

### CANCER PREVENTION & RESEARCH Institute of Texas

# REQUEST FOR APPLICATIONS RFA R-25.1-IIRACSBC

## Individual Investigator Research Awards for Computational and Systems Biology of Cancer

Please also refer to the Instructions for Applicants document, which will be posted on February 22, 2024.

Due to the highly competitive nature of this RFA mechanism and available funds for FY25, CPRIT projects that only 10% of submitted applications will be funded.

> Application Receipt Opening Date: March 19, 2024 Application Receipt Closing Date: June 11, 2024

> > FY 2025 Fiscal Year Award Period September 1, 2024-August 31, 2025

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#### **RFA VERSION HISTORY**

2/22/24 RFA released

#### 1. BRIEF DESCRIPTION OF RFA

- Supports applications for projects that integrate innovative computational and mathematical approaches with experimental cancer biology to address challenging questions that will advance current knowledge in the etiology, biology, progression, treatment, metastasis, and immunology of cancer.
- Applicants may request a maximum of \$350,000 per year for a period of up to 3 years.
- Multi-Principal Investigators (MIs) are allowed under this Request for Applications (RFA). See Information for Applicants for definition and eligibility of MIs.
- See application limitations for Principal Investigators (PIs)/MIs, regardless of whether the MI is from the primary institution or a subcontracted institution.
- Note that CPRIT does not allow the use of the term Co-PI.
- Minimum effort for the PI and/or MIs throughout the project period is required.
- A PI and/or MI may only submit **one application** for this RFA (defined as either a new application, resubmission application or \*competitive renewal application).
- \*Renewal applications are limited to one competitive renewal under this RFA, regardless of the year of the funded parent IIRACSBC award.
- FY25 salary cap has been set at \$225,000 per year.

#### 2. ABOUT CPRIT

The State of Texas has established the Cancer Prevention and Research Institute of Texas (CPRIT), which may issue up to \$6 billion in general obligation bonds to fund grants for cancer research and prevention.

CPRIT is charged by the Texas Legislature to do the following:

- 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, or cures for, cancer;
- 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 the State of Texas; and
- Develop and implement the Texas Cancer Plan.

#### 2.1. Academic Research Program Priorities

The Texas Legislature has charged the CPRIT Oversight Committee with establishing program priorities on an annual basis. These priorities are intended to provide transparency with regard to how the Oversight Committee directs the orientation of the agency's funding portfolio.

**Established Principles:** 

- Scientific excellence and impact on cancer
- Increasing the life sciences infrastructure in all regions of the state
- Reducing cancer disparities

The program priorities for academic research adopted by the Oversight Committee include funding projects that address or utilize the following:

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

#### 3. RATIONALE

Cancer is a complex multiscale disease involving the interaction of dynamic processes at the molecular, cellular, and multicellular levels. These interactive processes adapt and evolve in response to both intracellular and extracellular cues, and across temporal and spatial scales, making cancer difficult to prevent and treat as well as to predict the effects of therapy. Cancer systems biology has emerged as a powerful field that employs multidimensional data as well as mathematical and computational modeling to address these complexities in cancer biology and to predict integrated mechanisms underlying cancer initiation, progression, metastasis, prognosis, and treatment response. The historic focus on single genetic alterations has now expanded to embrace a broader view of the changing cancer ecosystem and evolving patterns of genotypes

and phenotypes associated with progression and therapeutic intervention, facilitated by an explosion in the quantity of experimental data available from high-throughput technologies, such as genomics/epigenomics, transcriptomics, metabolomics, and proteomics. Systems analyses and predictive modeling are proving to be valuable tools to convert these large data sets, spanning different length and time scales, into predictions that can then be experimentally tested or validated in a disease-relevant context, thereby enabling cancer biologists and oncologists to understand and predict how one alteration effects an entire tumor system, increasing our understanding of tumor biology, treatment options, and patient outcomes.

In the past decade, substantial increases in computational power and memory have enabled the development and implementation of artificial intelligence (AI) techniques for handling and analyzing large data sets, as well as radiological and histological images. Computer vision has enabled some of the most striking studies predicting molecular and pathological cues from digitalized images. In pathology, AI for data-driven cancer diagnosis involves clinical diagnosis, tumor detection and grading, and outcomes prediction from tissue stained with hematoxylin and eosin, as well as predicting the presence of gene mutations or genomic alterations, to inform the selection of targeted therapies. Computer vision and digital pathology are only the beginning, and AI systems are being explored in multiple additional settings, eg, computer vision is being used to generate accurate, customized molecular predictions and spatiotemporal modeling based on complex live-cell imaging data.

