Toniatti C, Draetta GF, Heffernan TP, Konopleva, M, Jones P, Di Francesco ME, Marszalek JR. *Nat Med.* 2018 Jun 11. doi: 10.1038/s41591-018-0052-4. [Epub ahead of print] PubMed PMID: 29892070.
24. **Collapsing the Tumor Ecosystem: Preventing Adaptive Response to Treatment by Inhibiting Transcription.** Carugo A, Draetta GF. *Cancer Discov.* 2018 Jan;8(1):17-19. doi: 10.1158/2159-8290.CD-17-1245. PubMed PMID: 29311224.
25. **How Much Longer Will We Put Up With \$100,000 Cancer Drugs?** Workman P, Draetta GF, Schellens JHM, Bernards R. *Cell* 168(4):579-583, 2/2017. PMID: 28187281.
26. **EZH2 Modifies Sunitinib Resistance in Renal Cell Carcinoma by Kinome Reprogramming** Adelaiye-Ogala R, Budka J, Damayanti NP, Arrington J, Ferris M, Hsu CC, Chintala S, Orillion A, Miles KM, Shen L, Elbanna M, Ciamporcerio E, Arisa S, Pettazzoni P, Draetta GF, Seshadri M, Hancock B, Radovich M, Kota J, Buck M, Keilhack H, McCarthy BP, Persohn SA, Territo PR, Zang Y, Irudayaraj J, Tao WA, Hollenhorst P, Pili R.. *Cancer Res* 77(23):6651-6666, 12/2017. e-Pub 10/2017. PMCID: PMC5712262.
27. **Synthetic vulnerabilities of mesenchymal subpopulations in pancreatic cancer** Genovese G, Carugo A, Tepper J, Robinson FS, Li L, Svelto M, Nezi L, Corti D, Minelli R, Pettazzoni P, Gutschner T, Wu CC, Seth S, Akdemir KC, Leo E, Amin S, Molin MD, Ying H, Kwong LN, Colla S, Takahashi K, Ghosh P, Giuliani V, Muller F, Dey P, Jiang S, Garvey J, Liu CG, Zhang J, Heffernan TP, Toniatti C, Fleming JB, Goggins MG, Wood LD, Sgambato A, Agaimy A, Maitra A, Roberts CW, Wang H, Viale A, DePinho RA, Draetta GF, Chin L.. *Nature* 542(7641):362-366, 2/2017. e-Pub 2/2017. PMID: 28178232.
28. **Genomic deletion of malic enzyme 2 confers collateral lethality in pancreatic cancer.** Dey P, Baddour J, Muller F, Wu CC, Wang H, Liao WT, Lan Z, Chen A, Gutschner T, Kang Y, Fleming J, Satani N, Zhao D, Achreja A, Yang L, Lee J, Chang E, Genovese G, Viale A, Ying H, Draetta G, Maitra A, Wang YA, Nagrath D, DePinho RA. *Nature* 542(7639):119-123, 2/2017. e-Pub 1/2017. PMCID: PMC5398413.
29. **Metabolic Features of Cancer Treatment Resistance.** Viale A, Draetta GF. *Cancer Res* 207:135-56, 2016. PMID: 27557537.
30. **In Vivo Functional Platform Targeting Patient-Derived Xenografts Identifies WDR5-Myc Association as a Critical Determinant of Pancreatic Cancer.** Carugo A, Genovese G, Seth S, Nezi L, Rose JL, Bossi D, Cicalese

- A, Shah PK, Viale A, Pettazzoni PF, Akdemir KC, Bristow CA, Robinson FS, Tepper J, Sanchez N, Gupta S, Estecio MR, Giuliani V, Dellino GI, Riva L, Yao W, Di Francesco ME, Green T, D'Alesio C, Corti D, Kang Y, Jones P, Wang H, Fleming JB, Maitra A, Pelicci PG, Chin L, DePinho RA, Lanfranccone L, Heffernan TP, Draetta GF. *Cell Rep* 16(1):133-47, 6/2016. e-Pub 6/2016. PMID: 27320920.
31. **In Vivo Genetic Screens of Patient-Derived Tumors Revealed Unexpected Frailty of the Transformed Phenotype** Bossi D, Cicalese A, Dellino GI, Luzi L, Riva L, D'Alesio C, Diaferia GR, Carugo A, Cavallaro E, Piccioni R, Barberis M, Mazzarol G, Testori A, Punzi S, Pallavicini I, Tosti G, Giacobbe L, Melloni G, Heffernan TP, Natoli G, Draetta GF, Minucci S, Pelicci P, Lanfranccone L. *Cancer Discov* 6(6):650-63, 6/2016. e-Pub 5/2016. PMID: 27179036.
 32. **Identification of potent and selective MTH1 inhibitors.** Petrocchi A, Leo E, Reyna NJ, Hamilton MM, Shi X, Parker CA, Mseeh F, Bardenhagen JP, Leonard P, Cross JB, Huang S, Jiang Y, Cardozo M, Draetta G, Marszalek JR, Toniatti C, Jones P, Lewis RT. *Bioorg Med Chem Lett* 26(6):1503-7, 3/2016. e-Pub 2/2016. PMID: 26898335.
 33. **Structure-Guided Design of IACS-9571, a Selective High-Affinity Dual TRIM24-BRPF1 Bromodomain Inhibitor.** Palmer WS, Poncet-Montange G, Liu G, Petrocchi A, Reyna N, Subramanian G, Theroff J, Yau A, Kost-Alimova M, Bardenhagen JP, Leo E, Shepard HE, Tieu TN, Shi X, Zhan Y, Zhao S, Barton MC, Draetta G, Toniatti C, Jones P, Geck Do M, Andersen JN. *J Med Chem* 59(4):1440-54, 2/2016. e-Pub 7/2015. PMCID: PMC4755933.
 34. **Post-translational Regulation of Cas9 during G1 Enhances Homology-Directed Repair.** Gutschner T, Haemmerle M, Genovese G, Draetta GF, Chin L. *Cell Rep* 14(6):1555-66, 2/2016. e-Pub 2/2016. PMID: 26854237.
 35. **Genetics and biology of pancreatic ductal adenocarcinoma.** Ying H, Dey P, Yao W, Kimmelman AC, Draetta GF, Maitra A, DePinho RA. *Genes Dev* 30(4):355-85, 2/2016. PMCID: PMC4762423.
 36. **Development of novel cellular histone-binding and chromatin-displacement assays for bromodomain drug discovery** Zhan Y, Kost-Alimova M, Shi X, Leo E, Bardenhagen JP, Shepard HE, Appikonda S, Vangamudi B, Zhao S, Tieu TN, Jiang S, Heffernan TP, Marszalek JR, Toniatti C, Draetta G, Tyler J, Barton M, Jones P, Palmer WS, Geck Do MK, Andersen JN. *Epigenetics Chromatin* 8:37, 2015. e-Pub 9/2015. PMCID: PMC4578755.
 37. **Sugar? No Thank You, Just a Deep Breath of Oxygen for Cancer Stem Cells.** Viale A, Draetta GF. *Cell Metab* 22(4):543-5, 10/2015. PMID: 26445511.
 38. **Tumors and Mitochondrial Respiration: A Neglected Connection** Viale A, Corti D, Draetta GF. *Cancer Res.* e-Pub 9/2015. PMID: 26337911.
 39. **The SMARCA2/4 ATPase domain surpasses the bromodomain as a drug target in SWI/SNF mutant cancers: Insights from cDNA rescue and PFI-3 inhibitor studies** Vangamudi B, Paul TA, Shah PK, Kost-Alimova M, Nottebaum L, Shi X, Zhan Y, Leo E, Mahadeshwar HS, Protopopov A, Futreal A, Tieu TN, Peoples M, Heffernan TP, Marszalek JR, Toniatti C, Petrocchi A, Verhelle D, Owen DR, Draetta G, Jones P, Palmer WS, Sharma S, Andersen JN. *Cancer Res* 75(18):3865-78, 9/2015. e-Pub 7/2015. PMID: 26139243.
 40. **Redox mediated suberoylanilide hydroxamic acid (SAHA) sensitivity in breast cancer.** Chiaradonna F, Barozzi I, Miccolo C, Bucci G, Palorini R, Fornasari L, Botrugno OA, Pruneri G, Masullo M, Passafaro A, Galimberti VE, Fantin VR, Richon VM, Pece S, Viale G, Di Fiore PP, Draetta G, Pelicci PG, Minucci S, Chiocca S. *Antioxid Redox Signal* 23(1):15-29, 7/2015. e-Pub 5/2015. PMCID: PMC4492673.
 41. **Genetic events that limit the efficacy of MEK and RTK inhibitor therapies in a mouse model of KRAS-driven pancreatic cancer** Pettazzoni P, Viale A, Shah P, Carugo A, Ying H, Wang H, Genovese G, Seth S, Minelli R, Green T, Huang-Hobbs E, Corti D, Sanchez N, Nezi L, Marchesini M, Kapoor A, Yao W, Francesco ME, Petrocchi A, Deem AK, Scott K, Colla S, Mills GB, Fleming JB, Heffernan TP, Jones P, Toniatti C, DePinho RA, Draetta GF. *Cancer Res* 75(6):1091-101, 3/2015. e-Pub 3/2015. PMCID: PMC4446709.

42. **Oncogene ablation-resistant pancreatic cancer cells depend on mitochondrial function** Viale A, Pettazzoni P, Lyssiotis CA, Ying H, Sánchez N, Marchesini M, Carugo A, Green T, Seth S, Giuliani V, Kost-Alimova M, Muller F, Colla S, Nezi L, Genovese G, Deem AK, Kapoor A, Yao W, Brunetto E, Kang Y, Yuan M, Asara JM, Wang YA, Heffernan TP, Kimmelman AC, Wang H, Fleming JB, Cantley LC, DePinho RA, Draetta GF.. *Nature* 514(7524):628-32, 10/2014. e-Pub 8/2014. PMID: 25119024.
43. **Yap1 activation enables bypass of oncogenic Kras addiction in pancreatic cancer.** Kapoor A, Yao W, Ying H, Hua S, Liewen A, Wang Q, Zhong Y, Wu CJ, Sadanandam A, Hu B, Chang Q, Chu GC, Al-Khalil R, Jiang S, Xia H, Fletcher-Sananikone E, Lim C, Horwitz GI, Viale A, Pettazzoni P, Sanchez N, Wang H, Protopopov A, Zhang J, Heffernan T, Johnson RL, Chin L, Wang YA, Draetta G, DePinho RA. *Cell* 158(1):185-197, 7/2014. e-Pub 6/2014. PMCID: PMC4109295.
44. **Oncology Drug Discovery: Planning a Turnaround** Toniatti C, Jones P, Graham H, Pagliara B, Draetta G.. *Cancer Discov* 4(4):397-404, 4/2014. PMID: 24706659.
45. **Investigative pathology: leading the post-genomic revolution** Berman DM, Bosenberg MW, Orwant RL, Thurberg BL, Draetta GF, Fletcher CD, Loda M.. *Lab Invest* 92(1):4-8, 1/2012. e-Pub 10/2011. PMID: 21986811.
46. **Cancer Drug Discovery Faces the FACT.** Draetta GF, Depinho RA. *Sci Transl Med* 3(95):95ps34, 8/2011. PMID: 21832237.
47. **PDK1 attenuation fails to prevent tumor formation in PTEN-deficient transgenic mouse models.** Ellwood-Yen K, Keilhack H, Kunii K, Dolinski B, Connor Y, Hu K, Nagashima K, O'Hare E, Erkul Y, Di Bacco A, Gargano D, Shomer NH, Angagaw M, Leccese E, Andrade P, Hurd M, Shin MK, Vogt TF, Northrup A, Bobkova EV, Kasibhatla S, Bronson RT, Scott ML, Draetta G, Richon V, Kohl N, Blume-Jensen P, Andersen JN, Kraus M. *Cancer Res* 71(8):3052-65, 4/2011. PMID: 21493594.
48. **Met activation in non-small cell lung cancer is associated with de novo resistance to EGFR inhibitors and the development of brain metastasis.** Benedettini E, Sholl LM, Peyton M, Reilly J, Ware C, Davis L, Vena N, Bailey D, Yeap BY, Fiorentino M, Ligon AH, Pan BS, Richon V, Minna JD, Gazdar AF, Draetta G, Bosari S, Chirieac LR, Lutterbach B, Loda M.. *Am J Pathol* 177(1):415-23, 7/2010. e-Pub 5/2010. PMCID: PMC2893683.
49. **Downregulation of Notch pathway by a gamma-secretase inhibitor attenuates AKT/mammalian target of rapamycin signaling and glucose uptake in an ERBB2 transgenic breast cancer model.** Efferson CL, Winkelmann CT, Ware C, Sullivan T, Giampaoli S, Tamam J, Patel S, Mesiti G, Reilly JF, Gibson RE, Buser C, Yeatman T, Coppola D, Winter C, Clark EA, Draetta GF, Strack PR, Majumder PK. *Cancer Res* 70(6):2476-84, 3/2010. e-Pub 3/2010. PMID: 20197467.
50. **Down-regulation of the Notch pathway mediated by a gamma-secretase inhibitor induces anti-tumour effects in mouse models of T-cell leukaemia.** Tamam J, Ware C, Efferson C, O'Neil J, Rao S, Qu X, Gorenstein J, Angagaw M, Kim H, Kenific C, Kunii K, Leach KJ, Nikov G, Zhao J, Dai X, Hardwick J, Scott M, Winter C, Bristow L, Elbi C, Reilly JF, Look T, Draetta G, Van der Ploeg L, Kohl NE, Strack PR, Majumder PK.. *Br J Pharmacol* 158(5):1183-95, 11/2009. e-Pub 9/2009. PMCID: PMC2782329.
51. **Inhibition of NOTCH signaling by gamma secretase inhibitor engages the RB pathway and elicits cell cycle exit in T-cell acute lymphoblastic leukemia cells.** Rao SS, O'Neil J, Liberator CD, Hardwick JS, Dai X, Zhang T, Tyminski E, Yuan J, Kohl NE, Richon VM, Van der Ploeg LH, Carroll PM, Draetta GF, Look AT, Strack PR, Winter CG. *Cancer Res* 69(7):3060-8, 4/2009. e-Pub 3/2009. PMID: 19318552.
52. **FBW7 mutations in leukemic cells mediate NOTCH pathway activation and resistance to gamma-secretase inhibitors.** O'Neil J, Grim J, Strack P, Rao S, Tibbitts D, Winter C, Hardwick J, Welcker M, Meijerink JP, Pieters R, Draetta G, Sears R, Clurman BE, Look AT.. *J Exp Med* 204(8):1813-24, 8/2007. e-Pub 7/2007. PMCID: PMC2118656.

53. **Role for histone deacetylase 1 in human tumor cell proliferation.** Senese S, Zaragoza K, Minardi S, Muradore I, Ronzoni S, Passafaro A, Bernard L, Draetta GF, Alcalay M, Seiser C, Chiocca S. *Mol Cell Biol* 27(13):4784-95, 7/2007. e-Pub 4/2007. PMCID: PMC1951481.
54. **SCFFbx13 controls the oscillation of the circadian clock by directing the degradation of cryptochrome proteins.** Busino L, Bassermann F, Maiolica A, Lee C, Nolan PM, Godinho SI, Draetta GF, Pagano M. *Science* 316(5826):900-4, 5/2007. e-Pub 4/2007. PMID: 17463251.
55. **Apoptosis in T cell acute lymphoblastic leukemia cells after cell cycle arrest induced by pharmacological inhibition of notch signaling.** Lewis HD, Leveridge M, Strack PR, Haldon CD, O'neil J, Kim H, Madin A, Hannam JC, Look AT, Kohl N, Draetta G, Harrison T, Kerby JA, Shearman MS, Behr D. *Chem Biol* 14(2):209-19, 2/2007. PMID: 17317574.
56. **Frequent alterations in the expression of serine/threonine kinases in human cancers.** Capra M, Nuciforo PG, Confalonieri S, Quarto M, Bianchi M, Nebuloni M, Boldorini R, Pallotti F, Viale G, Gishizky ML, Draetta GF, Di Fiore PP. *Cancer Res* 66(16):8147-54, 8/2006. PMID: 16912193.
57. **Ebp1 is a dsRNA-binding protein associated with ribosomes that modulates eIF2alpha phosphorylation** Squatrito M, Mancino M, Sala L, Draetta GF. *Biochem Biophys Res Commun* 344(3):859-68, 6/2006. e-Pub 4/2006. PMID: 16631606.
58. **Transforming growth factor beta facilitates beta-TrCP-mediated degradation of Cdc25A in a Smad3-dependent manner.** Ray D, Terao Y, Nimbalkar D, Chu LH, Donzelli M, Tsutsui T, Zou X, Ghosh AK, Varga J, Draetta GF, Kiyokawa H. *Mol Cell Biol* 25(8):3338-47, 4/2005. PMCID: PMC1069597.
59. **Commentary on "A new cancer diagnostic system based on a CDK profiling technology".** Draetta GF. *Biochim Biophys Acta* 1741(3):225, 9/2005. PMID: 16183014.
60. **A mechanism for inhibiting the SUMO pathway** Boggio R, Colombo R, Hay RT, Draetta GF, Chiocca S. *Mol Cell* 16(4):549-61, 11/2004. PMID: 15546615.
61. **Characterization of the BUD31 gene of *Saccharomyces cerevisiae*.** Masciadri B, Areces LB, Carpinelli P, Foiani M, Draetta G, Fiore F. *Biochem Biophys Res Commun* 320(4):1342-50, 8/2004. PMID: 15303280.
62. **EBP1 is a nucleolar growth-regulating protein that is part of pre-ribosomal ribonucleoprotein complexes.** Squatrito M, Mancino M, Donzelli M, Areces LB, Draetta GF. *Oncogene* 23(25):4454-65, 5/2004. PMID: 15064750.
63. **Hierarchical order of phosphorylation events commits Cdc25A to betaTrCP-dependent degradation.** Donzelli M, Busino L, Chiesa M, Ganoth D, Hershko A, Draetta GF. *Cell Cycle* 3(4):469-71, 4/2004. e-Pub 4/2004. PMID: 14752276.
64. **Cdc25A phosphatase: combinatorial phosphorylation, ubiquitylation and proteolysis.** Busino L, Chiesa M, Draetta GF, Donzelli M. *Oncogene* 23(11):2050-6, 3/2004. PMID: 15021892.
65. **Degradation of Cdc25A by beta-TrCP during S phase and in response to DNA damage.** Busino L, Donzelli M, Chiesa M, Guardavaccaro D, Ganoth D, Dorrello NV, Hershko A, Pagano M, Draetta GF. *Nature* 426(6962):87-91, 11/2003. PMID: 14603323.
66. **Regulating mammalian checkpoints through Cdc25 inactivation.** Donzelli M, Draetta GF. *EMBO Rep* 4(7):671-7, 7/2003. PMCID: PMC1326326.
67. **Modulation of p120E4F transcriptional activity by the Gam1 adenoviral early protein.** Colombo R, Draetta GF, Chiocca S. *Oncogene* 22(17):2541-7, 5/2003. PMID: 12730668.
68. **The adenovirus protein Gam1 interferes with sumoylation of histone deacetylase 1.** Colombo R, Boggio R, Seiser C, Draetta GF, Chiocca S. *EMBO Rep* 3(11):1062-8, 11/2002. e-Pub 10/2002. PMCID: PMC1307602.
69. **Dual mode of degradation of Cdc25 A phosphatase.** Donzelli M, Squatrito M, Ganoth D, Hershko A, Pagano M, Draetta GF. *EMBO J* 21(18):4875-84, 9/2002. PMCID: PMC126287.