The remarkable advancements in systems biology and convergence of big data and AI in oncology provides a unique interface to explore the full capabilities of these approaches for the benefit of patients and create an opportunity for CPRIT to deploy funding in an area of critical need that remains underrepresented in other funding portfolios.

#### 4. **RESEARCH OBJECTIVES**

CPRIT will foster cancer research in Texas by providing financial support for a wide variety of projects relevant to cancer research. This RFA solicits applications for innovative research projects in computational oncology and/or systems biology. CPRIT has adopted the National Cancer Institute's (NCI's) definition of cancer systems biology as "a holistic approach to the study of the complexities of cancer through the explicit integration of experimental biology and computational and mathematical methods to build predictive models of cancer that are tested and

validated in a disease-relevant context" (https://www.cancer.gov/about-

<u>nci/organization/dcb/research-programs/csbc</u>). Examples of projects responsive to this RFA include, but are not limited to, scientific proposals addressing the following:

- Developing integrated models of genetic/epigenetic, chemical, cytoplasmic/network, microenvironment, and structural features across space and time scales to understand the mechanisms of cancer initiation, progression, metastasis, and therapeutic response;
- Characterization of cellular interactions and their impact on local, systemic, and evolving cellular behaviors that underlie cancer processes, such as initiation, progression, and metastasis;
- Delineation of the interactions between tumor and nontumor components, eg, tumorimmune cell interactions and involvement in mediating the response or resistance to therapy;
- Integration of the biology underlying normal physiological processes, such as development, aging, metabolism, immunity, or chronic inflammation, to inform cancer development, progression, metastasis, or treatment response;
- Elucidation of the mechanism(s) by which external factors, such as the microbiome, affect tumor biology, including therapeutic response;
- Application of systems biology approaches, eg, network and multiscale modeling, to discover targetable molecular or cellular mechanisms and to test biologically informed therapies, sequences of therapies, and combinations of therapies that incorporate variables such as toxicities, dose, and timing;
- Integration of molecular and cellular oncogenic processes with population-level risk factors, such as obesity or chronic inflammation, or environmental factors that may differentially impact patient populations and influence cancer disparities;
- Development of diagnostic, prognostic, and prognostic systems using computational oncology approaches;
- Integration of spatiotemporal and cell behavior data (dynamic imaging data) with omics data, such as epigenomics, proteomics, or genomics profiles;
- The application of computational modeling and artificial intelligence for radiotherapy treatment planning and monitoring; and
- New therapy development aided by the analysis of large data sets.

Partnering of mathematical or computational scientists with cancer biologists or oncologists is highly recommended to form a truly interdisciplinary team that can both develop and validate models leading to a deeper integrated understanding of cancer progression and treatment.

NCI established the Cancer Systems Biology Consortium (CSBC) to support computational systems biology approaches to cancer research in recognition of the potential for the integration of experimental biology and computational modeling to test and validate novel hypotheses in cancer research. The CSBC website includes descriptions of the CSBC portfolio of NCI-funded projects that are examples of the type of applications this RFA seeks to attract. Applications that propose projects focused on purely bioinformatic analyses of omics data or propose correlative studies without a mathematical or computational model are not responsive to this RFA. CPRIT expects the outcomes of activities supported by this RFA to lead to new insights into cancer biology or clinical outcomes in the long term. The degree of relevance to reducing the burden of cancer is a critical criterion for evaluation of projects for funding by CPRIT (section 10.4.1).

#### 5. FUNDING INFORMATION

Applicants may request a maximum of \$350,000 in total costs per year for up to 3 years. Exceptions to these limits may be requested if extremely well justified (see <u>section 9.2.12</u>). Funds may be used for salary and fringe benefits, research supplies, equipment, and travel to scientific/technical meetings or collaborating institutions. Requests for funds to support construction and/or renovation will not be approved under this funding mechanism. State law limits the amount of award funding that may be spent on indirect costs to no more than 5% of the total award amount.

#### 6. ELIGIBILITY

- The applicant must be a Texas-based entity. Any not-for-profit institution or organization that conducts research is eligible to apply for funding under this award mechanism.
  A public or private company is not eligible for funding under this award mechanism; these entities must use the appropriate award mechanism(s) under CPRIT's Product Development Research Program.
- The PI must have a doctoral degree, including MD, PhD, DDS, DMD, DrPH, DO, DVM, or equivalent, and must be a full-time resident of Texas during the time the research that is the subject of the grant is conducted.

- This award mechanism allows MIs for projects that require a team science approach (see the IFA for guidelines on CPRIT rules for MI awards).
- For applications that include 1 PI, the PI is required to maintain a minimum of 15% level of effort through the duration of the entire award period. For applications that include MIs, each PI is required to maintain a minimum of 10% effort through the entire duration of the award period.
- A PI may not submit applications to this RFA and to RFA R-25.1-IIRA, RFA R-25.1-IIRACCA, RFA R-25.1-IIRACT, RFA R-2.1-IIRAP, or RFA R-25.1-IIRAEOC.
- A PI may not submit more than 1 application, either a new, resubmission, <u>or</u> renewal application under this RFA during this funding cycle.
- A PI may not be a part of more than 1 application, whether as a single applicant or as an MI on an application, under this RFA and RFA R-25.1-IIRA, RFA R-25.1-IIRACCA, RFA R-25.1-IIRACT, RFA R-25.1-IIRAP, or RFA R-25.2-IIRAEOC.
- An individual may serve as a PI on no more than 3 active CPRIT Academic Research grants. Recruitment Grants and Research Training Awards do not count toward the 3-grant maximum; however, CPRIT considers MIRA Project MIs s equivalent to a PI. For the purpose of calculating the number of active grants, CPRIT will consider the number of active grants at the time of the award contract effective date (for this cycle expected to be March 1, 2025).
- Collaborating organizations may include public, not-for-profit, and for-profit entities. Such entities may be located outside of the State of Texas, but non-Texas-based organizations are not eligible to receive CPRIT funds.
- An applicant is eligible to receive a grant award only if the applicant certifies that the applicant institution or organization, including the PI, any senior member or key personnel listed on the grant application, or any officer or director of the grant applicant's institution or organization (or any person related to 1 or more of these individuals within the second degree of consanguinity or affinity), has not made and will not make a contribution to CPRIT or to any foundation specifically created to benefit CPRIT.
- An applicant is not eligible to receive a CPRIT grant award if the applicant PI, any senior member or key personnel listed on the grant application, or any officer or director of the

grant applicant's organization or institution is related to a CPRIT Oversight Committee member.

- The applicant must report whether the applicant institution or organization, the PI, or other individuals who contribute to the execution of the proposed project in a substantive, measurable way, regardless of whether those individuals are slated to receive salary or compensation under the grant award, are currently ineligible to receive federal grant funds or have had a grant terminated for cause within 5 years prior to the submission date of the grant application.
- CPRIT grants will be awarded by contract to successful applicants. Certain contractual requirements are mandated by Texas law or by administrative rules. Although applicants need not demonstrate the ability to comply with these contractual requirements at the time the application is submitted, applicants should make themselves aware of these standards before submitting a grant application. Significant issues addressed by the CPRIT contract are listed in <u>section 12</u> and <u>section 13</u>. All statutory provisions and relevant administrative rules can be found at <u>www.cprit.texas.gov</u>.

#### 7. **RESUBMISSION POLICY**

An application previously submitted to CPRIT but not funded may be resubmitted **once** if the proposed project meets the IIRACSBC research objectives (see <u>section 4</u>) and follows all resubmission guidelines. More than 1 resubmission is not permitted. An application is considered a resubmission if the proposed project is the same project as presented in the original submission. A change in the identity of the PI for a project or a change of title of the project that was previously submitted to CPRIT does not constitute a new application; the application would be considered a resubmission. This policy is in effect for all applications submitted to date. See <u>section 9.2.6</u>.

#### 8. **RENEWAL POLICY**

An application funded by CPRIT under this mechanism may be submitted for one competitive renewal. An application originally funded by CPRIT as an IIRA or IIRACSBC mechanism may be submitted under this RFA for a competitive renewal if the proposed project meets the IIRACSBC research objectives. See <u>section 4</u> and <u>section 9.2.7</u>. Competitive renewals are not

subject to preliminary evaluation. Renewal applications move directly to the full peer review phase. See <u>section 10.2</u>.