70. **Histone deacetylase 1 inactivation by an adenovirus early gene product.** Chiocca S, Kurtev V, Colombo R, Boggio R, Scurpi MT, Brosch G, Seiser C, Draetta GF, Cotten M. *Curr Biol* 12(7):594-8, 4/2002. PMID: 11937030.
71. **p27 cytoplasmic localization is regulated by phosphorylation on Ser10 and is not a prerequisite for its proteolysis.** Rodier G, Montagnoli A, Di Marcotullio L, Coulombe P, Draetta GF, Pagano M, Meloche S. *EMBO J* 20(23):6672-82, 12/2001. PMCID: PMC125773.
72. **Ras-GAP SH3 domain binding protein (G3BP) is a modulator of USP10, a novel human ubiquitin specific protease.** Soncini C, Berdo I, Draetta G.. *Oncogene* 20(29):3869-79, 6/2001. PMID: 11439350.
73. **Human Cdc25 A inactivation in response to S phase inhibition and its role in preventing premature mitosis.** Molinari M, Mercurio C, Dominguez J, Goubin F, Draetta GF. *EMBO Rep* 1(1):71-9, 7/2000. PMCID: PMC1083693.
74. **Proteasome-dependent degradation of p27/kip1 in gliomas.** Piva R, Cancelli I, Cavalla P, Bortolotto S, Dominguez J, Draetta GF, Schiffer D.. *J Neuropathol Exp Neurol* 58(7):691-6, 7/1999. PMID: 10411338.
75. **Ubiquitination of p27 is regulated by Cdk-dependent phosphorylation and trimeric complex formation.** Montagnoli A, Fiore F, Eytan E, Carrano AC, Draetta GF, Herskho A, Pagano M. *Genes Dev* 13(9):1181-9, 5/1999. PMCID: PMC316946.
76. **Down-regulation of p27 is associated with development of colorectal adenocarcinoma metastases.** Thomas GV, Szigeti K, Murphy M, Draetta G, Pagano M, Loda M. *Am J Pathol* 153(3):681-7, 9/1998. PMCID: PMC1853015.
77. **UBPY: a growth-regulated human ubiquitin isopeptidase.** Naviglio S, Matteucci C, Matoskova B, Nagase T, Nomura N, Di Fiore PP, Draetta GF. *EMBO J* 17(12):3241-50, 6/1998. PMCID: PMC1170662.
78. **The cell cycle inhibitor p27 is an independent prognostic marker in small (T1a,b) invasive breast carcinomas.** Tan P, Cady B, Wanner M, Worland P, Cukor B, Magi-Galluzzi C, Lavin P, Draetta G, Pagano M, Loda M. *Cancer Res* 57(7):1259-63, 4/1997. PMID: 9102210.
79. **Interaction between Cdc37 and Cdk4 in human cells.** Lamphere L, Fiore F, Xu X, Brizuela L, Keezer S, Sardet C, Draetta GF, Gyuris J. *Oncogene* 14(16):1999-2004, 4/1997. PMID: 9150368.
80. **Cdc25 protein phosphatases in cell proliferation.** Draetta G, Eckstein J. *Biochim Biophys Acta* 1332(2):M53-63, 4/1997. PMID: 9141461.
81. **Increased proteasome-dependent degradation of the cyclin-dependent kinase inhibitor p27 in aggressive colorectal carcinomas.** Loda M, Cukor B, Tam SW, Lavin P, Fiorentino M, Draetta GF, Jessup JM, Pagano M. *Nat Med* 3(2):231-4, 2/1997. PMID: 9018245.
82. **Cell cycle: will the real Cdk-activating kinase please stand up.** Draetta GF. *Curr Biol* 7(1):R50-2, 1/1997. PMID: 9072172.
83. **Targeting ubiquitin-mediated degradation for proliferation inhibitors** Pagano M, Beer-Romero P, Glass S, Tam SW, Theodoras AM, Rolfe M, Draetta G.. In: *Cancer Genes*. 7. Review. Ed(s) E Mihich, D Housman. Plenum Publishing: New York, 241-54, 1996.
84. **CDC25 phosphatases as potential human oncogenes** Galaktionov K, Lee AK, Eckstein J, Draetta G, Meckler J, Loda M, Beach D.. *Science* 269(5230):1575-7, 9/1995. PMID: 7667636.
85. **Role of the ubiquitin-proteasome pathway in regulating abundance of the cyclin-dependent kinase inhibitor p27.** Pagano M, Tam SW, Theodoras AM, Beer-Romero P, Del Sal G, Chau V, Yew PR, Draetta GF, Rolfe M. *Science* 269(5224):682-5, 8/1995. PMID: 7624798.
86. **Reconstitution of p53-ubiquitylation reactions from purified components: the role of human ubiquitin-conjugating enzyme UBC4 and E6-associated protein (E6AP).** Rolfe M, Beer-Romero P, Glass S, Eckstein J, Berdo I, Theodoras A, Pagano M, Draetta G.. *Proc Natl Acad Sci USA* 92(8):3264-8, 4/1995. PMCID: PMC42146.

87. **p13^{sup}1 of *Schizosaccharomyces pombe* regulates two distinct forms of the mitotic cdc2 kinase.** Basi G, Draetta G. *Mol Cell Biol* 15(4):2028-36, 4/1995. PMID: PMC230430.
88. **Mammalian G1 cyclins** Draetta GF.. *Curr Opin Cell Biol.* Review. 6(6):842-6, 12/1994. PMID: 7880531.
89. **Molecular cloning of PISLRE, a novel putative member of the cdk family of protein serine/threonine kinases** Brambilla R, Draetta G.. *Oncogene* 9(10):3037-41, 10/1994. PMID: 8084611.
90. **Role of the cdc25C phosphatase in G2 arrest induced by nitrogen mustard.** O'Connor PM, Ferris DK, Hoffmann I, Jackman J, Draetta G, Kohn KW. *Proc Natl Acad Sci U S A* 91(20):9480-4, 9/1994. PMID: PMC44836.
91. **Differential expression and regulation of Cyclin D1 protein in normal and tumor human cells: association with Cdk4 is required for Cyclin D1 function in G1 progression.** Tam SW, Theodoras AM, Shay JW, Draetta GF, Pagano M. *Oncogene* 9(9):2663-74, 9/1994. PMID: 8058330.
92. **Activation of the phosphatase activity of human cdc25A by a cdk2-cyclin E dependent phosphorylation at the G1/S transition** Hoffmann I, Draetta G, Karsenti E.. *EMBO J* 13(18):4302-10, 9/1994. PMID: PMC395357.
93. **Cyclin D1-mediated inhibition of repair and replicative DNA synthesis in human fibroblasts.** Pagano M, Theodoras AM, Tam SW, Draetta GF. *Genes Dev* 8(14):1627-39, 7/1994. PMID: 7958844.
94. **Cyclin D1 protein oscillates and is essential for cell cycle progression in human tumour cell lines.** Lukas J, Pagano M, Staskova Z, Draetta G, Bartek J. *Oncogene* 9(3):707-18, 3/1994. PMID: 8108113.
95. **The *Schizosaccharomyces pombe* casein kinase II alpha and beta subunits: evolutionary conservation and positive role of the beta subunit.** Roussou I, Draetta G. The *Schizosaccharomyces pombe* casein kinase II alpha and beta subunits: evolutionary conservation and positive role of the beta subunit. *Mol Cell Biol* 14(1):576-86, 1/1994. PMID: PMC358407.
96. **Cdc2 activation: the interplay of cyclin binding and Thr161 phosphorylation.** Draetta G. *Trends Cell Biol* 3(9):287-9, 9/1993. PMID: 14731844.
97. **A three-dimensional model of the Cdc2 protein kinase: localization of cyclin- and Suc1-binding regions and phosphorylation sites.** Marcote MJ, Knighton DR, Basi G, Sowadski JM, Brambilla P, Draetta G, Taylor SS. *Mol Cell Biol* 13(8):5122-31, 8/1993. PMID: PMC360168.
98. **Phosphorylation in yeast cell processes.** Roussou I, Draetta G. *Cell Signal* 5(4):381-7, 7/1993. PMID: 8373722.
99. **Csk inhibition of c-Src activity requires both the SH2 and SH3 domains of Src.** Superti-Furga G, Fumagalli S, Koegl M, Courtneidge SA, Draetta G. *EMBO J* 12(7):2625-34, 7/1993. PMID: PMC413509.
100. **Molecular pathology of the cell cycle in human cancer cells.** Bártek J, Stasková Z, Draetta G, Lukás J.. *Stem Cells* 11 Suppl 1:51-8, 5/1993. PMID: 8318919.
101. **Cyclin D1 is a nuclear protein required for cell cycle progression in G1.** Baldin V, Lukas J, Marcote MJ, Pagano M, Draetta G. *Genes Dev* 7(5):812-21, 5/1993. PMID: 8491378.
102. **Regulation of the cell cycle by the cdk2 protein kinase in cultured human fibroblasts.** Pagano M, Pepperkok R, Lukas J, Baldin V, Ansorge W, Bartek J, Draetta G. *J Cell Biol* 121(1):101-11, 4/1993. PMID: PMC2119764.
103. **G2 delay induced by nitrogen mustard in human cells affects cyclin A/cdk2 and cyclin B1/cdc2-kinase complexes differently.** O'Connor PM, Ferris DK, Pagano M, Draetta G, Pines J, Hunter T, Longo DL, Kohn KW. *J Biol Chem* 268(11):8298-308, 4/1993. PMID: 8463339.
104. **Differential modulation of cyclin gene expression by MYC.** Jansen-Dürr P, Meichle A, Steiner P, Pagano M, Finke K, Botz J, Wessbecher J, Draetta G, Eilers M.. *Proc Natl Acad Sci U S A* 90(8):3685-9, 4/1993. PMID: PMC46366.

105. **Dephosphorylation of cdc25-C by a type-2A protein phosphatase: specific regulation during the cell cycle in *Xenopus* egg extracts.** Clarke PR, Hoffmann I, Draetta G, Karsenti E.. *Mol Biol Cell* 4(4):397-411, 4/1993. PMCID: PMC300941.
106. **Phosphorylation and activation of human cdc25-C by cdc2--cyclin B and its involvement in the self-amplification of MPF at mitosis** Hoffmann I, Clarke PR, Marcote MJ, Karsenti E, Draetta G.. *EMBO J* 12(1):53-63, 1/1993. PMCID: PMC413175.
107. **cdc2 protein kinase: structure-function relationships.** Marcote MJ, Pagano M, Draetta G. *Ciba Found Symp* 170:30-41; discussion 41-9, 1992. PMID: 1483349.
108. **Binding of the human E2F transcription factor to the retinoblastoma protein but not to cyclin A is abolished in HPV-16-immortalized cells.** Pagano M, Dürst M, Joswig S, Draetta G, Jansen-Dürr P. *Oncogene* 7(9):1681-6, 9/1992. PMID: 1323816.
109. **Modifications of cell cycle controlling nuclear proteins by transforming growth factor beta in the HaCaT keratinocyte cell line.** Landesman Y, Pagano M, Draetta G, Rotter V, Fusenig NE, Kimchi A. *Oncogene* 7(8):1661-5, 8/1992. PMID: 1385861.
110. **Distinct forms of human CDC2 identified by novel monoclonal antibodies.** Lukás J, Draetta G, Bartek J. *Eur J Biochem* 207(1):169-76, 7/1992. PMID: 1628647.
111. **The consensus sequences for cdc2 kinase and for casein kinase-2 are mutually incompatible. A study with peptides derived from the beta-subunit of casein kinase-2.** Marin O, Meggio F, Draetta G, Pinna LA. *FEBS Lett* 301(1):111-4, 4/1992. PMID: 1451779.
112. **Regulation of the microtubule nucleating activity of centrosomes in *Xenopus* egg extracts: role of cyclin A-associated protein kinase.** Buendia B, Draetta G, Karsenti E. *J Cell Biol* 116(6):1431-42, 3/1992. PMCID: PMC2289368.
113. **Cyclin A is required at two points in the human cell cycle.** Pagano M, Pepperkok R, Verde F, Ansorge W, Draetta G. *EMBO J* 11(3):961-71, 3/1992. PMCID: PMC556537.
114. **Association of cdk2 kinase with the transcription factor E2F during S phase.** Pagano M, Draetta G, Jansen-Dürr P. *Science* 255(5048):1144-7, 2/1992. PMID: 1312258.
115. **Cyclin A, cell cycle control and oncogenesis.** Pagano M, Draetta G. *Prog Growth Factor Res* 3(4):267-77, 1991. PMID: 1839823.
116. **cdc2 protein kinase: interactions with cyclins and suc1.** Brambilla P, Ducommun B, Draetta G. *Cold Spring Harb Symp Quant Biol* 56:515-21, 1991. PMID: 1840262.
117. **Mutations at sites involved in Suc1 binding inactivate Cdc2.** Ducommun B, Brambilla P, Draetta G.. *Mol Cell Biol* 11(12):6177-84, 12/1991. PMCID: PMC361799.
118. **cdc2 phosphorylation is required for its interaction with cyclin.** Ducommun B, Brambilla P, Félix MA, Franza BR, Karsenti E, Draetta G. *EMBO J* 10(11):3311-9, 11/1991. PMCID: PMC453057.
119. **E1A induces phosphorylation of the retinoblastoma protein independently of direct physical association between the E1A and retinoblastoma products.** Wang HG, Draetta G, Moran E.. *Mol Cell Biol* 11(8):4253-65, 8/1991. PMCID: PMC361255.
120. **A cdc2-like kinase phosphorylates histone H1 in the amitotic macronucleus of *Tetrahymena*.** Roth SY, Collini MP, Draetta G, Beach D, Allis CD. *EMBO J* 10(8):2069-75, 8/1991. PMCID: PMC452890.
121. **Transforming growth factor beta 1 inhibition of p34cdc2 phosphorylation and histone H1 kinase activity is associated with G1/S-phase growth arrest.** Howe PH, Draetta G, Leof EB. *Mol Cell Biol* 11(3):1185-94, 3/1991. PMCID: PMC369389.
122. **Cell cycle control in eukaryotes: molecular mechanisms of cdc2 activation.** Draetta G. *Trends Biochem Sci* 15(10):378-83, 10/1990. PMID: 2147521.

123. **Fission yeast cdc25 is a cell-cycle regulated protein.** Ducommun B, Draetta G, Young P, Beach D. *Biochem Biophys Res Commun* 167(1):301-9, 2/1990. PMID: 2178610.
124. **The mammalian cdc2 protein kinase: mechanisms of regulation during the cell cycle.** Draetta G, Beach D. *J Cell Sci Suppl* 12:21-7, 1989. PMID: 2699735.
125. **A 60 kd cdc2-associated polypeptide complexes with the E1A proteins in adenovirus-infected cells.** Giordano A, Whyte P, Harlow E, Franza BR, Beach D, Draetta G. *Cell* 58(5):981-90, 9/1989. PMID: 2570639.
126. **Reversible tyrosine phosphorylation of cdc2: dephosphorylation accompanies activation during entry into mitosis.** Morla AO, Draetta G, Beach D, Wang JY. *Cell* 58(1):193-203, 7/1989. PMID: 2473839.
127. **Activation of human CDC2 protein as a histone H1 kinase is associated with complex formation with the p62 subunit.** Brizuela L, Draetta G, Beach D. *Proc Natl Acad Sci U S A* 86(12):4362-6, 6/1989. PMCID: PMC287269.
128. **The cdc2 kinase is a nuclear protein that is essential for mitosis in mammalian cells.** Riabowol K, Draetta G, Brizuela L, Vandre D, Beach D. *Cell* 57(3):393-401, 5/1989. PMID: 2541912.
129. **Cdc2 protein kinase is complexed with both cyclin A and B: evidence for proteolytic inactivation of MPF.** Draetta G, Luca F, Westendorf J, Brizuela L, Ruderman J, Beach D. *Cell* 56(5):829-38, 3/1989. PMID: 2538242.
130. **Regulation of the vertebrate cell cycle by the cdc2 protein kinase.** Draetta G, Brizuela L, Moran B, Beach D. *Cold Spring Harb Symp Quant Biol* 53 Pt 1:195-201, 1988. PMID: 3076080.
131. **Purification of calmodulin-stimulated phosphodiesterase by affinity chromatography on calmodulin fragment 1-77 linked to sepharose.** Draetta G, Klee CB. *Methods Enzymol* 159:573-81, 1988. PMID: 2842620.
132. **p34, a protein kinase involved in cell cycle regulation in eukaryotic cells.** Draetta G, Brizuela L, Beach D. *Adv Exp Med Biol* 231:453-7, 1988. PMID: 3046250.
133. **Calcineurin.** Klee CB, Draetta GF, Hubbard MJ. *Adv Enzymol Relat Areas Mol Biol* 61:149-200, 1988. PMID: 2833077.
134. **Human cdc2 protein kinase is a major cell-cycle regulated tyrosine kinase substrate.** Draetta G, Piwnicka-Worms H, Morrison D, Druker B, Roberts T, Beach D. *Nature* 336(6201):738-44, Dec 22-29, 12/1988. PMID: 2462672.
135. **The phosphorylation of calmodulin and calmodulin fragments by kinase fractions from bovine brain.** Heppel LA, Newton DL, Klee CB, Draetta GF. *Biochim Biophys Acta* 972(1):69-78, 10/1988. PMID: 2846073.
136. **Activation of cdc2 protein kinase during mitosis in human cells: cell cycle-dependent phosphorylation and subunit rearrangement.** Draetta G, Beach D. *Cell* 54(1):17-26, 7/1988. PMID: 3289755.
137. **Synthesis of p34, the mammalian homolog of the yeast cdc2+/CDC28 protein kinase, is stimulated during adenovirus-induced proliferation of primary baby rat kidney cells.** Draetta G, Beach D, Moran E. *Oncogene* 2(6):553-7, 6/1988. PMID: 2838787.
138. **p13suc1 acts in the fission yeast cell division cycle as a component of the p34cdc2 protein kinase.** Brizuela L, Draetta G, Beach D. *EMBO J* 6(11):3507-14, 11/1987. PMCID: PMC553810.
139. **Identification of p34 and p13, human homologs of the cell cycle regulators of fission yeast encoded by cdc2+ and suc1+.** Draetta G, Brizuela L, Potashkin J, Beach D. *Cell* 50(2):319-25, 7/1987. PMID: 3297353.
140. **Do porins inhibit the macrophage phagocytosing activity by stimulating the adenylate cyclase?** Di Donato A, Draetta GF, Illiano G, Tufano MA, Sommese L, Galdiero F. *J Cyclic Nucleotide Protein Phosphor Res* 11(2):87-97, 1986. PMID: 2426319.
141. **Different modes of interaction of calmodulin with its target enzymes.** Klee CB, Ni WC, Draetta GF, Newton DL. *J Cardiovasc Pharmacol* 8 Suppl 8:S52-6, 1986. PMID: 2433526.

142. **Inhibition of adenylate cyclase by transglutaminase-catalyzed reactions in pigeon erythrocyte ghosts.** Porta R, De Santis A, Esposito C, Draetta GF, Di Donato A, Illiano G. *Biochem Biophys Res Commun* 138(2):596-603, 7/1986. PMID: 2874804.
143. **Genetically engineered calmodulins differentially activate target enzymes.** Putkey JA, Draetta GF, Slaughter GR, Klee CB, Cohen P, Stull JT, Means AR. *J Biol Chem* 261(21):9896-903, 7/1986. PMID: 3460991.
144. **The effects of lidocaine and procainamide on the sarcolemmal membrane high affinity cyclic AMP phosphodiesterase of rat myocardium** Illiano G, Galderisi R, Di Donato A, Paolisso G, Draetta GF.. *Gen Pharmacol* 16(2):115-9, 1985. PMID: 2987079.
145. **Relationship between the fluidity of the membrane lipids and the activity of the membrane-bound proteins: the effects of lidocaine on the adenylate cyclase activity of rat myocardium.** Illiano G, Chiosi E, Draetta GF, Laurenza A. *Gen Pharmacol* 14(6):669-72, 1983. PMID: 6662347.
146. **Endotoxin inhibits the fluoride-stimulated adenylate cyclase activity of rat liver membranes enriched with bile canaliculi** Utili R, Di Donato A, Draetta G, Paolisso G, Abernathy CO, Illiano G.. *Experientia* 38(7):831-3, 7/1982. PMID: 7049721.
147. **The effects of polyamines on the cyclic AMP efflux and metabolism in E. coli B cells.** Illiano G, Draetta GF, Laurenza A, Spina A, Paolisso G. *Int J Biochem* 13(6):701-5, 1981. PMID: 6266892.

CONFERENCES AND SYMPOSIA INVITATIONS

- Draetta GF. Targeting functional dependencies in pancreatic cancer. GAP 2018 Conference, Stockholm, Sweden, 5/16/2018.
- Draetta, GF. Identifying and targeting critical cancer vulnerabilities, Istituto Nazionale Tumori Regina Elena, Rome, Italy, 3/22/2018
- Draetta, GF. Mechanism of resistance to CDKs inhibitors, European Union of Medical Specialists, Signaling Pathways Symposium, Barcelona, Spain, 3/23/2018
- Draetta GF. Critical vulnerabilities of pancreatic cancer cell subpopulations, Pfizer, UT MD Anderson Cancer Center, Cancun, Mexico, 2/27/2017
- Draetta GF. Targeting pancreatic cancer vulnerabilities, Sanford Burnham Prebys Medical Discovery Institute, La Jolla, CA, 3/27/2017
- Draetta GF. Targeting critical dependencies in pancreatic cancer, The Pezcoller Foundation, Trento, Italy, 6/23/2017
- Draetta GF. Metabolic dependencies of glioblastoma stem cells, Cold Spring Harbor Laboratory, Lloyd Harbor, NY, 9/24/2017
- Draetta GF. Discovery of IACS-10759 a novel oxidative phosphorylation inhibitor targeting critical cancer vulnerabilities, AACR, Pittsburgh, PA, 10/2/2017
- Draetta, GF. Set the scene-state of the art-what do we need to move forward: Functional analysis of cancer genetics, Nordic Global Academic Program, Rigshospitalet, Copenhagen, Denmark, 10/12/2017
- Draetta GF. Integrating functional genomics with drug discovery to overcome resistance to treatment in multiple cancer, Centro Nacional de Investigaciones Oncologicas, Centro Nacional de Investigaciones Oncologicas, Madrid, Spain, 1/15/2016
- Draetta GF. Driving towards a better understanding of cancer's functional complexity and therapeutic options. University of Pennsylvania Perelman School of Medicine, Philadelphia, PA, 3/29/2016
- Draetta GF. Drug Discovery: perspectives in the war on cancer, EFMC, European School of Medicinal Chemistry-Urbino, Urbino, Italy, 6/27/2016

Draetta GF. Tackling therapeutic vulnerabilities in pancreatic cancer, Massachusetts General Hospital Cancer Center, Harvard Medical School, Boston, MA, 10/19/2016

Draetta GF. Driving Therapeutic Response in Pancreatic Cancer, 47th International Symposium of the Princess Takamatsu Cancer Research Fund, Tokyo, Japan, 11/9/2016

Draetta GF. Critical vulnerabilities of pancreatic cancer cell subpopulations, CTN Seminar, UT Southwestern, Dallas, TX, 10/13/2016

Draetta GF. Realizing the true potential of personalized medicine, DoCM Grand Rounds, MDACC, Division of Cancer Medicine, Houston, 9/22/2015

Draetta GF. Accelerating translation of academic assets, Texas Life Science Forum, Texas Medical Center, Texas Healthcare & Bioscience Institute, Houston, TX, 5/20/2015

Draetta GF. Drug Development and Clinical Trials, Texas Healthcare and Bioscience Summit, Texas Healthcare & Bioscience Institute, Texas Healthcare & Bioscience Institute, TX, 2/4/2015

Draetta GF. Driving towards a better understanding of cancer complexity and therapeutics options, Georgetown University Medical Center, Washington, DC, 12/4/2015

Draetta GF. Targeting pancreatic cancer vulnerabilities, Sanford-Burnham-Prebysterian Med. Disc. Institute, Sanford-Burnham-Prebysterian Med. Disc. Institute, La Jolla, CA, 11/2/2015

Targeting Critical Functional Dependencies in Pancreatic Cancer, NY Presbyterian/Columbia University Medical Center, New York, NY, 10/5/2015

Draetta GF. Targeting mitochondrial electron transport chain, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 9/3/2015

Draetta GF. Developing a better understanding of metabolic dependencies in pancreatic cancer, Cold Spring Harbor Laboratory, Long Island, NY, 6/28/2015

Draetta GF. Making sense of emerging therapies in pancreatic cancer: Are we finally on the right track?, Xconomy, Oakville, CA, 6/6/2015

Draetta GF. RAS Activation and p53 inactivation: Integrative analysis of signaling, AGA Institute, Washington, DC, 5/16/2015

Draetta GF. Realizing the true potential of personalized medicine, Polish Oncology Consortium, Poznan, Poland, 3/25/2015

Draetta GF. Tackling mechanisms of resistance to treatment in pancreatic cancer, Fusion Conferences, Cancun, Mexico, 2/13/2015

Draetta GF. Tackling mechanisms of resistance in pancreatic cancer, Elsevier Ltd, Cell Symposia Stem Cell Energetics, Berkeley, CA, 12/11/2014

Draetta GF. Eradication of Treatment-resistant Pancreatic Stem cells, Pancreas Cancer Seminar Series, MDACC, MDACC, GI Medical Oncology, Houston, TX, 9/26/2014

Draetta GF. Targeting Genetic Vulnerabilities in Cancer, Experimental Radiation Oncology Retreat, MDACC, MDACC, Experimental Radiation Oncology, Houston, TX, 5/17/2014

Draetta GF. Targeting the inabilities in Pancreatic Cancer, Pancreatic Cancer Action Network, PanCan, Beverly Hills, CA, 10/17/2014

Draetta G. Developmental Therapeutics, Rigshospitalet, MDACC Global Academic Programs, Copenhagen, Denmark, 6/30/2014

Draetta GF. Understanding Context-Dependent Relevance of Potential Cancer Drug Targets, Cell Signaling Technology, Danvers, ME, 2/27/2014

Draetta GF. Understanding Context-Dependent Relevance of Potential Cancer Drug Targets, Massachusetts Institute of Technology, Cambridge, ME, 11/8/2013

Draetta GF. Overcoming Resistance to Cancer Therapy, Shanghai Chempartner, Shanghai Tech University, Shanghai, China, 10/29/2013

Draetta, GF. The ABC's of Tech Transfer at MDACC, Fall Women Leading the Way Program: Rising to the Biotech Challenge, MDACC, Houston, TX, 10/25/2013

Draetta GF. Targeting Pancreatic Stem Cells, Italian Society of Cancerology, Cantanzaro, Italy, 9/25/2013

Draetta GF. Functional Genomics and the search for novel oncology drug targets, Division of Cancer Medicine Grand Rounds, MDACC, Houston, TX, 9/10/2013

Draetta GF. Development of context-specific genetic in vivo screens, Melanoma Research Seminar Series, MDACC, Houston, TX, 4/25/2013

Draetta GF. Industria e accademia: modelli di partnership per le terapie del futuro, TTFactor, Istituto Europeo de Oncologia, Milan, Italy, 3/6/2013

From Carcinogenesis to Cancer Therapy, Zing Conferences, Xcaret, Mexico, 11/2011

Translation of the Cancer Genome: Scientific, Clinical, and Operational Challenges, American Association for Cancer Research, San Francisco, CA, 10/2011

EUROBIOTECH Meeting, Eurobiotech, Krakow, Poland, 10/2011

Changing Landscape of the Cancer Genome, Keystone Symposium, Boston, MA, 6/2011

Annual Meeting, Massachusetts Biotechnology Council, Boston, MA, 3/2011

Lymphoma Meeting, Naples, Italy, 12/2010

Oncology Symposium, Sanofi-Aventis, 10/19/2010

Massachusetts Life Sciences Innovation Day, MA, 6/2/2010

How is drug development changing, MIT Faculty Club, PIB, Cambridge, MA, 5/2010

2nd Polish Oncology Congress, Poznan, Poland, 4/2010

Annual Meeting, National Brain Tumor Society, Washington, DC, 9/2009

Translation Research Lecture: The Many Faces of Ubiquitin, Keystone Symposium, 2009

Conference on Cancer, Dana-Farber/Harvard Cancer Center, 2009

98th Annual Meeting, United States and Canada Academy of Pathology, 2009

Armenise-Harvard Symposium, Stresa, Italy, 6/2008

Harvard Combined Pathology Grand Rounds, Brigham and Women's Hospital, Boston, MA, 2008

Cellular Degeneration and Disease Retreat, Pocono Mountains, Skytop Lodge, PA, 4/2007

X Meeting, Italian Society of Human Genetics, Montecatini Terme, Italy, 2007

Workshop on Improving the Quality of Cancer Clinical Trials, National Cancer Policy Forum, National Academy of Sciences, Washington, DC, 2007

Index Bioforum, Stresa, Italy, 2007

First World Conference on the Future of Science, Venice, Italy, 9/2005

Miami Winter Symposium on Cancer Therapeutics, Miami, FL, 2004

International Symposium on Cell Cycle and Cancer Therapeutics, CNIO, Madrid, Spain, 2003

Meeting on Cell Cycle and Cancer, ISREC, Lausanne, Switzerland, 2002
Annual Meeting, ASCO-EORTC, San Francisco, CA, 2002
Invited Speaker, University of Milan, Department of Biotechnology, Milan, Italy, 1998
Invited Speaker, Necker-Enfants Malades Hospital, Parigi, France, 1998
89th Annual Meeting, American Association for Cancer Research, New Orleans, LA, 1998
Workshop: International Meeting on Molecular Medicine, Florence, Italy, 1997
The Biology of Tumors, The Pezcoller Foundation, 9th Pezcoller Symposium, Rovereto, Italy, 1997
New Strategies for Cancer Detection and Therapy, Melbourne, Australia, 1997
Control of Proliferation in Normal and Cancer Cells, New Delhi, India, 1997
Annual Meeting, Cell Biology and Differentiation Society (ABCD), Riccione, Italy, 1997
3rd Italian Molecular Oncology Congress, Positano, Italy, 1997
2nd European Symposium, The Protein Society, Cambridge, United Kingdom, 1997
17th International Congress of Biochemistry and Molecular Biology, San Francisco, CA, 1997
11th European Cell Cycle Conference, Gardone Riviera (BS), Italy, 1997
XVIII Congress of the International Society for Analytical Cytology, Rimini, Italy, 1996
XIV National Meeting of Experimental and Medical Oncology, Milano, Italy, 1996
Workshop Cortona 1996, Cortona, Italy, 1996
VII Meeting, Italian Group of Molecular Neurobiology-Nuclear Proteins, Turin, Italy, 1996
Symposium on Biology & Genetics of Gastrointestinal Cancers, Reston, VA, 1996
Oncology Research - Cell Growth and Oncogenesis, 1st CARSO International Conference, Bari, Italy, 1996
Meeting on Cell Cycle: cellular and molecular aspects, Italian Association of Cell Cultures/Mario Negri Institute, Milan, Italy, 1996
Genomic Instability and Immortality, The Pezcoller Foundation, 8th Pezcoller Symposium, Trento, Italy, 1996
Gene '96 - Symposium on Genes and Cancer, Cortona, Italy, 1996
Gene '96 - Symposium on Gene Expression, University of Milan, Milan, Italy, 1996
Development, Cell Differentiation and Cancer, The 9th International Conference of the International Society of Differentiation (ISD), Pisa, Italy, 1996
Aspects of the Eukaryotic Cell Cycle - From Yeast to Man, Giessen, Germany, 1996
The Biochemistry and Molecular Biology of Tumor Development, Mosbacher Colloquium, Mosbacher, Germany, 1995
Mechanisms of Toxicity and Carcinogenesis, Aspen Cancer Conference, Aspen, CO, 1995
Integration of Signalling Pathways in the Control of Cell Fate, University of Udine, Cividale del Friuli, Italy, 1995
IBC-Signal Transduction Therapy, San Francisco, CA, 1995
Chemotherapy of Experimental and Clinical Cancer, Gordon Research Conference, New London, NH, 1995
Cancer Genes: Functional Aspects, The Pezcoller Foundation, Italy, 1995

ABCD Meeting, Pescara, Italy, 1995
1995 Science Symposium, Massachusetts Biotechnology Council, Cambridge, MA, 1995
Symposium, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1994
New Molecular Targets in Cancer Therapy, London, United Kingdom, 1994
New Cancer Strategies, San Diego, CA, 1994
International Conference on Applications of Apoptosis; Programmed Cell Death, San Diego, CA, 1994
Workshop on Innovative Concepts in Drug Design, Seattle, WA, 1993
The Cell Cycle '93, Washington Spring Symposium, Washington, DC, 1993
Santiago Summer Symposia, Santiago, Chile, 1993
Protein Kinases, FASEB, Denver, CO, 1993
Institute of Molecular Biology Research, Pomezia, Italy, 1993
European Association for Cancer Research, Bruxelles, Belgium, 1993
Colloquium on Protein Phosphorylation, Heidelberg, Germany, 1993
Cellular and Molecular Genetics, FASEB, Denver, CO, 1993
Regulation of the Eukaryotic Cell Cycle, Ciba Foundation Symposium No. 170, London, United Kingdom, 1992
Oncogenes and Growth Control, European Molecular Biology Laboratory Conference, Heidelberg, Germany, 1992
The Cell Cycle, Cold Spring Harbor Symposium, Long Island, NY, 1991
Cdc2 and Cyclins in Mammalian Cells, Louisiana State University, New Orleans, LA, 1991
The Cell Cycle, Jacques Monod Conference, Roscoff, France, 1990
Second Messengers and Protein Phosphorylation, Gordon Conference, 1990
Oncogenes and Growth Control, European Molecular Biology Laboratory Conference, Heidelberg, Germany, 1990
Molecular Aspects of Biological Switches, SFB Symposium, Giessen, Germany, 1990
Winter Symposium, Salk Institute, San Diego, CA, 1989
UT MD Anderson Cancer Center, Symposia on Cancer Research 2017, Houston, TX, Co-Chair, 10/2017
UT MD Anderson Cancer Center, Symposia on Cancer Research 2016, Houston, TX, Co-Chair, 10/2016
BIO International Convention, Biotechnology Industry Organization, San Diego, CA, Panelist, 6/2014
Cancer Advance New York, Boston Biotech Conference, New York City, NY, Panelist, 5/2014
Cancer Progress 2014, Defined Health, New York, NY, Panelist, 3/2014
American Association for Cancer Research, Annual Meeting, Los Angeles, CA, Scientific Committee Member, 2007
AACR-NCI-EORTC, Molecular Targets and Cancer Therapeutics, San Francisco, CA, Scientific Committee Member, 2007



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS

FROM: KRISTEN PAULING DOYLE, DEPUTY EXECUTIVE OFFICER &
GENERAL COUNSEL
CAMERON L. ECKEL, ASSISTANT GENERAL COUNSEL

SUBJECT: CHAPTERS 701 AND 703 - PROPOSED RULE CHANGES

DATE: NOVEMBER 10, 2020

Summary and Recommendation

The Board Governance Subcommittee met November 5 and recommends that the Oversight Committee approve three proposed administrative rule changes for publication in the *Texas Register*. The suggested changes affect Texas Administrative Code Chapters 701 and 703. Publication of the anticipated rule changes in the *Texas Register* is the first step in the agency rulemaking process. CPRIT Staff will bring back the proposed rules and any public comments to the Oversight Committee in February for final approval.

Discussion

CPRIT's administrative rules set policy guiding CPRIT's grant review and grant contracting processes as well as managing other requirements of Texas Health and Safety Code Chapter 102. State law requires agencies to use a rulemaking process, which includes an opportunity for the public to comment on the rule changes before the agency adopts the final policy.

The Board Governance Subcommittee met on November 5 to discuss the proposed rule changes to § 701.19 and §§ 703.3(b)(4) and 703.26(e)(12) with legal staff. The subcommittee voted to recommend approval and publication of the following suggested rule changes to the Oversight Committee.

- The recommended changes to § 701.19 update the Texas Location rule that the Oversight Committee originally adopted in 2016. Rule 701.19 provides criteria that a Product Development grantee must meet to demonstrate that the company is a Texas-based entity. All grantees must maintain at least four of the seven criteria set by §701.19(c) each year of the grant award. After seeking guidance from the Product Development Advisory Committee in October, CPRIT staff propose an amendment that clarifies CPRIT's expectations regarding certain criteria and provides a process for seeking an exception.