#### 9. **RESPONDING TO THIS RFA**

#### 9.1. Application Submission Guidelines

Applications must be submitted via the CPRIT Application Receipt System (CARS) (https://CPRITGrants.org). Only applications submitted through this portal will be considered eligible for evaluation. The applicant is eligible solely for the grant mechanism specified by the RFA under which the grant application was submitted. The PI must create a user account in the system to start and submit an application. Furthermore, the Application Signing Official (a person authorized to sign and submit the application for the organization) and the Grants Contract/Office of Sponsored Projects Official (the individual who will manage the grant contract if an award is made) also must create a user account in CARS. Applications will be accepted beginning at 7 AM central time on March 19, 2024, and must be submitted by 4 PM central time on June 11 2024. Submission of an application is considered an acceptance of the terms and conditions of the RFA.

#### 9.1.1. Submission Deadline Extension

The submission deadline may be extended upon a showing of extenuating circumstances. A request for a deadline extension based on the need to complete multiple CPRIT or other grant applications will be denied. All requests for extension of the submission deadline must be submitted via email to the CPRIT <u>Helpdesk</u> within 24 hours of the submission deadline. Submission deadline extensions, including the reason for the extension, will be documented as part of the grant review process records. Please note that deadline extension requests are very rarely approved.

#### 9.2. Application Components

Applicants are advised to follow all instructions to ensure accurate and complete submission of all components of the application. Please refer to the IFA for details that will be available when the application receipt system opens. Submissions that are missing 1 or more components or do not meet the eligibility requirements listed in <u>section 6</u> will be administratively withdrawn without review.

#### 9.2.1. Abstract and Significance (5,000 characters)

It is the responsibility of the applicant to capture CPRIT's attention primarily with the Abstract and Significance statement alone. Therefore, applicants are advised to prepare this section wisely. **Based on the Abstract and Significance statement (and the Specific Aims page, Budget and Justification and Biographical Sketches), applications that are judged to offer only modest contributions to the field of cancer research or that do not sufficiently capture the reviewers' interest may be excluded from further peer review (see <u>section 10.1</u>). Applicants should not waste this valuable space by stating obvious facts (eg, that cancer is a significant problem; that better diagnostic and therapeutic approaches are needed urgently; or that the type of cancer of interest to the PI is important, vexing, or deadly).** 

Clearly explain the question or problem to be addressed and the approach to its answer or solution. Provide the hypothesis to be tested, the specific aims of the application, and the overall experimental approaches.

Clearly address how the proposed project, if successful, will have a major impact on cancer. Indicate whether this research will address cancers associated with disparities. Summarize how the proposed research creates new paradigms or challenges existing ones. Indicate whether this research plan represents a new direction for the PI.

#### 9.2.2. Layperson's Summary (2,000 characters)

Provide a layperson's summary of the proposed work. Describe, in simple, nontechnical terms, the overall goals of the proposed work, the type(s) of cancer addressed, the potential significance of the results, and the impact of the work on advancing the field of cancer research, early detection, prevention, treatment, or survivorship. The information provided in this summary will be made publicly available by CPRIT, particularly if the application is recommended for funding. **Do not include any proprietary information in the layperson's summary.** The layperson's summary will also be used by advocate reviewers (section 10.2) in evaluating the significance and impact of the proposed work.

#### 9.2.3. Aims and Subaims

Please provide a description of the aims and subaims and milestones to be achieved for each year of the project. Provide 2 to 3 sentences describing activities to be performed and anticipated

milestones. These aims will also be used during the submission and evaluation of progress reports and assessment of project success.

#### 9.2.4. Timeline (1 page)

Provide an outline of anticipated major milestones to be tracked. Timelines will be reviewed for reasonableness, and adherence to timelines will be a criterion for continued support of successful applications.

If the application is approved for funding, this section will be included in the award contract. Applicants are advised not to include information that they consider confidential or proprietary when preparing this section.

#### 9.2.5. Specific Aims (1 page)

Please provide a 1-page summary of the aims of the proposal. The Specific Aims page should identify the problem, or gap in our current knowledge. It should present a hypothesis and briefly describe the aims and approaches. Address the proposal's innovation, novel approaches and significance and impact on the field and cancer research. Please also refer to the template located in *Current Funding Opportunities* for Academic Research in CARS.

#### 9.2.6. Resubmission Summary (2 pages)

Applicants preparing a resubmission must describe the approach to the resubmission. If a summary statement was prepared for the original application review, applicants are advised to address all noted concerns.

**Note:** An application previously submitted to CPRIT but not funded may be resubmitted **once** after careful consideration of the reasons for lack of prior success. Applications that received overall numerical scores of 5 or higher are likely to need considerable attention. Applicants may prepare a new research plan or modify the original research plan and mark the changes. However, **all resubmitted applications should be carefully reconstructed**; a simple revision of the prior application with editorial or technical changes is not sufficient, and applicants are advised not to direct reviewers to such modest changes.

#### 9.2.7. Renewal Summary (2 pages)

Applicants preparing a renewal must describe and demonstrate that appropriate/adequate progress has been made on the current funded award to warrant further funding. Publications and

manuscripts in press that have resulted from work performed during the initial funded period should be listed in the renewal summary.

#### 9.2.8. Research Plan (10 pages)

**Background:** Provide the rationale behind the proposed project, emphasizing the pressing problem in cancer research that will be addressed.

**Hypothesis and Specific Aims:** Concisely state the hypothesis to be tested, and specific aims to be addressed by the research described in the application. Describe the significance, innovation, and potential impact of the research.

**Research Strategy:** Describe the experimental design, including methods, anticipated results, potential problems or pitfalls, and alternative approaches. Preliminary data that support the proposed hypothesis are encouraged but not required.

#### 9.2.9. Vertebrate Animals (1 page)

If vertebrate animals will be used, provide a detailed plan of the protocols that will be followed and justification for the number of animals used with reference to biostatistical input for sample selection and evaluation. Certification of approval by the institutional IACUC of the proposed animal use will be required before funding can occur.

#### 9.2.10. Human Subjects (2 pages)

If human subjects or human biological samples will be used, provide a detailed plan for recruitment of subjects and/or the acquisition of samples that will meet the time constraints of this award mechanism. Certification of approval of these plans by the institutional review board (IRB) will be required before funding can occur.

#### 9.2.11. Publications/References

Provide a concise and relevant list of publications/references cited for the application.

#### 9.2.12. Budget and Justification

Provide a detailed justification of the budget for the entire proposed period of support, including salaries and fringe benefits, supplies, equipment, patient care costs, animal care costs, travel to scientific/technical meetings or collaborating institutions, and other expenses. Requests for funds to support construction and/or renovation will not be approved under this funding mechanism.

Applicants may request a maximum of \$350,000 in total costs per year for up to 3 years. Applicants are advised not to interpret the maximum allowable time and funding under this award as a suggestion that they should expand their anticipated work and budget to this level. Reasonable budgets clearly work in favor of the applicant.

However, if there is a highly specific and defensible need to request more than the maximum amount in any year(s) of the proposed budget, include a special and clearly labeled section in the budget justification that explains the request. Poorly justified requests of this type will likely have a negative impact on the overall evaluation of the application.

In preparing the requested budget, applicants should be aware of the following:

- Equipment having a useful life of more than 1 year and an acquisition cost of \$5,000 or more per unit must be specifically approved by CPRIT. An applicant does not need to seek this approval prior to submitting the application.
- Texas law limits the amount of grant funds that may be spent on indirect costs to no more than 5% of the total award amount (5.263% of the direct costs). Guidance regarding indirect cost recovery can be found in CPRIT's Administrative Rules, which are available at <u>www.cprit.texas.gov</u>. So-called grants management and facilities fees (eg, sponsored programs fees; grants and contracts fees; electricity, gas, and water; custodial fees; maintenance fees) may not be requested. Applications that include such budgetary items will be rejected administratively and returned without review.
- The maximum annual salary (also referred to as direct salary or institutional base salary) that an individual may request under a CPRIT award for FY 2025 is \$225,000; CPRIT FY 2025 is from September 1, 2024, through August 31, 2025. Salary does not include fringe benefits and/or facilities and administrative costs, also referred to as indirect costs. An individual's institutional base salary is the annual compensation that the applicant organization pays for an individual's appointment, whether that individual's time is spent on research, teaching, patient care, or other activities. Base salary excludes any income that an individual may be permitted to earn outside of his or her duties to the applicant organization.

#### 9.2.13. Biographical Sketches (5 pages each)

Applicants should provide a biographical sketch that describes their education and training, professional experience, awards and honors, and publications relevant to cancer research. A biographical sketch must be provided for the PI and, if applicable, any additional MIs (for an MI application), as required by the online application receipt system. Up to 5 additional biographical sketches for key personnel may be provided, these should be concatenated into a single PDF with a 25-page limit. **Each biographical sketch must <u>not</u> exceed 5 pages**. The NIH biosketch format is appropriate.