The proposed amendment establishes two mandatory criteria applicable to all grantees receiving a product development award on or after August 1, 2021 (that the company's CEO

to reside in Texas and have its U.S. headquarters in Texas). The amendment also clarifies that once a company satisfies the manufacturing in Texas criterion and/or the Texas clinical trial site criterion, CPRIT will consider the criterion fulfilled for all subsequent years of the grant contract. Finally, the amendment establishes a process for CPRIT's CEO to approve a grantee's well-justified request for an exemption to the rule requirement.

- The proposed change to § 703.3(b)(4) clarifies that CPRIT's Request for Applications may establish a minimum level of effort, if any, that CPRIT expects the grantee's Principal Investigator, co-Principal Investigator, and other specified key personnel to dedicate to the grant project.
- The proposed amendment to § 703.26(e) clarifies that while professional association fees or dues paid by a grantee for *an individual employee* are not reimbursable; professional association fees or dues paid by the grantee for *the entity's membership* in a business, technical, or professional organization may be allowed if the membership benefits the grant project and the professional organization is not involved in lobbying.

Next Steps

Once approved by the Oversight Committee, CPRIT will publish the proposed rule changes in the *Texas Register*. The publication date begins the 30-day period for soliciting comment from interested members of the public. CPRIT will also post the proposed rule changes on our website and announce the opportunity for public comment via CPRIT's electronic list serve. CPRIT legal staff will summarize any comments received from the public for the Oversight Committee's consideration when approving the final rule changes in February.

The Cancer Prevention and Research Institute of Texas (“CPRIT” or “the Institute”) proposes an amendment to 25 Tex. Admin. Code § 701.19 relating to compliance with Texas location criteria that must be met and maintained by a product development grant recipient.

Background and Justification

The proposed amendment to § 701.19 clarifies location criteria that a product development grant recipient must meet and maintain for the Institute to consider the company a Texas-based entity, specifies documentation and certification requirements related to the grant recipient’s status as a Texas-based entity, and establishes a process for seeking an exception. The proposed amendment also establishes mandatory criteria applicable to an entity approved for product development grant awards on or after August 1, 2021.

Fiscal Note

Kristen Pauling Doyle, Deputy Executive Officer and General Counsel for the Cancer Prevention and Research Institute of Texas, has determined that for the first five-year period the rule change is in effect, there will be no foreseeable implications relating to costs or revenues for state or local government due to enforcing or administering the rules.

Public Benefit and Costs

Ms. Doyle has determined that for each year of the first five years the rule change is in effect the public benefit anticipated due to enforcing the rule will be ensuring that companies receiving product development grants from the Institute are Texas-based entities and clarifying the process for meeting, maintaining, and documenting that status.

Small Business, Micro-Business, and Rural Communities Impact Analysis

Ms. Doyle has determined that the rule change will not affect small businesses, micro businesses, or rural communities.

Government Growth Impact Statement

The Institute, in accordance with 34 Texas Administrative Code §11.1, has determined that during the first five years that the proposed rule change will be in effect:

- (1) the proposed rule change will not create or eliminate a government program;
- (2) implementation of the proposed rule change will not affect the number of employee positions;
- (3) implementation of the proposed rule change will not require an increase or decrease in future legislative appropriations;
- (4) the proposed rule change will not affect fees paid to the agency;
- (5) the proposed rule change will not create new rule;
- (6) the proposed rule change will not expand existing rule;

- (7) the proposed rule change will not change the number of individuals subject to the rule; and
- (8) The rule change is unlikely to have an impact on the state's economy. Although the change is likely to have neutral impact on the state's economy, the Institute lacks enough data to predict the impact with certainty.

Submit written comments on the proposed rule changes to Ms. Kristen Pauling Doyle, General Counsel, Cancer Prevention and Research Institute of Texas, P. O. Box 12097, Austin, Texas 78711, no later than January 4, 2021. The Institute asks parties filing comments to indicate whether they support the rule revision proposed by the Institute and, if the party requests a change, to provide specific text for the proposed change. Parties may submit comments electronically to kdoyle@cprit.texas.gov or by facsimile transmission to 512/475-2563.

Statutory Authority

The Institute proposes the rule change under the authority of the Texas Health and Safety Code Annotated, §102.108, which provides the Institute with broad rule-making authority to administer the chapter. Ms. Doyle has reviewed the proposed amendment and certifies the proposal to be within the Institute's authority to adopt.

There is no other statute, article, or code affected by these rules.

<rule>

§ 701.19. Texas Location for Grant Awards.

- (a) Except as addressed by the Request for Applications or this rule, only Texas-based entities are eligible to receive Grant Awards.
- (b) Grant Applicants responding to a Request for Applications may be located outside the state of Texas when the Grant application is submitted and reviewed. However, the Institute requires the Grant Applicant to demonstrate that it will relocate to Texas as a condition of the Grant Award.
- (c) Except as provided in subsection (d), and subject to subsection (h), a [Grant Applicant for A] Product Development Grant Recipient shall demonstrate [compliance with subsection (b)] that it is a Texas-based entity by fulfilling a majority of the following requirements, which are collectively referred to as Texas location criteria:
- (1) The U.S. headquarters is physically located in Texas. If a Grant Recipient is a subsidiary of a parent or holding company, the subsidiary must headquarter in Texas but the parent or holding company may headquarter outside of Texas;
 - (2) The Chief Executive Officer resides in Texas;
 - (3) A majority of Grant Recipient [the company's] personnel, including at least two other C-level employees (or equivalent), reside in Texas;

- (4) Manufacturing activities take place in Texas. Satisfaction of this requirement in one project year of the Grant Award will also fulfill the requirement in all subsequent project years of the Grant Award;
 - (5) At least 90% of Grant Award funds ~~[are]~~ paid to individuals and entities in Texas, including salaries and personnel costs for employees and contractors;
 - (6) At least one clinical trial site in Texas with an enrolled patient. Satisfaction of this requirement in one project year of the Grant Award will also fulfill the requirement in all subsequent project years of the Grant Award; and
 - (7) Collaboration with a ~~[medical]~~ research organization in Texas, including a public or private institution of higher education.
- (d) For all Product Development Grant Awards approved by the Oversight Committee on or after August 1, 2021, the Grant Recipient shall fulfill the subsection (c)(1) and (c)(2) Texas location criteria in addition to at least two other subsection (c) Texas Location criteria in order to demonstrate that it is a Texas-based entity. [The location criteria to be fulfilled by the Grant Recipient are reflected in the Grant Contract.]
- (e) Unless otherwise specified by the Grant Contract, the Grant Recipient must fulfill the subsection (c) requirements within one year of receiving the first disbursement of Grant Award funds and maintain its status as a Texas-based entity as defined by subsection (c) throughout the term of the Grant Award.
- (f) The Grant Recipient's [Recipient]-Chief Executive Officer will certify in writing each subsection (c) Texas location criterion [criteria] fulfilled by the Grant Recipient at least annually.
- (1) The Institute may request additional information and supporting documentation to demonstrate compliance with the subsection (c) Texas location criteria.
 - (2) Supporting documentation may include, but is not limited to, copies of residential and business leases, state issued identification, manufacturing contracts, and clinical trial site contracts.
- (g) ~~[The Institute will monitor compliance with this policy.]~~ The Grant Recipient's failure to meet and maintain its status as a Texas-based entity may result in suspension of the Grant Award, termination of the Grant Contract, repayment of Grant Award funds, or other appropriate action as determined by the Institute's Chief Executive Officer and reported to the Oversight Committee.
- (1) A Grant Recipient that temporarily fails to meet or maintain its status as a Texas-based entity as defined by subsection (c) may request in writing that the Institute grant an exception to the requirement.
 - (2) The Grant Recipient's request for an exception must be well-justified and should include a plan and timeline for meeting and maintaining its status as a Texas-based entity.

(3) The Institute's Chief Executive Officer is responsible for the final determination regarding the Grant Recipient's exception request unless the Oversight Committee acts to overrule the determination.

(A) The Institute's Chief Executive Officer shall notify the Oversight Committee of the Grant Recipient's request for an exception and report in writing the Institute's Chief Executive Officer's final determination regarding the Grant Recipient's request.

(B) The Institute's Chief Executive Officer's determination regarding the exception is final unless one or more Oversight Committee members requests that the Institute add the exception request to the agenda of the next regular Oversight Committee meeting and the Oversight Committee votes by simple majority to overrule or amend the Institute's Chief Executive Officer's decision.

(h) Nothing herein prohibits the Grant Recipient from proposing and the Institute from approving one or more alternative or additional location requirements. The Institute's Chief Executive Officer shall notify the Oversight Committee of the alternative criteria at an open meeting. The proposed alternative location requirement is approved unless a simple majority of the Oversight Committee votes to reject the Institute's Chief Executive Officer's recommendation.

The Cancer Prevention and Research Institute of Texas (“CPRIT” or “the Institute”) proposes an amendment to 25 Tex. Admin. Code § 703.3(b)(4) requiring a Request for Applications specify any minimum level of efforts of Principal Investigators, co-Principal Investigators, and other key personnel stated; and § 703.26(e)(12) related to reimbursement of a grant recipient’s professional association dues and fees.

Background and Justification

The proposed amendment to § 703.3(b)(4) clarifies that in the Request for Applications, the Institute may specify the minimum level of effort, if any, that a Principal Investigator, co-Principal Investigator, or other specified key personnel must maintain for the grant project. The proposed change to § 703.26(e)(12) clarifies that professional association membership fees or dues for an individual employed by a grant recipient are not allowable for reimbursement. However, membership fees or dues paid by the grant recipient for the entity’s membership in business, technical, and professional organizations may be an allowable expense.

Fiscal Note

Kristen Pauling Doyle, Deputy Executive Officer and General Counsel for the Cancer Prevention and Research Institute of Texas, has determined that for the first five-year period the rule changes are in effect, there will be no foreseeable implications relating to costs or revenues for state or local government due to enforcing or administering the rules.

Public Benefit and Costs

Ms. Doyle has determined that for each year of the first five years the rule changes are in effect the public benefit anticipated due to enforcing the rules will be clarification regarding the required level of effort required for personnel working on grant projects, and the reimbursement status of professional association membership fees or dues.

Small Business, Micro-Business, and Rural Communities Impact Analysis

Ms. Doyle has determined that the rule change will not affect small businesses, micro businesses, or rural communities.

Government Growth Impact Statement

The Institute, in accordance with 34 Texas Administrative Code §11.1, has determined that during the first five years that the proposed rule change will be in effect:

- (1) the proposed rule change will not create or eliminate a government program;
- (2) implementation of the proposed rule change will not affect the number of employee positions;
- (3) implementation of the proposed rule change will not require an increase or decrease in future legislative appropriations;
- (4) the proposed rule change will not affect fees paid to the agency;

- (5) the proposed rule change will not create new rule;
- (6) the proposed rule change will not expand existing rule;
- (7) the proposed rule change will not change the number of individuals subject to the rule; and
- (8) The rule change is unlikely to have an impact on the state's economy. Although the change is likely to have neutral impact on the state's economy, the Institute lacks enough data to predict the impact with certainty.

Submit written comments on the proposed rule changes to Ms. Kristen Pauling Doyle, General Counsel, Cancer Prevention and Research Institute of Texas, P. O. Box 12097, Austin, Texas 78711, no later than January 4, 2021. The Institute asks parties filing comments to indicate whether they support the rule revision proposed by the Institute and, if a party requests a change, to provide specific text to include in the rule. Parties may submit comments electronically to kdoyle@cprit.texas.gov or by facsimile transmission to 512/475-2563.

Statutory Authority

The Institute proposes the rule change under the authority of the Texas Health and Safety Code Annotated, §102.108, which provides the Institute with broad rule-making authority to administer the chapter. Ms. Doyle has reviewed the proposed amendment and certifies the proposal to be within the Institute's authority to adopt.

There is no other statute, article, or code affected by these rules.

<rule>

§703.3. Grant Applications.

(a) The Institute shall accept Grant Applications for Cancer Research and Cancer Prevention programs to be funded by the Cancer Prevention and Research Fund or the proceeds of general obligation bonds issued on behalf of the Institute in response to standard format Requests for Applications issued by the Institute.

(b) Each Request for Applications shall be publicly available through the Institute's Internet website. The Institute reserves the right to modify the format and content requirements for the Requests for Applications from time to time. Any modifications will be available through the Institute's Internet website. The Request for Applications shall:

(1) Include guidelines for the proposed projects and may be accompanied by instructions provided by the Institute.

(2) State the criteria to be used during the Grant Review Process to evaluate the merit of the Grant Application, including guidance regarding the range of possible scores.

(A) The specific criteria and scoring guidance shall be developed by the Chief Program Officer in consultation with the Review Council.

(B) When the Institute will use a preliminary evaluation process as described in §703.6 of this chapter (relating to Grant Review Process) for the Grant Applications submitted pursuant to a particular Grant Mechanism, the Request for Applications shall state the criteria and Grant Application components to be included in the preliminary evaluation.

(3) Specify limits, if any, on the number of Grant Applications that may be submitted by an entity for a particular Grant Mechanism to ensure timely and high-quality review when a large number of Grant Applications are anticipated.

(4) Specify the minimum level of effort, if any, for the Principal Investigator, co-Principal Investigator, and other specified key personnel of an entity approved for a Grant Award.

(c) Requests for Applications for Cancer Research and Cancer Prevention projects issued by the Institute may address, but are not limited to, the following areas:

(1) Basic research;

(2) Translational research, including proof of concept, preclinical, and Product Development activities;

(3) Clinical research;

(4) Population based research;

(5) Training;

(6) Recruitment to the state of researchers and clinicians with innovative Cancer Research approaches;

(7) Infrastructure, including centers, core facilities, and shared instrumentation;

(8) Implementation of the Texas Cancer Plan; and

(9) Evidence based Cancer Prevention education, outreach, and training, and clinical programs and services.

(d) An otherwise qualified applicant is eligible solely for the Grant Mechanism specified by the Request for Applications under which the Grant Application was submitted.

(e) The Institute may limit the number of times a Grant Application not recommended for a Grant Award during a previous Grant Review Cycle may be resubmitted in a subsequent Grant Review Cycle. The Request for Applications will state the resubmission guidelines, including specific instructions for resubmissions.

(f) Failure to comply with the material and substantive requirements set forth in the Request for Applications may serve as grounds for disqualification from further consideration of the Grant Application by the Institute. A Grant Application determined by the Institute to be incomplete or otherwise noncompliant with the terms or instructions set forth by the Request for Applications shall not be eligible for consideration of a Grant Award.

(g) Only those Grant Applications submitted via the designated electronic portal designated by the Institute by the deadline, if any, stated in the Request for Applications shall be eligible for consideration of a Grant Award.

(1) Nothing herein shall prohibit the Institute from extending the submission deadline for one or more Grant Applications upon a showing of good cause, as determined by the Chief Program Officer.

(2) A request to extend the Grant Application submission deadline must be in writing and sent to the CPRIT Helpdesk via electronic mail, within 24 hours of the submission deadline.

(3) The Institute shall document any deadline extension granted, including the good cause for extending the deadline and will cause the documentation to be maintained as part of the Grant Review Process records.

(h) The Grant Applicant shall certify that it has not made and will not make a donation to the Institute or any foundation created to benefit the Institute.

(1) Grant Applicants that make a donation to the Institute or any foundation created to benefit the Institute on or after June 14, 2013, are ineligible to be considered for a Grant Award.

(2) For purposes of the required certification, the Grant Applicant includes the following individuals or the spouse or dependent child(ren) of the following individuals:

- (A) the Principal Investigator, Program Director, or Company Representative;
- (B) a Senior Member or Key Personnel listed on the Grant Application; and
- (C) an officer or director of the Grant Applicant.

(3) Notwithstanding the foregoing, one or more donations exceeding \$500 by an employee of a Grant Applicant not described by paragraph (2) of this subsection shall be considered to be made on behalf of the Grant Applicant for purposes of the certification.

(4) The certification shall be made at the time the Grant Application is submitted.

(5) The Chief Compliance Officer shall compare the list of Grant Applicants to a current list of donors to the Institute and any foundation created to benefit the Institute.

(6) To the extent that the Chief Compliance Officer has reason to believe that a Grant Applicant has made a donation to the Institute or any foundation created to benefit the Institute, the Chief Compliance Officer shall seek information from the Grant Applicant to resolve any issue. The Grant Application may continue in the Grant Review Process during the time the additional information is sought and under review by the Institute.

(7) If the Chief Compliance Officer determines that the Grant Applicant has made a donation to the Institute or any foundation created to benefit the Institute, then the Institute shall take appropriate action. Appropriate action may entail:

- (A) Withdrawal of the Grant Application from further consideration; or

(B) Return of the donation, if the return of the donation is possible without impairing Institute operations.

(8) If the donation is returned to the Applicant, then the Grant Application is eligible to be considered for a Grant Award.

(i) Grant Applicants shall identify by name all sources of funding contributing to the project proposed for a Grant Award. A Grant Applicant for a Product Development Research Grant Award must provide a capitalization table that includes those individuals or entities that have an investment, stock or rights in the company. The Institute shall make the information provided by the Grant Applicant available to Scientific Research and Prevention Programs Committee members, Institute employees, independent contractors participating in the Grant Review Process, Program Integration Committee Members and Oversight Committee Members for purposes of identifying potential Conflicts of Interest prior to reviewing or taking action on the Grant Application. The information shall be maintained in the Institute's Grant Review Process records.

(j) A Grant Applicant shall indicate if the Grant Applicant is currently ineligible to receive Federal or State grant funds due to debarment or suspension or if the Grant Applicant has had a grant terminated for cause within five years prior to the submission date of the Grant Application. For purposes of the provision, the term Grant Applicant includes the personnel, including collaborators or contractors, who will be working on the Grant Award. A Grant Applicant is not eligible to receive a Grant Award if the Grant Applicant is debarred, suspended, ineligible or otherwise excluded from participation in a federal or state grant award.

(k) The Institute may require each Grant Applicant for a Cancer Research Grant Award for Product Development to submit an application fee.

(1) The Chief Executive Officer shall adopt a policy regarding the application fee amount.

(2) The Institute shall use the application fee amounts to defray the Institute's costs associated with the Product Development review processes, including due diligence and intellectual property reviews, as specified in the Request for Application.

(3) Unless a request to submit the fee after the deadline has been approved by the Institute, the Institute may administratively withdraw a Grant Application if the application review fee is not received by the Institute within seven business days of the Grant Application submission deadline.

(4) Upon a written request from the Grant Applicant, the Institute may refund the application fee to the Grant Applicant if the Grant Applicant withdraws the Grant Application or the Grant Application is otherwise removed from the Grant Review Process prior to the review of the Grant Application by the Scientific Research and Prevention Programs Committees. The Institute's decision regarding return of the application fee is final.