#### 9.2.14. Current and Pending Support

Describe the funding source and duration of all current and pending support for all personnel who have included a biographical sketch with the application. For each award, provide the title, a 2-line summary of the goal of the project, and, if relevant, a statement of overlap with the current application. At a minimum, current and pending support of the PI and, if applicable, any additional MIs (for an MI application), must be provided. Refer to the sample current and pending support document located in *Current Funding Opportunities* for Academic Research in CARS.

#### 9.2.15. Institutional/Collaborator Support and/or Other Certification (4 pages)

Applicants may provide letters of institutional support, collaborator support, and/or other certification documentation relevant to the proposed project. A maximum of 4 pages may be provided.

#### 9.2.16. Previous Summary Statement

If the application is being resubmitted, the summary statement of the original application review, if previously prepared, will be automatically appended to the resubmission. The applicant is not responsible for providing this document.

Applications that are missing 1 or more of these components, exceed the specified page, word, or budget limits, or that do not meet the eligibility requirements listed above will be administratively rejected without review.

#### 9.3. Formatting Instructions

Formatting guidelines for all submitted CPRIT applications are as follows:

- Language: English
- **Document Format:** PDF only
- Font Type/Size: Arial (11 point), Calibri (11 point), or Times New Roman (12 point)
- Line Spacing: Single
- Page Size: 8.5 x 11 inches
- Margins: 0.75 inch, all directions
- Color and High-Resolution Images: Images, graphs, figures, and other illustrations may be submitted as part of the submitted document. Applicants should include text to explain illustrations that may be difficult to interpret when printed in black and white.
- Scanning Resolution: Images and figures must be of lowest reasonable resolution that permits clarity and readability. Unnecessarily large files will NOT be accepted, especially those that include only text.
- **References:** Applicants should use a citation style that includes the full name of the article and that lists at least the first 3 authors. Official journal abbreviations may be used. An example is included below; however, other citation styles meeting these parameters are also acceptable as long as the journal information is stated. URLs of publications referenced in the application may be included.

Smith, P.T., Doe, J., White, J.M., et al (2006). Elaborating on a novel mechanism for cancer progression. *Journal of Cancer Research*, 135: 45-67.

- Internet URLs: Applicants are encouraged to provide the URLs of publications referenced in the application; however, applicants must not include URLs directing reviewers to websites containing additional information about the proposed research.
- Headers and Footers: These should <u>not</u> be used unless they are part of a provided template. Page numbers may be included in the footer (see Page Numbering section below).
- Page Numbering: Pages should be numbered at the bottom right corner of each page.
- All attachments that require signatures must be printed, signed, scanned, and then uploaded in PDF format.

#### **10. APPLICATION REVIEW**

#### **10.1. Preliminary Evaluation**

To ensure the timely and thorough review of only the most innovative and cutting-edge research with the greatest potential for advancement of cancer research, all eligible applications may undergo a preliminarily evaluation by CPRIT Scientific Research Program panel members for scientific merit and potential impact.

#### <u>The preliminary evaluation is based on a subset of material presented in the application</u> namely, the Abstract and Significance, Specific Aims page, Budget and Justification, and

**Biographical Sketches**. Applications that do not sufficiently capture the reviewers' interest at this stage will not be considered for further peer review. Such applications will have been judged to offer only modest contributions to the field of cancer research and will be excluded from further peer review.

The applicant will be notified of the decision to disapprove the application after the preliminary evaluation has concluded. Due to the volume of applications to be reviewed, comments made by reviewers at the preliminary evaluation stage may be limited.

#### 10.2. Full Peer Review

Applications that pass preliminary evaluation will undergo further review using a 2-stage peer review process: (1) Full peer review and (2) Prioritization of grant applications by the CPRIT Scientific Review Council. In the first stage, applications will be evaluated by an independent peer review panel consisting of scientific experts as well as advocate reviewers using the criteria listed in <u>section 10.4</u>. In the second stage, applications judged to be most meritorious by the peer review panels will be evaluated and recommended for funding by the CPRIT Scientific Review Council based on comparisons with applications from all of the peer review panels and programmatic priorities. Applications approved by the Scientific Review Council will be forwarded to the CPRIT Program Integration Committee (PIC) for review. The PIC will consider factors including program priorities set by the Oversight Committee, portfolio balance across programs, and available funding. The CPRIT Oversight Committee will vote to approve each grant award recommendation made by the PIC. The grant award recommendations will be

the Oversight Committee members present and eligible to vote. The review process is described more fully in CPRIT's Administrative Rules, <u>chapter 703</u>, <u>sections 703.6 to 703.8</u>.

#### 10.3. Confidentiality of Review

Each stage of application review is conducted confidentially, and all CPRIT Scientific Peer Review Panel members, Scientific Review Council members, PIC members, CPRIT employees, and Oversight Committee members with access to grant application information are required to sign nondisclosure statements regarding the contents of the applications. All technological and scientific information included in the application is protected from public disclosure pursuant to Health and Safety Code §102.262(b).

Individuals directly involved with the review process operate under strict conflict-of-interest prohibitions. All CPRIT Scientific Peer Review Panel members and Scientific Review Council members are non-Texas residents.

An applicant will be notified regarding the peer review panel assigned to review the grant application. Peer review panel members are listed by panel on CPRIT's website.

#### By submitting a grant application, the applicant agrees and understands that the only basis for reconsideration of a grant application is limited to an undisclosed Conflict of Interest as set forth in CPRIT's Administrative Rules, (Texas Administrative Code RULE §703.9).

Communication regarding the substance of a pending application is prohibited between the grant applicant (or someone on the grant applicant's behalf) and the following individuals: an Oversight Committee Member, a PIC Member, a Scientific Review Panel member, or a Scientific Review Council member. Applicants should note that the CPRIT PIC comprises the CPRIT Chief Executive Officer, the Chief Scientific Officer, the Chief Prevention Officer, the Chief Product Development Research Officer, and the Commissioner of State Health Services. The prohibition on communication begins on the first day that grant applications for the particular grant mechanism are accepted by CPRIT and extends until the grant applicant receives notice regarding a final decision on the grant application. The prohibition on communication does not apply to the time period when preapplications or letters of interest are accepted. Intentional, serious, or frequent violations of this rule may result in the disqualification of the grant application from further consideration for a grant award.

#### 10.4. Review Criteria

Full peer review of applications will be based on primary scored criteria and secondary unscored criteria, listed below. Peer review committees will evaluate and score each primary criterion and subsequently assign an overall score that reflects a complete assessment of the application. The overall score will not be an average of the individual criteria scores; rather, it will reflect the reviewers' overall impression of the application. Evaluation of the scientific merit of each application is within the sole discretion of the peer reviewers.

#### 10.4.1. Primary Criteria

The primary criteria will evaluate the scientific merit and potential impact of the proposed work contained in the application. Concerns with any of these criteria potentially indicate a major flaw in the significance and/or design of the proposed study. Primary criteria include the following:

**Significance and Impact:** Will the results of this research, if successful, significantly change the research of others or the opportunities for better cancer prevention, diagnosis, or treatment for patients? Is the application innovative? Does the applicant propose new paradigms or challenge existing ones? Does the project develop state-of-the-art technologies, methods, tools, or resources for cancer research or address important underexplored or unexplored areas? If the research project is successful, will it lead to truly substantial advances in the field rather than add modest increments of insight? Projects that modestly extend current lines of research will not be considered for this award. Projects that represent straightforward extensions of ongoing work, especially work traditionally funded by other mechanisms, will not be competitive.

**Research Plan:** Is the proposed work presented as a self-contained research project? Does the proposed research have a clearly defined hypothesis or goal that is supported by sufficient preliminary data and/or scientific rationale? Are the methods appropriate, and are potential experimental obstacles and unexpected results discussed?

**Applicant Investigator:** Does the investigator(s) demonstrate the required experience and creativity to make a significant contribution to the research? Does the applicant investigator(s) demonstrate the required expertise to make a significant contribution in both mathematical or computational sciences and oncology, or are there appropriate collaborators or consultants with expertise in oncology or cancer biology? It is highly encouraged that applicant investigators engage such collaborators. Applicants' credentials will be evaluated in a career stage-specific

fashion. Have early-career-stage investigators received excellent training, and do their accomplishments to date offer great promise for a successful career? Has the applicant(s) devoted a sufficient amount of their time (percent effort) to this project?

**Relevance:** Does the proposed research have a high degree of relevance to cancer research? This is a critical criterion for evaluation of applications for CPRIT support.

#### 10.4.2. Secondary Criteria

Secondary criteria contribute to the global score assigned to the application. Concerns with these criteria potentially question the feasibility of the proposed research.

Secondary criteria include the following:

**Research Environment:** Does the research team have the needed expertise, facilities, and resources to accomplish all aspects of the proposed research? Are the levels of effort of the key personnel appropriate? Is there evidence of institutional support of the research team and the project?