(l) During the course of administrative review of the Grant Application, the Institute may contact the Grant Applicant to seek clarification on information provided in the Grant Application or to

request additional information if such information clarifies the Grant Application. The Institute shall keep a record of requests made under this subsection for review by the Chief Compliance Officer.

§703.26. Allowable Costs.

(a) A cost is an Allowable Cost and may be charged to the Grant Award if it is reasonable, allocable, and adequately documented.

(1) A cost is reasonable if the cost does not exceed that which would be incurred by a prudent individual or organization under the circumstances prevailing at the time the decision was made to incur the cost; and is necessary for the performance of the Grant Award defined in the Scope of Work in the Grant Contract.

(2) A cost is allocable if the cost:

(A) Benefits the Grant Award either directly or indirectly, subject to Indirect Cost limits stated in the Grant Contract;

(B) Is assigned the Grant Award in accordance with the relative benefit received;

(C) Is allowed or not prohibited by state laws, administrative rules, contractual terms, or applicable regulations;

(D) Is not included as a cost or used to meet Matching Fund requirements for any other Grant Award in either the current or a prior period; and

(E) Conforms to any limitations or exclusions set forth in the applicable cost principles, administrative rules, state laws, and terms of the Grant Contract.

(3) A cost is adequately documented if the cost is supported by the organization's accounting records and documented consistent with §703.24 of this title (relating to Financial Status Reports).

(b) Grant Award funds must be used for Allowable Costs as provided by the terms of the Grant Contract, Chapter 102, Texas Health and Safety Code, the Institute's administrative rules, and the Uniform Grant Management Standards (UGMS) adopted by the Comptroller's Office. If guidance from the Uniform Grant Management Standards on a particular issue conflicts with a specific provision of the Grant Contract, Chapter 102, Texas Health and Safety Code or the Institute's administrative rules, then the Grant Contract, statute, or Institute administrative rule shall prevail.

(c) An otherwise Allowable Cost will not be eligible for reimbursement if the Grant Recipient incurred the expense outside of the Grant Contract term, unless the Grant Recipient has received written approval from the Institute's Chief Executive Officer to receive reimbursement for expenses incurred prior to the effective date of the Grant Contract.

(d) An otherwise Allowable Cost will not be eligible for reimbursement if the benefit from the cost of goods or services charged to the Grant Award is not realized within the applicable term of

the Grant Award. The Grant Award should not be charged for the cost of goods or services that benefit another Grant Award or benefit a period prior to the Grant Contract effective date or after the termination of the Grant Contract.

(e) Grant Award funds shall not be used to reimburse unallowable expenses, including, but not limited to:

(1) Bad debt, such as losses arising from uncollectible accounts and other claims and related costs.

(2) Contributions to a contingency reserve or any similar provision for unforeseen events.

(3) Contributions and donations made to any individual or organization.

(4) Costs of entertainment, amusements, social activities, and incidental costs relating thereto, including tickets to shows or sports events, meals, alcoholic beverages, lodging, rentals, transportation and gratuities.

(5) Costs relating to food and beverage items, unless the food item is related to the issue studied by the project that is the subject of the Grant Award.

(6) Fines, penalties, or other costs resulting from violations of or failure to comply with federal, state, local or Indian tribal laws and regulations.

(7) An honorary gift or a gratuitous payment.

(8) Interest and other financial costs related to borrowing and the cost of financing.

(9) Legislative expenses such as salaries and other expenses associated with lobbying the state or federal legislature or similar local governmental bodies, whether incurred for purposes of legislation or executive direction.

(10) Liability insurance coverage.

(11) Benefit replacement pay or legislatively-mandated pay increases for eligible general revenue-funded state employees at Grant Recipient state agencies or universities.

(12) Professional association fees or dues for an individual employed by the Grant Recipient. Professional association fees or dues for the Grant Recipient's membership in business, technical, and professional organizations may be allowed, with prior approval from the Institute, if:

(A) the professional association is not involved in lobbying efforts; and

(B) the Grant Recipient demonstrates how membership in the professional association benefits the Grant Award project(s). [or an individual]

(13) Promotional items and costs relating to items such as T-shirts, coffee mugs, buttons, pencils, and candy that advertise or promote the project or Grant Recipient.

(14) Fees for visa services.

(15) Payments to a subcontractor if the subcontractor working on a Grant Award project employs an individual who is a Relative of the Principal Investigator, Program Director, Company Representative, Authorized Signing Official, or any person designated as Key Personnel for the same Grant Award project (collectively referred to as "affected Relative"), and:

(A) the Grant Recipient will be paying the subcontractor with Grant Award funds for any portion of the affected Relative's salary; or

(B) the Relative submits payment requests on behalf of the subcontractor to the Grant Recipient for payment with Grant Award funds.

(C) For exceptional circumstances, the Institute's Chief Executive Office may grant an exception to allow payment of Grant Award funds if the Grant Recipient notifies the Institute prior to finalizing the subcontract. The Chief Executive Officer must notify the Oversight Committee in writing of the decision to allow reimbursement for the otherwise unallowable expense.

(D) Nothing herein is intended to supersede a Grant Recipient's internal policies, to the extent that such policies are stricter.

(16) Fundraising.

(17) Tips or gratuities.

(f) The Institute is responsible for making the final determination regarding whether an expense shall be considered an Allowable Cost.



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

MEMORANDUM

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: HEIDI MCCONNELL, CHIEF OPERATING OFFICER
SUBJECT: CHIEF OPERATING OFFICER REPORT
DATE: NOVEMBER 5, 2020

CPRIT Financial Overview for FY 2020 Quarter 4

FY 2020, Quarter 4 Operating Budget

CPRIT encumbered or expended 77% of the \$4.5 million budgeted in Indirect Administration and 97% of the \$15.9 million budgeted in Grant Review and Award Operations. The Grant Review and Award Operations budget includes the majority of the agency's vendor contracts, including the \$9.7 million contract for grant management support services with GDIT. The entire contract amounts are encumbered in the accounting system when the contracts are initiated.

CPRIT received \$38,031 in revenue sharing payments during the fourth quarter. These payments were deposited in the Cancer Prevention and Research Interest and Sinking Fund 5168. The total revenue sharing payments received for FY 2020 is \$947,206 and the cumulative total over the lifetime of the agency is approaching \$4.7 million.

FY 2020, Quarter 4 Performance Measure Report

CPRIT final performance report for its two quarterly and three annual key performance measures reflects that it met performance for one measure, exceeded performance on three measures, and did not achieve performance on one measure.

CPRIT met performance in the cancer mortality rate measure with a decline to 142.9 people dying from cancer per 100,000 people from the projection of 148.0 people dying from cancer per 100,000 population. In real terms the mortality rate has declined by almost 29 (28.8) people dying from cancer per 100,000 over the past 10 years. In 2010, Texas had a cancer mortality rate of 171.7 people dying from cancer per 100,000 population.

CPRIT exceeded performance for the number of entities relocating to Texas, the number of people served through its prevention grants, and the number of new jobs created and maintained. although there was a decline in screening services provided during the third quarter due to the COVID-19 pandemic disaster and stay-at-home orders throughout the state. However, prevention grantees continued to provide cancer prevention education through virtual means as much as possible by telephone, through email notices or through online seminars.

CPRIT did not meet performance in the number of published articles reported by research grantees with 888 published articles reported versus the annual target of 1,000 published articles.

Debt Issuance History

In April 2020, the Texas Public Finance Authority (TPFA) completed issuing the entire \$231.3 million of general obligation bond proceeds needed for FY 2020.

TPFA issued \$75 million of general obligation commercial paper notes on CPRIT's behalf for FY 2021 in September 2020. This issuance provides approximately \$10.6 million for the agency's annual operating expenses, \$1.55 million of the required transfer to the Department of State Health Services for Texas Cancer Registry operations, and another \$62.7 million of projected grant award reimbursements.

Cancer Prevention and Research Institute of Texas
Quarterly Financial Report
As of August 31, 2020

Indirect Administration (B.1.1.)

	2020 Appropriated	2020 Budgeted	% of Total Budget	Actual Expenditures & Grant Encumbrances (FYTD)	Remaining Budget	Percent Expended	Estimated Expenditures (YTD)	Lapse/Overspent
1001 Salaries and Wages	\$ 1,702,425	\$ 1,462,197		\$ 1,339,834	122,364	92%	\$ 1,339,834	\$ 122,364
1002 Other Personnel Costs	38,285	40,159		37,263	2,896	93%	37,263	2,896
2001 Professional Fees and Services	1,725,988	2,316,720		1,512,116	804,604	65%	1,512,116	804,604
2003 Consumable Supplies	24,000	24,000		16,528	7,472	69%	16,528	7,472
2004 Utilities	58,600	58,600		33,598	25,002	57%	33,598	25,002
2005 Travel	45,000	45,000		35,919	9,081	80%	35,919	9,081
2006 Rent-Building	11,000	11,000		9,186	1,814	0%	9,186	1,814
2007 Rent-Machine and Other	32,172	32,172		27,678	4,494	86%	27,678	4,494
2009 Other Operating Expenses	764,583	559,030		483,197	75,833	86%	483,197	75,833
Subtotal - Indirect Administration (B.1.1.)	\$ 4,402,053	\$ 4,548,878	1.53%	\$ 3,495,319	\$ 1,053,559	77%	\$ 3,495,319	\$ 1,053,559

Grant Review and Award Operations (A.1.3.)

	2020 Appropriated	2020 Budgeted	% of Total Budget	Actual Expenditures & Grant Encumbrances (FYTD)	Remaining Budget	Percent Expended	Estimated Expenditures (YTD)	Lapse/Overspent
1001 Salaries and Wages	\$ 3,078,084	3,165,607		\$ 3,165,607	\$ 0	100%	\$ 3,165,607	\$ 0
1002 Other Personnel Costs	45,500	60,922		60,922	(0)	0%	60,922	(0)
2001 Professional Fees and Services	9,561,416	12,539,505		12,109,468	430,037	97%	12,109,468	430,037
2003 Consumable Supplies	-	-		-	-	0%	-	-
2004 Utilities	12,000	15,219		15,219	0	100%	15,219	0
2005 Travel	65,000	22,539		22,539	0	100%	22,539	0
2009 Other Operating Expenses	102,730	110,400		95,191	15,209	86%	95,191	15,209
Subtotal - Grant Operations (A.1.3.)	\$ 12,864,730	\$ 15,914,192	5.35%	\$ 15,468,945	\$ 445,247	97%	\$ 15,468,945	\$ 445,247

Grants

	2020 Appropriated	2020 Budgeted	% of Total Budget	Actual Expenditures & Grant Encumbrances (FYTD)	Remaining Budget	Percent Expended	Estimated Expenditures (YTD)	Lapse/Overspent
4000 Grants - Prevention (A.1.2)	\$ 28,050,081	\$ 28,070,076		\$ 27,696,402	\$ 373,674	99%	\$ 27,696,402	\$ 373,674
4000 Grants - Research (A.1.1.)	251,620,104	\$ 249,113,804		232,908,168	\$ 16,205,636	93%	232,908,168	16,205,636
Subtotal - Grants	\$ 279,670,185	\$ 277,183,880	93.13%	\$ 260,604,570	\$ 16,579,310	94%	\$ 260,604,570	\$ 16,579,310
Grand Totals	\$ 296,936,968	\$ 297,646,950	100.00%	\$ 279,568,834	\$ 18,078,116	94%	\$ 279,568,834	\$ 18,078,116

Cancer Prevention and Research Institute of Texas
Cancer Prevention and Research Institute Fund Account - 5136
As of August 31, 2020

	<u>08/01/2020- 08/31/2020</u>	<u>AY 20 Year to Date as of 08/31/2020</u>
<u>Beginning Balance : 9/01/2019</u>		\$ 600,506
Increases:		
(1)	\$ -	\$ -
(2)	-	
Total Increases	<u>\$ -</u>	<u>\$ 600,506.00</u>
Reductions:		
Expenditures - Appropriated	\$ -	\$ -
	\$ -	\$ -
	\$ -	\$ -
Total Reductions	<u>\$ -</u>	<u>\$ -</u>
<u>Ending Balance, 08/31/2020</u>		<u><u>\$ 600,506.00</u></u>

Note: (1) The Institute received a settlement from the Texas Cancer Coalition (TCC). This amount represents the final distribution and transfer of all funds (\$303,877) from the TCC which ceased operations in May 2013. These funds are in the State Treasury but are not appropriated to CPRIT. The beginning balance reflects the transfer of all TCC funds.

Cancer Prevention and Research Institute of Texas
License Plate Trust Fund Account - 0802
As of August 31, 2020

	<u>08/01/2020- 08/31/2020</u>	<u>AY 20 Year to Date as of 08/31/2020</u>
<u>Beginning Balance : 9/01/2019</u>		\$ 21,178.22
Increases:		
(1) License Plate Revenue Received	\$ 991.92	\$ 9,219.73
 Total Increases	 <u>\$ 991.92</u>	 <u>\$ 30,397.95</u>
Reductions:		
Expenditures - Appropriated	\$ -	\$ -
	-	-
 Total Reductions	 <u>\$ -</u>	 <u>\$ -</u>
 <u>Ending Balance, 08/31/2020</u>		 <u><u>\$ 30,397.95</u></u>

Note:

Balance forward from 2019 License Plate \$20,633.02 + Interest earned \$545.20

Cancer Prevention and Research Institute of Texas

Appropriated Receipts - 666

As of August 31, 2020

	<u>08/01/2020- 08/31/2020</u>	<u>AY 20 Year to Date as of 08/31/2020</u>
<u>Beginning Balance : 9/01/2019</u>		\$ 50,496.90
Increases:		
(1) Product Development Application Fees Received	\$ -	\$ 33,500.00
(2) Appropriated Receipts applied to payments	\$ -	\$ -
(3) Conference Registration Fees	\$ -	\$ -
(4) Conference Registration Fees-Credit Card	\$ -	\$ -
Total Increases	<u>\$ -</u>	<u>\$ 33,500.00</u>
Reductions:		
Conference Expenditures - Appropriated	\$ -	\$ -
Credit Card Fees Expended	\$ -	\$ -
Refund-Application Fees	\$ -	\$ -
Legal Services Expenses (Application Fees)	\$ -	\$ -
Total Reductions	<u>\$ -</u>	<u>\$ -</u>
<u>Ending Balance, 08/31/2020</u>		<u><u>\$ 83,996.90</u></u>

Forward balance for FY 2019 is \$50,396.90
Application Fees + \$100 Donation

Cancer Prevention and Research Institute of Texas
Interest & Sinking Fund Account - 5168
As of August 31, 2020

	<u>08/01/2020- 08/31/2020</u>	<u>AY 20 Year to Date as of 08/31/2020</u>
<u>Beginning Balance : 9/01/2019</u>		\$ 758,530.58
Increases:		
(1) Revenue Sharing / Royalties	\$ -	\$ 1,478,970.10
Total Increases	<u>\$ -</u>	<u>\$ 2,237,500.68</u>
Reductions:		
Expenditures - Appropriated	\$ -	\$ -
	\$ -	
	\$ -	\$ -
Total Reductions	<u>\$ -</u>	<u>\$ -</u>
<u>Ending Balance, 08/31/2020</u>		<u><u>\$ 2,237,500.68</u></u>

Balance forward from FY 2019 is \$758,530.58

**Cancer Prevention and Research Institute of Texas
FY 2020, Quarter 4 Performance Measure Report**

Measure	Targeted Performance	QTR 1	QTR 2	QTR 3	QTR 4	Sum of QTRs	% of Mandate Attained
Number of People Served by Institute Funded Prevention and Control Activities	500,000	278,867	219,791	157,970	173,789	830,417	166.08%
Number of Entities Relocating to TX for Cancer Research Related Projects	1	1	1	0	0	2	200.00%
Annual Age-adjusted Cancer Mortality Rate	148.0	N/A	N/A	N/A	N/A	142.9	96.55%
Number of Published Articles on CPRIT-Funded Research Projects	1,000	N/A	N/A	N/A	N/A	888	88.80%
Number of New Jobs Created and Maintained	1,500	N/A	N/A	N/A	N/A	3,139	209.27%

Variance Explanations

Number of People Served by Institute Funded Prevention and Control Activities

CPRIT prevention grantees were successful in delivering cancer prevention education using remote technologies (telephone and electronic messages) during the COVID-19 pandemic disaster to continue to serve Texans. During the 4th quarter, grantees were able to restart providing cancer prevention clinical services on a limited basis following COVID-19 precautions after having to suspend those services during the third quarter due to the restrictions on business operations and stay-at-home orders in place throughout the state.

Number of Entities Relocating to TX for Cancer Research Related Projects

CPRIT exceeded the target in the second quarter of the year. This output is dependent on the number of companies applying for CPRIT Company Awards that can successfully advance through CPRIT's rigorous review and evaluation process, receive an award and actually relocate operations to Texas. Therefore, the results vary as a company must meet 4 of CPRIT's 7 criteria for a relocation to be considered complete.

Number of Published Articles on CPRIT-Funded Research Projects

The number reflects CPRIT's successful effort to remove and reduce counting duplicate publications that are reported in the research results of two or more different CPRIT-funded grants. Two or more CPRIT-funded grantees can work collaboratively together on their research and produce papers about their research results that are published in scientific journals or other scientific publications.

Number of New Jobs Created and Maintained

The number of new jobs created and maintained reported by academic and product development research grantees exceeded the projection because CPRIT has a portfolio of more than 550 active grants and several scientific staff are required for each project. In addition, the measure includes jobs maintained which is proportionally double the number of new jobs created in a given year. Grantees conduct CPRIT-funded research projects over multiple years and must maintain the scientific expertise to do so.

CPRIT Commercial Paper and G.O. Bond Issuance

Fiscal Year	Amount Appropriated	Dated Issued	Amount Issued	Amount Issued for Fiscal Year	Commercial Paper or GO Bond Issuance	Series	Comments	Interest Rate
2010	\$ 225,000,000	September 9, 2009	\$ 9,100,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2010		September 9, 2009	\$ 3,600,000		Commercial Paper Notes	Series B, Tax-Exempt	Defeased with cash July 2011	
2010		March 12, 2010	\$ 63,800,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2010		August 26, 2010	\$ 148,500,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
				\$ 225,000,000				
2011	\$ 225,000,000	September 7, 2010	\$ 11,800,000		Commercial Paper Notes	Series A, Taxable		
2011		August 10, 2011	\$ 51,000,000		G.O. Bonds	Taxable Series 2011	Par amount of new money	Fixed Rate Bonds All-In-True Interest Cost 4.0144%
2011		August 10, 2011	\$ 232,045,000		G.O. Bonds (Refunding Bonds)	Taxable Series 2011	Par amount of refunding; Refunded \$233.2M of GOCP CPRIT Series A (9/9/09, 3/12/09, 8/26/09, 9/7/10)	Fixed Rate Bonds All-In-True Interest Cost 4.0144%
				\$ 62,800,000				
2012	\$ 300,000,000	September 7, 2011	\$ 3,200,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2012		December 8, 2011	\$ 3,200,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2012		March 2, 2012	\$ 12,300,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2012		June 21, 2012	\$ 15,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2012		August 16, 2012	\$ 42,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
				\$ 75,700,000				
2013	\$ 300,000,000	September 6, 2012	\$ 9,600,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2013		May 16, 2013	\$ 13,400,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
				\$ 23,000,000				
2014	\$ 300,000,000	November 25, 2013	\$ 55,200,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2014		March 13, 2014	\$ 47,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2014		June 17, 2014	\$ 60,300,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2014		July 8, 2014	\$ 233,280,000		G.O. Bonds (Refunding Bonds)	Taxable Series 2014	Par amount of refunding; Refunded \$237.88M of GOCP CPRIT Series A	Fixed Rate Bonds All-In-True Interest Cost 3.327184%
				\$ 162,500,000				
2015	\$ 300,000,000	November 5, 2014	\$ 57,600,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2015		April 29, 2014	\$ 112,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2015		June 26, 2015	\$ 75,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
				\$ 244,600,000				

CPRIT Commercial Paper and G.O. Bond Issuance

Fiscal Year	Amount Appropriated	Dated Issued	Amount Issued	Amount Issued for Fiscal Year	Commercial Paper or GO Bond Issuance	Series	Comments	Interest Rate
2016	\$ 300,000,000	September 22, 2015	\$ 55,400,000		Commercial Paper Notes	Series A, Taxable		
2016		October 29, 2015	\$ 300,000,000		G.O. Bonds (Refunding Bonds)	Taxable Series 2015C	Par amount of refunding; Refunded \$300M of GOCP CPRIT Series A	Fixed Rate Bonds All-In-True Interest Cost 3.299867%
2016		October 29, 2015	\$ 69,800,000		G.O. Bonds	Taxable Series 2015C	Par amount of new money; Disbursed to CPRIT January 2016	Fixed Rate Bonds All-In-True Interest Cost 3.299867%
2016		May 16, 2016	\$ 92,100,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2016		August 29, 2016	\$ 60,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
				\$ 277,300,000				
2017	\$300,000,000	October 19, 2016	\$ 58,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2017		January 5, 2017	\$ 58,900,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2017		February 8, 2017	\$ 269,000,000		G.O. Bonds (Refunding Bonds)	Taxable Series 2017	Par amount of refunding; Refunded \$269M of GOCP CPRIT Series A	Fixed Rate Bonds All-In-True Interest Cost 3.4622%
2017		February 8, 2017	\$ 106,000,000		G.O. Bonds	Taxable Series 2017	Par amount of new money	Fixed Rate Bonds All-In-True Interest Cost 3.4622 %
				\$ 222,900,000				
2018	\$300,000,000	September 29, 2017	\$ 68,200,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2018		March 8, 2018	\$ 99,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
2018		July 11, 2018	\$ 55,000,000		Commercial Paper Notes	Series A, Taxable	Refunded as G.O. Bonds	
				\$ 222,200,000				
2019		September 21, 2018	\$ 222,200,000		G.O. Bond (Refunding Bonds)	Taxable Series 2018	Par amount of refunding; Refunded \$222.2M of GOCP CPRIT Series A	Fixed Rate Bonds All-In-True Interest Cost 3.720632%
2019	\$300,000,000	September 21, 2018	\$ 75,975,000		G.O. Bonds	Taxable Series 2018	Par amount of new money	Fixed Rate Bonds All-In-True Interest Cost 3.720544%
2019		March 28, 2019	\$ 77,725,000		Commercial Paper Notes	Series A, Taxable		Interest rates between 1.90% - 2.55%
2019		July 12, 2019	\$ 54,000,000		Commercial Paper Notes	Series A, Taxable		Interest rates between 1.95% - 2.35%
				\$ 207,700,000				

CPRIT Commercial Paper and G.O. Bond Issuance

Fiscal Year	Amount Appropriated	Dated Issued	Amount Issued	Amount Issued for Fiscal Year	Commercial Paper or GO Bond Issuance	Series	Comments	Interest Rate
2020		September 16, 2019	\$ 64,300,000		Commercial Paper Notes	Series A, Taxable		Interest rate of 2.10%
2020		January 9, 2020	\$ 52,000,000		Commercial Paper Notes	Series A, Taxable		
2020		April 23, 2020	\$ 248,025,000		G.O. Bond (Refunding Bonds)	Taxable Series 2018	Par amount of refunding: Refunded \$243.025M of GOCP CPRIT Series A	Fixed Rate Bonds All-In-True Interest Cost 2.644360%
2020		April 23, 2020	\$ 115,000,000		G.O. Bonds	Taxable Series 2018	Par amount of new money	Fixed Rate Bonds All-In-True Interest Cost 2.644360%
				\$ 231,300,000				
2021	\$300,000,000	September 11, 2020	\$ 75,000,000		Commercial Paper Notes	Series A, Taxable		Interest rate of 0.23% for 90 days
				\$ 75,000,000				
TOTAL ISSUED TO DATE				\$ 2,030,000,000				



CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

TO: OVERSIGHT COMMITTEE MEMBERS
FROM: CHRIS CUTRONE, SENIOR COMMUNICATIONS SPECIALIST
SUBJECT: COMMUNICATIONS UPDATE
DATE: NOVEMBER 9, 2020

The following is an overview of the agency's communication activities from August to November 2020.

Earned Media

Coverage:

- 5 articles featured CPRIT
- 63 additional articles mentioned CPRIT (stories primarily focused on work of grantees)

Coverage Highlights: (see clipped articles following report)

Post-OC meeting in August, business publications and journalists showed the most interest in CPRIT awards. The Dallas Morning News, D Magazine and Dallas Innovates ran stories focused on CPRIT Product Development recipient OncoNano. San Antonio coverage was also a bright spot for coverage – San Antonio Business Journal, San Antonio Express-News, and KSAT ABC did features on the August round of grants.

- August 19, 2020, *Dallas Morning News*, Texas cancer research agency puts nearly \$10 million more into Southlake startup OncoNano
- August 19, 2020, *San Antonio Business Journal*, These SA institutions to get over \$10M in cancer research funding
- August 20, 2020, *Dallas Innovates*, Southlake BioTech Startup Gets \$10M Grant from CPRIT for Technology That 'Lights Up' Cancer
- August 21, 2020, *KSAT ABC 12 San Antonio*, UT Health's Mays Cancer Center receives designation, millions in grants
- August 24, 2020, *Fierce Biotech*, Bristol Myers to buy Forbuis in hunt for Opdivo-enhancing drugs
- August 24, 2020, *D Magazine*, State Sends Nearly \$25 Million to North Texas to Fight Cancer
- August 28, 2020, *San Antonio Express-News*, San Antonio's Mays Cancer Center gets \$10.3 million in state funding
- September 23, 2020, *The Eagle (Bryan-College Station)*, Dr. Deborah Birx, who

- oversees federal COVID-19 response, visits Bryan-College Station
- October 22, 2020, KPRC NBC 2 Houston, *Voices of Houston: Meet Dorothy Gibbons, a local leader helping more than 40K women annually*

Outreach

Brazos Valley Economic Development Corporation has engaged Communications to prepare a virtual stakeholder event planned for early December to showcase CPRIT. We are working to line up research grantees and stakeholders from the Texas A&M System as well as Fujifilm Diosynth to participate.

Digital Media

We launched a new feature page on the website for the Liver Cancer Collaborative Action Program (CAP), coordinating its launch with Baylor College of Medicine to coincide with CAP lead investigator Dr. Hashem El-Serag's annual symposium on Oct. 17. The page includes a video we produced about the CAP. The page url is here: <https://livercancer.cprit.texas.gov/>.

Communications and IT staff are preparing the launch of the CPRIT Scholar application this month. This online tool will allow the scholars or their institutions to update their own profiles on our website at <https://scholars.cprit.texas.gov/>. We will work with communications counterparts at the institutions for training and support when CPRIT deploys the application.

Social Media

Several important social media months happened this quarter: September was Childhood Cancer Awareness Month, and October was Breast Cancer and Liver Cancer Awareness Months. As we've demonstrated before, these cancer awareness months are a great opportunity to highlight our grantees and initiatives working on these cancer sites via social media content. Social media statistics for the past month are below.

Twitter (Oct 13, 2020-November 9, 2020):

- Total Tweets: 13
- Tweet Impressions: 18.6K
- Profile Visits: 392
- Mentions: 37
- New Followers: 19 (2,680 total)
- Top tweet: "Computational models have the potential to transform the future of cancer research through stronger links between cancer expertise and computational scientists with access to Texas' supercomputing prowess." - James Willson, CPRIT Chief Scientific Officer. <https://t.co/A1T86xNK3R>
- Impressions: 829 people
- Engagements: 8

LinkedIn (July 10, 2020-August 9, 2020):

- Total Updates: 12
- Reactions: 59
- Page views: 184
- Unique Visitors: 64
- New followers: 14 (1009 total)
- Top Update: We congratulate Dr. DeBerardinis, recipient of multiple CPRIT awards, for his election to the [National Academy of Medicine](#)! He joins CPRIT [#Scholar](#) Sean Morrison as the second member of [Children's Research Institute at UT Southwestern](#) to be awarded this honor.
Impressions: 454 people
Clicks: 3
Reactions: 9
Engagement rate: 2.64%

Facebook (October 12, 2020-November 8, 2020):

- Total posts: 15
- Reach: 1.2K users
- Engagement: 81 reactions/clicks
- Page Views: 152
- Top Post: We congratulate Dr. DeBerardinis, recipient of multiple CPRIT awards, for his election to the National Academy of Medicine! He joins CPRIT [#Scholar](#) Sean Morrison as the second member of the Children's Research Institute at UT Southwestern Medical Center to be awarded this honor.
- Post Reach: 119 users
Engagement: 3 clicks, 9 reactions

Refinance

How much do you want to borrow?

What is your credit score?

Good661 - 720

Poor300 - 600

Fair601 - 660

Very Good721 - 780

Excellent781 - 850

Calculate Payment

\$25,000

\$50,000

\$100,000

\$125,000

\$150,000

\$200,000

\$225,000

\$250,000

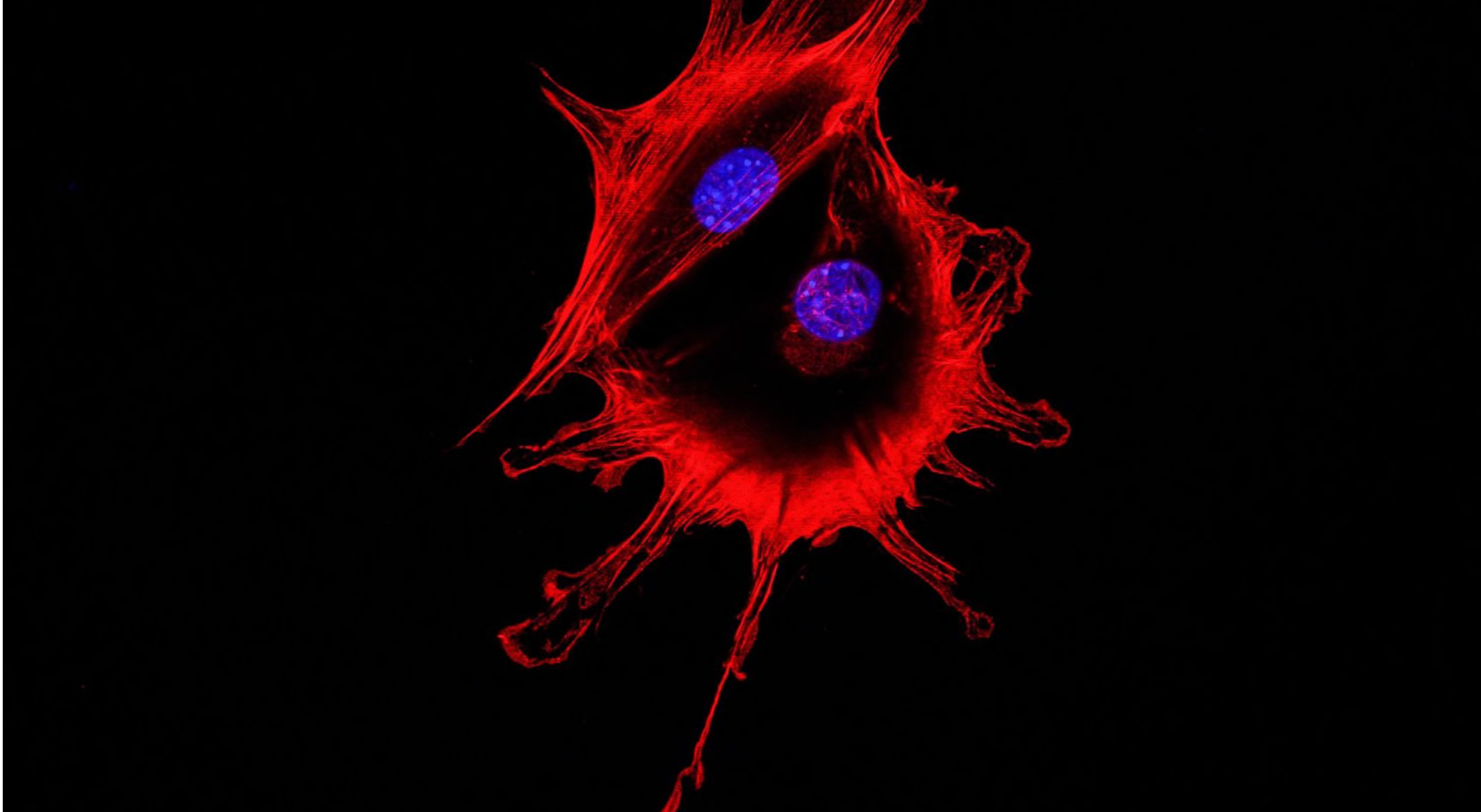
\$300,000+

THIS IS MEMBER-EXCLUSIVE CONTENT

BUSINESS > HEALTH CARE

Texas cancer research agency puts nearly \$10 million more into Southlake startup OncoNano

The state has been backing the company's science since it spun out of UT Southwestern.



Microscopy imaging of two cancer cells. (Getty Images/Stockphoto / Getty Images/Stockphoto)

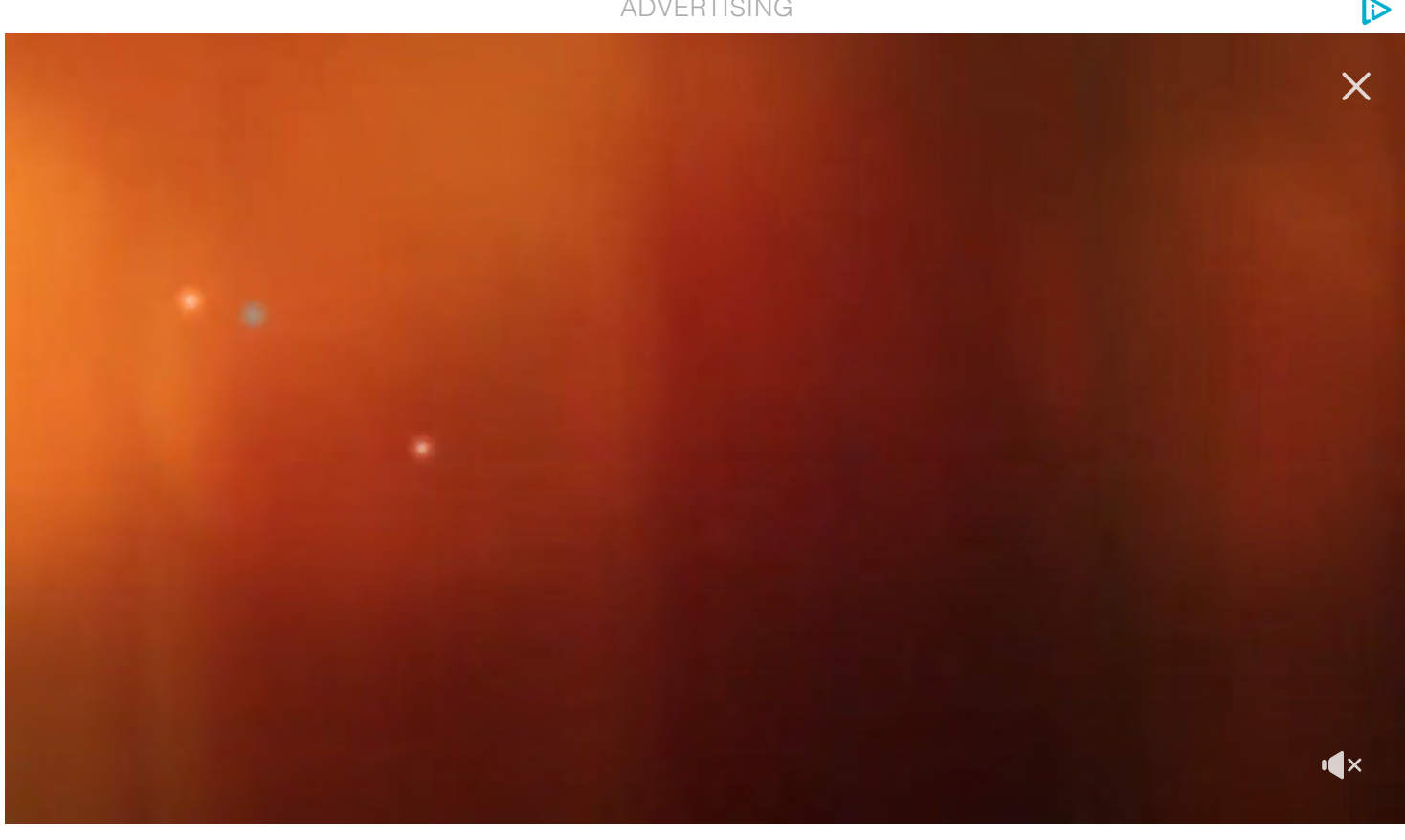
By Paul O'Donnell
3:41 PM on Aug 19, 2020



The state's cancer research agency is putting nearly \$10 million more into a Southlake startup that's developing real-time imaging of tumors during surgery.

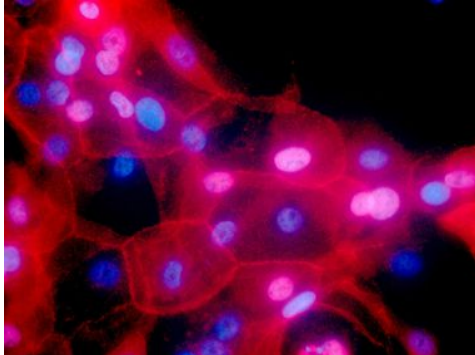
OncoNano Medicine Inc., a spinout from the University of Texas Southwestern Medical Center, is getting \$9,965,273 from the Cancer Prevention and Research Institute of Texas to support development of its imaging agent, which is in Phase 2 clinical trials.