**Vertebrate Animals and/or Human Subjects:** Is the vertebrate animals and/or human subjects plan adequate and sufficiently detailed?

Budget: Is the budget appropriate for the proposed work?

Duration: Is the stated duration appropriate for the proposed work?

#### **11. KEY DATES**

RFA				
RFA release	February 22, 2024			
Application				
Online application opens	March 19, 2024, 7 AM central time			
Application due	June 11, 2024, 4 PM central time			
Application review	June 2024-February 2025			
Award				
Award notification	February 2025			
Anticipated start date	March 1, 2025			

#### 12. AWARD ADMINISTRATION

Texas law requires that CPRIT grant awards be made by contract between the applicant and CPRIT. CPRIT grant awards are made to institutions or organizations, not to individuals. Award contract negotiation and execution will commence once the CPRIT Oversight Committee has approved an application for a grant award. CPRIT may require, as a condition of receiving a grant award, that the grant recipient use CPRIT's electronic Grant Management System to exchange, execute, and verify legally binding grant contract documents and grant award reports. Such use shall be in accordance with CPRIT's electronic signature policy as set forth in chapter 701, section 701.25.

Texas law specifies several components that must be addressed by the award contract, including needed compliance and assurance documentation, budgetary review, progress and fiscal monitoring, and terms relating to revenue sharing and intellectual property rights. These contract provisions are specified in CPRIT's Administrative Rules, which are available at <u>www.cprit.texas.gov</u>. Applicants are advised to review CPRIT's administrative rules related to contractual requirements associated with CPRIT grant awards and limitations related to the use of CPRIT grant awards as set forth in chapter <u>703</u>, sections <u>703.10</u>, <u>703.12</u>.

Prior to disbursement of grant award funds, the grant recipient organization must demonstrate that it has adopted and enforces a tobacco-free workplace policy consistent with the requirements set forth in CPRIT's Administrative Rules, <u>chapter 703</u>, <u>section 703.20</u>.

CPRIT requires award recipients to submit an annual progress report. These reports summarize the progress made toward the research goals and address plans for the upcoming year. In addition, fiscal reporting, human studies reporting, and vertebrate animal use reporting will be required as appropriate. Continuation of funding is contingent upon the timely receipt of these reports. Failure to provide timely and complete reports may waive reimbursement of grant award costs and may result in the termination of the award contract. Forms and instructions will be made available at www.cprit.texas.gov.

#### **13. REQUIREMENT TO DEMONSTRATE AVAILABLE FUNDS**

Texas law requires that prior to disbursement of CPRIT grant funds, the award recipient must demonstrate that it has an amount of funds equal to one-half of the CPRIT funding dedicated to the research that is the subject of the award. A grant recipient that is a public or private institution of higher education, as defined by §61.003, Texas Education Code, may credit toward the Grant Recipient's Matching Funds obligation the dollar amount equivalent to the difference between the indirect cost rate authorized by the federal government for research grants awarded to the Grant Recipient and the 5% indirect cost limit imposed by §102.203(c), Texas Health and Safety Code. Grant applicants are advised to consult CPRIT's Administrative Rules, <u>chapter 703</u>, <u>section 703.11</u>, for specific requirements regarding demonstration of available funding. The demonstration of available matching funds must be made at the time the award contract is executed, and annually thereafter, not when the application is submitted.

#### **14. CONTACT INFORMATION**

#### 14.1. Helpdesk

The Helpdesk will answer queries submitted via email within 1 business day. Helpdesk support is available for questions regarding user registration, online submission of applications as well as page limitations, formatting, and how to upload application components/subsections in the appropriate tabs of the CPRIT Application Receipt System. Helpdesk staff cannot answer scientific questions and/or Academic Research programs aspects of an application. Before contacting the Helpdesk, please refer to the *Instructions for Applicants* document, which provides a step-by-step guide on using CARS.

Hours of operation:	Monday through Friday, 8 AM to 6 PM central time.
Tel:	866-941-7146
Email:	Help@CPRITGrants.org

#### 14.2. Scientific and Programmatic Questions

Scientific and Programmatic Questions-should be directed to the CPRIT Director of Academic Research. Before contacting CPRIT, please refer to the *Instructions for Applicants* document and contact the Helpdesk for any items related to the Application Receipt System (CARS), page limitations, formatting, etc.

Email:research@cprit.texas.govWebsite:www.cprit.texas.gov