The grant is among about \$25 million flowing back to North Texas for research and prevention efforts in the state's latest funding round. CPRIT awarded \$114 million in this round, with about \$64 million going to Houston-area research.



The science behind OncoNano has been supported with three CPRIT academic research grants to UT Southwestern. The company received \$15.4 million from the state a year ago when CPRIT CEO Wayne Roberts described its technologies as having "significant potential for breakthroughs."

The U.S. Food and Drug Administration has fast-tracked OncoNano's trials for expedited review.



HEALTH CARE

Texas awards \$15.4 million to Southlake biotech firm for new cancer treatment

Texas awards \$15.4 million to Southlake biotech firm for new cancer treatment

BY PAUL O'DONNELL



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Texas voters approved a constitutional amendment in 2007 to create a \$3 billion cancer-fighting fund. In November, they extended the CPRIT program with another \$3 billion bond issue.

In addition to supporting OncoNano, CPRIT is funneling nearly \$7.5 million into a major initiative at UT Southwestern and the Baylor College of Medicine to reduce liver cancer mortality. The work is focused on Texas Hispanics, who have higher rates of liver cancer than whites.

Amit Singal, medical director of UTSW's liver tumor program and its clinical chief of hepatology, will receive \$2.5 million of the total in the partnership that links academic institutions and regional health systems. The goal is to improve early detection and identification of genetic risk factors.

Other UT Southwestern researchers receiving grants are:



- David Hsieh: \$1,499,998.
- Kathryn O'Donnell: \$900,000.
- Xun Jia: \$250,000.

UT Southwestern will attempt to recruit four additional researchers with state-approved grants of \$2 million for each. Those researchers are:

- Jin Chen and Andrew Sandstrom, from the University of California at Berkeley.
- Joshua Gruber, from Stanford University.
- Xing Zeng, from the Dana Farber Cancer Institute at Harvard Medical School.

North Texas also will benefit from a \$2 million grant to expand cervical cancer screenings, and a \$1.5 million award to the Light and Salt Association to create cancer prevention and support programs among Asian-Americans in Dallas-Fort Worth, Houston and Austin.



HEALTH CARE

UT Southwestern hauls in \$12 million from CPRIT to recruit three new cancer researchers

BY PAUL O'DONNELL



Paul O'Donnell, Business Editor. Paul directs the work of an award-winning staff covering business news in the nation's fourth largest metro region. He's been The News' business editor since 2015. Before that, he was editor-in-chief at the Dallas Business Journal and business editor at the Cleveland Plain Dealer.

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Health Care

These SA institutions to get over \$10M in cancer research funding

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UT Health San Antonio and its cancer research efforts will get a big boost as the institution will get more than \$10 million in new funding from the Cancer Prevention & Research Institute of Texas.
CARLOS JAVIER SANCHEZ (SAB)

By W. Scott Bailey – Senior Reporter, San Antonio Business Journal
Aug 19, 2020, 4:37pm CDT Updated Aug 19, 2020, 6:24pm CDT

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A pair of Alamo City institutions will receive millions more in state funding to fight cancer.

The Cancer Prevention & Research Institute of Texas has awarded \$10.6 million through a combined six grants to UT Health San Antonio and the University of Texas at San Antonio in its latest funding round. The funding will support new research and recruitment of coveted talent.

UT Health San Antonio is set to receive the majority of the Alamo City's share of the \$114 million CPRIT has awarded through 62 new grants. The institution will get \$8 million to support its recruitment of research talent, including Doctors David Gius and Peng Zhao, who are currently affiliated with the Robert H. Lurie Comprehensive Cancer Center and the University of California San Diego, respectively.



UT Health San Antonio's Dr. Ruben Mesa.
COURTESY OF UT HEALTH SAN ANTONIO

"Dr Gius brings an extraordinary track record as an innovative cancer scientist to the Mays Cancer Center," said Dr. Ruben Mesa, director of the Mays Cancer Center, home to UT Health San Antonio MD Anderson. "As our new Associate cancer center director for translational research he will help move scientific discoveries from the lab bench to the bedside."

Zhao, a postdoctoral fellow at UCSD, will join UT Health's Department of Biochemistry and Structural Biology. He currently studies a condition called nonalcoholic steatohepatitis and its progression to liver cancer.

UTSA will get \$250,000 through one of CPRIT's High Impact High Risk Award grants.

In addition to advancing science, CPRIT CEO Wayne Roberts said the latest awards will foster new job creation – at a time when Covid-19 has contributed to significant employment losses and economic uncertainty.

Listed below are all recipients of CPRIT funds.

San Antonio CPRIT Funding

Recruitment of Established Investigators Awards*

Recipient: UT Health San Antonio

- Amount: \$6 million
- Candidate: Dr. David Gius (Robert H. Lurie Comprehensive Cancer Center)

Recipient: UT Health San Antonio

- Amount: \$2 million
- Candidate: Peng Zhao (University of California San Diego)

Individual Investigator Awards - Eight grants

Recipient: UT Health San Antonio (Dimitri Ivanov)

- Amount: \$1,198,659

Recipient: UT Health San Antonio (Mingjiang Xu)

- Amount: \$900,000

High Impact High Risk Awards

Recipient: University of Texas at San Antonio (Hyoung-gon Lee)

- Amount: \$250,000

Recipient: UT Health San Antonio (Luiz Penalva)

- Amount: \$249,968

* Recruitment grants awarded indicate only approval to negotiate offers with candidates.

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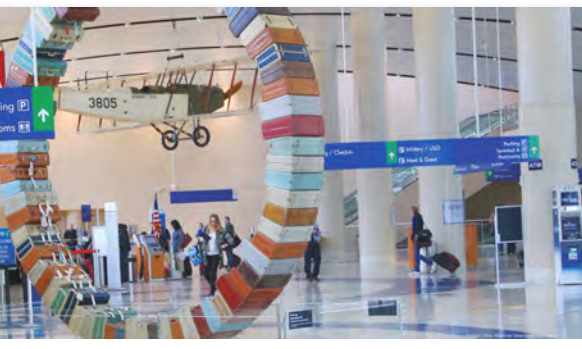


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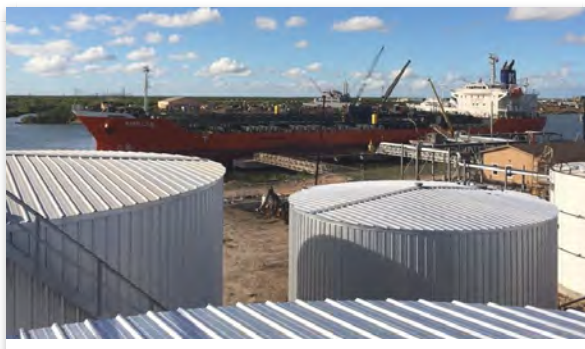


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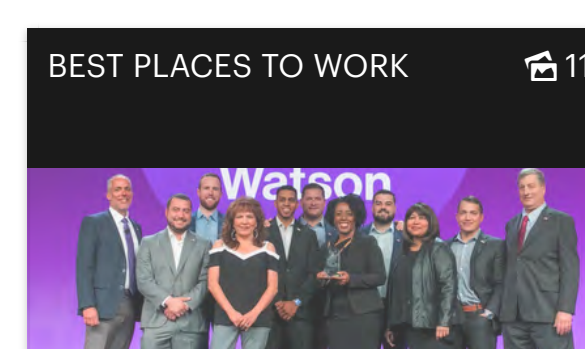
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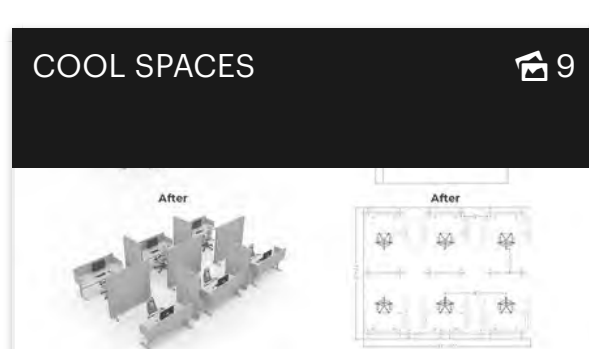
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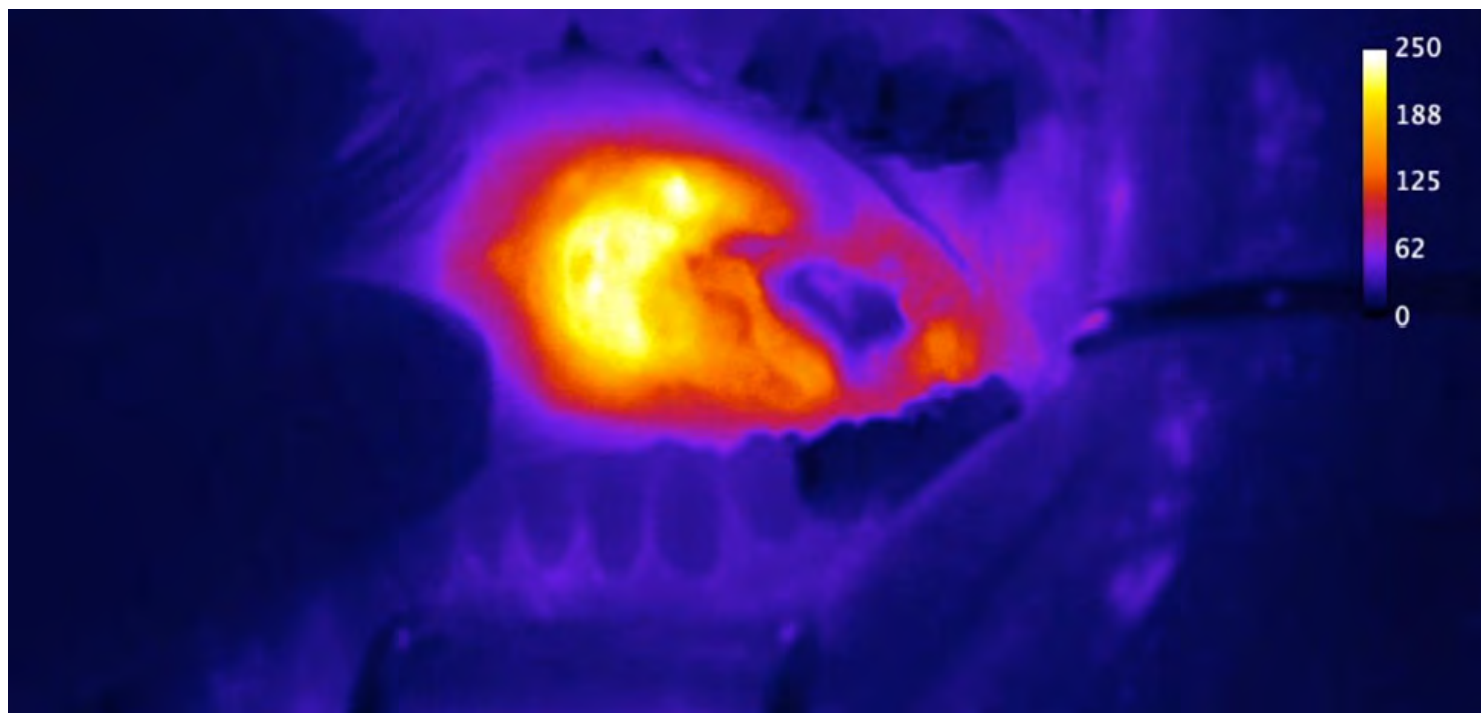
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Southlake BioTech Startup Gets \$10M Grant from CPRIT for Technology That 'Lights Up' Cancer

OncoNano Medicine, a spinout of University of Texas Southwestern, uses pH as a biomarker to detect metastatic cancer. Its technology, which visualizes a tumor, could be a gamechanger.

BY QUINCY PRESTON ([HTTPS://DALLASINNOVATES.COM/AUTHOR/QUINCY-PRESTON/](https://dallasinnovates.com/author/quincy-preston/)) • AUG 20, 2020



OncoNano's technology visualizes a tongue carcinoma in real time during a surgery in a Phase I clinical trial. [Image: OncoNano]

Southlake-based biotech startup OncoNano Medicine says it's received a \$9.97 million grant from the Cancer Prevention and Research Institute of Texas (CPRIT) to expand uses for its innovative lead product, OHM-100, that "lights up" a tumor to distinguish it from normal tissue.

The grant is OncoNano's third for its tumor biomarkers. The startup received \$6 million from the Texas cancer agency in 2016 to advance ONM-100 and another \$15.4 million in 2019 (<https://dallasinnovates.com/north-texas-cancer-researchers-institutions-reap-36m-in-cpr-it-grants/>) for ONM-500, an oncology product that also builds on the company's proprietary pH-sensitive technology.

CPRIT has been a partner since the company's founding, OncoNano CEO and co-founder Ravi Srinivasan said. The new funding received from the agency for ONM-100's pH-sensitive approach for imaging metastatic disease can solve "a tremendous unmet need," he said in a statement.

14-6

Srinivasan explains that there are limited tools available that can allow doctors to visualize tumors that have metastasized, in particular, the “small and disperse ones often characteristic of metastatic disease.”

ONM-100 can help surgeons visualize cancer tumors during surgery by making cancerous tissue “light up,” according to Srinivasan. The imaging allows for more precision to ensure that tumors are fully removed during surgery. The product has been granted a fast track designation from the Food and Drug Administration (FDA) and is currently in Phase 2 clinical trials.

During the trials, researchers learned that ONM-100 also can be used to image and stage metastatic disease. That has the potential for saving lives: The improvement of visualization of metastatic disease—preoperatively and during surgery—is closely tied to patient survival.



Ravi Srinivasan, PhD, CEO and Co-founder of OncoNano Medicine, Inc. [Photo courtesy OncoNano Medicine, Inc.]

OncoNano said metastatic disease represents some 45 to 50 percent of all cancer diagnoses, and it's the cause of 90% of patient deaths. Better visualization of tumors is “critical for diagnosis, staging, therapeutic choice and efficacy,” it said.

Cindy WalkerPeach, PhD, chief product development officer at CPRIT, said the agency is looking forward to the clinical trials that clearly demonstrate favorable impact to cancer patient care.

“CPRIT continues to be impressed with OncoNano Medicine's outcomes using their unique micelle technology to detect metastatic cancer,” she said in a statement.

OncoNano, which develops products to diagnose and treat cancer, has a number of products in the works. The other CPRIT funded product, ONM-500, uses the startup's pH-sensitive micelle technology to deliver antigens to activate immunity for the treatment of cancers caused by the human papilloma virus (HPV).

OncoNano, launched in 2014, is a University of Texas Southwestern spinout. Using technology invented by Dr. Jinming Gao, professor of pharmacology and otolaryngology, and Dr. Baran D. Sumer, associate professor of otolaryngology, the two professors co-founded OncoNano along with Srinivasan, Dallas Innovates previously reported.

The company's total funding is about \$65 million, according to Crunchbase. Last year, Dallas Innovates reported that OncoNano's Series A funding (<https://dallasinnovates.com/follow-the-money-onconano-series-a-funding-reaches-35-4m-eci-acquires-uk-software-reseller/>) had reached \$35 million in July, and received its second CPRIT grant later that summer.

OncoNano, a TechFW graduate, has many notable ties in the region in addition to its spinout from UTSW. As of late 2019, seven of the company's 20 employees worked at Alcon (<https://dallasinnovates.com/burgeoning-startup-companies-continue-alcons-legacy-in-life-sciences/>), including chief financial officer Matthew Head. Of those seven, six worked at ZS Pharma, a one-time Coppell biopharmaceutical company that AstraZeneca acquired for \$2.7 billion in 2015. Currently, CEO Srinivasan is chairman of the board of clinical-stage biotech company CAGE Bio, which expanded to UNT Health Science Center (<https://dallasinnovates.com/clinical-stage-biotech-expands-from-silicon-valley-to-the-university-of-north-texas-health-science-center-in-fort-worth/>) at Fort Worth in July.

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HEALTH

UT Health's Mays Cancer Center receives designation, millions in grants

The National Cancer Institute renews designation while CPRIT awards more than \$10 million to center

Sean Talbot, Assignments Manager

Published: **August 21, 2020, 9:36 am**

Tags: [UT Health](#), [Cancer](#), [Mays Cancer Center](#), [National Cancer Institute](#)



UT Health

San Antonio

UT Health PSA: Social distancing is required to slow the COVID-19 pandemic



SAN ANTONIO – It has been a week of celebration at the Mays Cancer Center at UT Health in San Antonio. On Aug. 13, the National Cancer Institute renewed its designation of the Mays Cancer Center.

“It’s a tremendous validation of the efforts of many individuals to work together as a team to really care and focus on the cancer issues of San Antonio and South Texas,” Mays Cancer Center Director Dr. Ruben Mesa said. “We are the main academic center really tasked with caring for this region and community, and we’re really excited to meet that mandate.”

The National Cancer Institute designation means that the Mays Cancer Center is looked at as one of the top cancer research facilities in the nation. It is one of four in Texas to have an NCI-designation.

“It has a huge impact for our community in terms of economic development, recruitment of physicians and scientists, and directly helps to decrease the burden of cancer here in San Antonio,” Mesa said.



More than \$10 million dollars will go to the center as part of that designation.

The Mays Cancer Center was also awarded \$10.3 million in grants from the Cancer Prevention and Research Institute of Texas. The grants will be used to bring in some of the top cancer researchers to work with local researchers on specific treatments. Among the researchers coming to San Antonio is Dr. Peng Zhou from the University of California at San Diego.

“She is focusing on key issues related to liver cancer,” Mesa said. “Liver cancer is very common here in San Antonio and South Texas. It’s a very serious problem so we’re really excited to have her join us and work with the research team to advance that.”

“We’re incredibly proud of those efforts and incredibly delighted to continue to work to decrease the burden of cancer not only in our community, but across the state of Texas and really around the world.”

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ABOUT THE AUTHOR:



Sean Talbot

Sean Talbot is the Assignments Manager at KSAT and has served in this role since 2015. He joined KSAT in 2001. He graduated from Texas State with a degree in Mass Communication with a minor in Political

**Biotech****Bristol Myers to buy Forbius in hunt for Opdivo-enhancing drugs**

by Nick Paul Taylor | Aug 24, 2020 8:10am



(Bristol-Myers Squibb) The potential to improve outcomes in cancer patients by targeting TGF-beta has attracted some of Bristol Myers' peers. (Bristol Myers Squibb)



Bristol Myers Squibb has **struck** a deal to buy Forbius for its portfolio of TGF-beta inhibitors. The takeover will give Bristol Myers control of a clinical-phase inhibitor of TGF-beta 1 and 3 that Forbius is developing to increase the activity of immune checkpoint inhibitors.

TGF-beta is implicated in the inhibition of anti-cancer immunity in the tumor microenvironment and in the promotion of metastases. With researchers linking those effects to the failure of checkpoint inhibitors such as Bristol Myers' Opdivo, Forbius advanced TGF-beta 1 and 3 inhibitor AVID200 into the clinic in treatment of refractory advanced and metastatic malignancies last year.

The work caught the attention of Bristol Myers, one of a clutch of leading oncology players that has been on the hunt for molecules that enhance the efficacy of checkpoint inhibitors. Bristol Myers is set to pay an upfront fee and milestones of undisclosed size to acquire Forbius.

14-10



Forbius spin out its non-TGF-beta assets to form a new biotech.

The potential to improve outcomes in cancer patients by targeting TGF-beta has attracted some of Bristol Myers' peers. Perhaps most notably, GlaxoSmithKline paid Merck KGaA €300 million (\$355 million) upfront to jointly develop M7824, a bifunctional fusion protein immunotherapy that targets TGF-beta and PD-L1. A phase 3 trial comparing the drug to Merck's Keytruda started in 2018.

Pfizer moved TGF-beta 1 inhibitor PF-06952229 into the clinic in advanced solid tumor patients in 2018. Scholar Rock began evaluating its prospect SRK-181 in combination with a checkpoint inhibitor in solid tumor patients this year.

The widespread interest in TGF-beta reflects the as-yet-untapped commercial opportunity for drugs that enable more people to respond to checkpoint inhibitors and evidence that the protein may be the key to unlocking those sales. In 2017, Roche shared bladder cancer data showing non-responders to its checkpoint inhibitor, Tecentriq, had high levels of TGF-beta. Roche followed up on that finding by linking the inhibition of TGF-beta in mice to increased Tecentriq efficacy.

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by Amirah Al Idrus

Nov 9, 2020 11:21am

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Courtesy: iStock

RESEARCH

State Sends Nearly \$25 Million to North Texas to Fight Cancer

The CPRIT awards include nearly \$10 million for cancer treatment startup OncoNano.

BY WILL MADDOX | PUBLISHED IN HEALTHCARE BUSINESS | AUGUST 24, 2020 | 9:00 AM

SMS



The Cancer Prevention and Research Institute of Texas (CPRIT) is sending nine awards to North Texas for cancer research, prevention, and product development. The nine awards represent around \$25 million of the \$114 million the organization distributed statewide.

14-12

“Today’s investments demonstrate CPRIT’s continued commitment to cancer research and the unparalleled growth of the cancer-fighting ecosystem across Texas,” said Wayne Roberts, CPRIT Chief Executive Officer via release. “At the same time, these awards translate directly to job creation and continuity in our state.”

Several UT Southwestern Medical Center researchers received awards for their work or were recruited from other universities to continue their studies here. Onconano, the Southlake startup that received \$15.4 million from CPRIT last year, was awarded \$9,965,273 in a Texas Company Product Development Award for its work fighting cervical, head, and neck cancers caused by HPV.

The awards included grants that helped recruit scientists from other universities to Texas institutions, including several who ended up at UT Southwestern. The awards given to first-time tenure track professors who were recruited to UT Southwestern include:

- Jin Chen, PhD from the University of California, Berkeley – \$2,000,000
- Joshua Gruber from Stanford University – \$2,000,000
- Andrew Sandstrom from the University of California, Berkeley – \$2,000,000
- Xing Zeng from the Dana Farber Cancer Institute, Harvard Medical School – \$2,000,000

Several UT Southwestern researchers were given awards for their work in cancer research as well, including:

- *Amit Singal* – \$2,499,995
- *Keith Argenbright* – \$1,999,996

- *Kathryn O'Donnell* – \$900,000
- *David Hsieh*) – \$1,499,998

You can see the full list of recipients [here](#).

RESEARCH

Tags: **ONCONANO** / **CPRIT** / **UT SOUTHWESTERN MEDICAL CENTER**



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San Antonio's Mays Cancer Center gets \$10.3 million in state funding

 Laura Garcia | Aug. 28, 2020 | Updated: Aug. 28, 2020 5:54 p.m.



Dr. David Gius is leaving Northwestern University in Chicago to join the Mays Cancer Center in San Antonio, where he will serve as its new associate director for translational research.
Photo: Randy Lee Bellice

The Mays Cancer Center at UT Health San Antonio is getting a \$10.3 million financial boost from the Cancer Prevention and Research Institute of Texas, including \$6 million for the recruitment of a top physician-scientist.

Dr. David Gius, a breast cancer and radiation oncology researcher, is leaving the Robert H. Lurie Comprehensive Cancer Center at Northwestern University and relocating to UT Health San Antonio with some of his staff.

Gius will serve as the new associate cancer center director for translational research, which means he will help move scientific discoveries from the lab to consumers. Gius studies the processes that govern aging, cellular metabolism and cancer, and developed mouse models to study these issues in different types of cancer.

The state's cancer institute, called CPRIT, gave the San Antonio-based cancer center five grants on Aug. 19. The state agency doled out over \$114 million to 62 recipients during this funding round.

On ExpressNews.com: [Future of state's cancer-fighting agency will be left to voters](#)

A recruitment grant of \$2 million will allow Peng Zhao, a postdoctoral fellow at the University of California, San Diego, to join the medical school's department of biochemistry and structural biology. Zhao studies a condition called nonalcoholic steatohepatitis and its progression to liver cancer.

Dmitri Ivanov, associate professor of biochemistry and structural biology, will get nearly \$1.2 million to continue identifying and optimizing small molecules for drug development for children and adolescent cancer patients.

Dr. Mingjiang Xu, a professor of molecular medicine was awarded \$900,000 to study an RNA molecule called HOTTIP and its role in causing leukemia.

Luiz Penalva, a professor of cell systems and anatomy and an investigator at the Greehey Children's Cancer Research Institute, will receive a high-impact/high-risk award of \$249,968 for his work on the RNA-binding protein SERBP1.

In addition to the cancer center grants, researcher Hyoung-gon Lee of University of Texas at San Antonio received a CPRIT high-impact/high-risk award for \$250,000. Lee is studying chemotherapy-induced peripheral neuropathy, which causes cancer patients to experience numbness, balance problems or pain.

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CPRIT so far has invested \$2.6 billion in cancer research and prevention efforts within the past decade.

Last November, 64 percent of voters approved a constitutional amendment to provide an additional \$3 billion to CPRIT for cancer research and prevention. Texas lawmakers and Gov. Gregg Abbott also supported the state agency's goal of fighting cancer.

CPRIT's chief scientific officer, Dr. James Willson, called it a "tremendously unique" program that expands research capabilities at academic institutions, invests in cancer prevention and has fueled the state's status as a burgeoning biomedical hub.

The state's cancer fund also has paid for the recruitment of 213 top researchers, including immunologist Jim Allison of MD Anderson Cancer Center in Houston, who was awarded the Nobel Prize in 2018.

"As a practicing oncologist, I've seen a transformation in the impact of these (researchers') discoveries on patients," Willson said Friday.

On ExpressNews.com: [San Antonio medical school gets millions to research breast cancer](#)

Willson singled out Mays Cancer Center for its substantial momentum over the past five to six years.

Earlier this month, the Mays Cancer Center received a five-year renewal of its National Cancer Institute designation, which will bring in an additional \$10 million.

Since its review for that renewal, Mesa said they've recruited more than 60 physicians and scientists and increased its NCI funding by 29 percent.

They also recently completed a \$20.6 million renovation of its welcome center, patient and family services and chemotherapy treatment area.

Mesa, who took the reins as director nearly three years ago, said one of their biggest wins was finalizing a partnership with Houston-based MD Anderson Cancer Center in 2018.

"People no longer had to leave San Antonio to get that level of cancer care and access to clinical trials," he said. "But perhaps even more importantly, we've made tremendous progress in understanding cancer in Latino patients."

The facility in the South Texas Medical Center is one of four NCI-designated centers in Texas and serves a 38-county area with a population that is predominantly Hispanic or Latino — a demographic Mesa says is also disproportionately affected by cancer.

Mesa, who is Cuban, says Latinos as a population group are diverse when it comes to their diet or regional and cultural influences.

Patients who come from families that have lived in South Texas for 300 years are genetically different than those who more recently came from Mexico, he said.

"The dosage of a drug can be different in someone based on their genetics," he said. "We learned there needs to be an understanding of diversity and that what is tested in one group of people may not be as safe or as effective in others."

Laura Garcia covers the health care industry. To read more from Laura, become a subscriber, laura.garcia@express-news.net / Twitter: [@Reporter_Laura](#)

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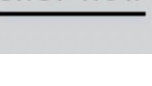
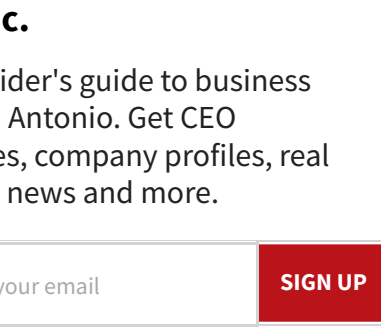
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 Laura Garcia
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Laura Garcia covers health care and insurance at the San Antonio Express-News. She is an active member of the San Antonio Association of Hispanic Journalists.
Before she joined the Express-News, she was a features editor at the Victoria Advocate, where she also covered health care and nonprofits. She was part of an investigative reporting team on a series called "Understanding Harvey." The coverage focused on a community recovering from Hurricane Harvey and won a national Society of Professional Journalists award for public service.
Her work has been published in The Roanoke Times in Virginia, Corpus Christi Caller-Times and the Longview News-Journal. She graduated with journalism degrees from San Antonio College and Texas State University-San Marcos.

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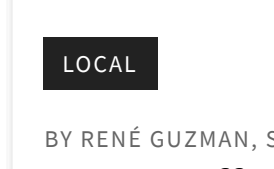

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Dr. Deborah Birx, who oversees federal COVID-19 response, visits Bryan-College Station

Official tours Fujifilm facility that will produce vaccine, answers questions at Texas A&M

Kenny Wiley
Sep 23, 2020

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Dr. Deborah L. Birx speaks at the Texas A&M Innovative Learning Classroom following her visit to the Fujifilm Diosynth Biotechnologies facility on Tuesday, Sept. 22, 2020.

Dr. Deborah Birx, who oversees federal COVID-19 response

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Eagle photo by Laura McKenzie

Kenny Wiley



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White House Coronavirus Response Coordinator Dr. Deborah Birx was in Aggieland on Tuesday to tour facilities that are slated to mass-produce a COVID-19 vaccine candidate and to meet with Texas A&M University System officials, faculty and students, as well as local media outlets.

Fujifilm Diosynth Biotechnologies provided Birx a tour of its College Station location. A federal task order reserves, at a \$265 million price tag, production capacity at the Texas A&M University System Center for Innovation in Advanced Development and Manufacturing through the end of 2021, the U.S. government announced July 27. Fujifilm Diosynth Biotechnologies owns and operates CIADM's three facilities as a Texas A&M System subcontractor.

"We're all working towards an effective vaccine," Birx told reporters Tuesday afternoon. "I think the question is, 'How many of these vaccines will work?' And that determines how many doses we have," Birx said. "We have, on paper, enough vaccine

to immunize everyone. The question is, will all six candidates work?"

Dr. Deborah Birx, who oversees federal COVID-19 response

0 comments

Birx has visited 15 to 20 college campuses recently, including a stop at Baylor University on Monday, and said Tuesday that regarding COVID-19, Texas A&M has the lowest positivity rate among colleges she's visited. She noted she will visit Auburn and Clemson in the coming days.

Birx said she was moved by what she described as the students, staff and broader Bryan-College Station community working together to keep

COVID-19 infections low. According to Texas A&M's dashboard, weekly infections peaked the week of Aug. 22 with 371 positive tests reported and have steadily fallen since, with 130 positive tests reported last week. As of Sept. 19, there were 311 active cases among Texas A&M faculty, staff and students.

"In light that we're facing 200,000 American lives that have been lost — [I was really deeply moved to]

really hear the students lift us all up in the belief that we can pull together as one community, independent of our political backgrounds, to work together to respect others and ensure the virus is not passed to one another," Birx said.

Dr. Deborah Birx, who oversees federal COVID-19 response **0 comments**

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She noted that the trends at universities have been for cases to spike in the first weeks of school and then decline by weeks four or five of the fall semester.

“A significant number of students that had the most risky behavior were infected early, and other students that were highly compliant, we hope, will not become infected,” Birx said.

At the Tuesday afternoon press availability, many of the questions Birx fielded were related to vaccine testing, rollout and production. Birx suggested that once vaccines are available, patterns of distributions may suggest that most college students, except for the most vulnerable, may be later in getting vaccine doses.

Dr. Deborah Birx, who oversees federal COVID-19 response, visits Bryan-College Station 0 comments

“Once we have a vaccine that we know protects the vulnerable and the health care workers, I do think it’s important for it to have access in these communities that have vulnerable individuals,” Birx said. College students, on the other hand, because of their less risk for serious illness, in general, unless they’re in that vulnerable category — may be on that tail end of immunizations.”

Birx said it is critical to prove in trials that vaccine candidates are safe for a variety of vulnerable populations, including people of various ages with comorbidities, or more than one illness or condition. She said that more than 90% of those who have died from the virus had comorbidities.

“All of these trials have a broad age range to really get data about safety,” Birx said. “The vaccine has to match the need ... and we obviously want to vaccinate those individuals as fast as we can to protect them from this virus, so we need to have a vaccine that is efficacious and safe for that group. That’s really what will determine when they will be immunized.”

Birx said that in some rolling trials, vaccine candidates have gotten second shots, meaning those doing the administering can start to determine efficacy of the candidate. She said, in response to a question about expected timelines for vaccine

14-20

distribution, that various experts and leaders are “hedging” because it raises the question how many vaccines will prove effective in ongoing trials.

Dr. Deborah Birx, who oversees federal COVID-19 response

0 comments

Texas A&M President Michael K. Young said after the press conference that it was “comforting” to have Birx affirm what Texas A&M has been doing with regard to COVID-19 response and prevention.

“I think she really has been as extensively informed about this as any person on the planet right now,” Young said. “We are always looking to get better, and I think it was helpful to spend time with someone who has that level of deep understanding and let her see what we’re doing and give us some evaluation of it. It was reinforced, I think, in a very happy way the things we are doing. Our rates are low, but you’re just never sure if you’re doing the right thing, and to get that kind of confirmation was comforting.”

**FEATURES**

Voices of Houston: Meet Dorothy Gibbons, a local leader helping more than 40K women annually

Carlos Hernandez, Digital Content Specialist, KPRC

Published: **October 22, 2020, 11:48 am**

Updated: **October 22, 2020, 2:46 pm**

Tags: [Voices Of Houston](#), [Voices](#), [Breast Cancer](#), [Cancer](#)



The Rose Houston Mobile Mammography Reveal in Brazoria County (Rena O. Productions LLC.)

14-22



HOUSTON – It was the mid 1980s when Houston faced the economic downfall of the oil bust. During this time many businesses faced foreclosures, and lots of people were out of work.

During a time of despair, two women made it their mission to help those in desperate need.

[Related: This Houston hairstylist is on a mission to empower breast cancer patients](#)

At the time, co-founders Dorothy Gibbons and Dr. Dixie Melillo were working at Bayshore Medical Center. With many patients out of work, Houstonians were left uninsured and unable to pay for health checkups.

“It became very obvious how many women did not have insurance. We were seeing a lot of late-stage breast cancer,” said Gibbons, co-founder of [The Rose](#).



Dorothy Gibbons, co-founder of the Rose (The Rose)

14-23

It wasn't until Rose Kushner, a journalist for the Baltimore Sun, encouraged Gibbons and Dr. Melillo to leave the hospital and begin an organization that would impact more than 40,000 women and men annually.

In 1986, [The Rose](#) began its operation, becoming the first nonprofit breast cancer organization based on the insured covering the costs of the uninsured.

"I am surprised that 35 years later we are still as needed," said Gibbons.



14-25



Photographs by Emily Jaschke (Emily Jaschke)

One of its programs is the [Empower Her Sponsorship Program](#), supporting uninsured women. According to The Rose, this program ensures any woman has access to breast cancer screening, diagnosis and care. From the initial screening mammogram, through diagnostic procedures such as ultrasound and biopsies as well as access to treatment - all are a part of The Rose's care for every woman.

"We call our women 'Sponsored Women' because we think everyone sometimes in their life needs a little help," said Gibbons. "We don't ever call our women indigent or anything like that because most of them are not. They're working women, and they just don't have insurance."

For Gibbons, her life mission has been to empower women and help families in desperate need. This was something that hit close to home when Gibbons lost her mother to cancer at the age of 22.



14-27

Dorothy Gibbons and her mother (KPRC)

"I remember when I was at her bedside when she died and even in my 20-year-old mind, I thought, what would have been different about her care if she'd had insurance," recalled Gibbons.

Having lost her mother at a young age, Gibbons understood the importance of family and created an organization to keep the fabric of family together.

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"When you lose your mother when you're young, that is the fabric of the family. You know that's a person that keeps you together, and I know our life would have been very, very different if she had lived," said Gibbons. "That is why the work of The Rose is important. We are keeping those mothers and fathers alive."



14-28

Co-founder Dorothy Gibbons in front of the Rose Medical Plaza in Houston (The Rose)

For nearly four decades, The Rose has kept families together by providing a myriad of resources to all individuals.

Throughout the years, the non-profit has provided early detection mammography screenings, diagnosis, treatment and a continuum of care for all women throughout 41 counties in Southeast Texas.

"We are an organization that is supported by the community. You know, we depend on those fundraisers and on those gifts, and we're very grateful that we've had so much support over these 35 years."

Today, Gibbons' leadership has led to many firsts and has earned numerous accolades in the city and across the nation. Dorothy's deep commitment to all women being heard and having quality care is rooted in her own humble beginnings and cemented by the thousands of encounters she's had helping patients through the years.



The Rose headquarter located in Houston (The Rose)

Nominate a Houstonian to be featured in our 'Voices of Houston' series

More Voices of Houston

14-29

[Meet Larry Savala, a father continuing his son's legacy through charity.](#)

[Meet Conchita Reyes, a Latina leader 'planting seeds' in Houston's community.](#)

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Carlos Hernandez

Carlos Hernandez is the Digital Content Specialist for KPRC 2. He is a content guru for all things to do in and around Houston, historical pieces, foodie finds and local guides. Carlos was previously a lifestyle producer for KPRC 2's talk show "Houston Life."

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