CANCER PREVENTION & RESEARCH
INSTITUTE OF TEXAS

Strategies for Constructing a Competitive IIRA for Computational Biology Proposal

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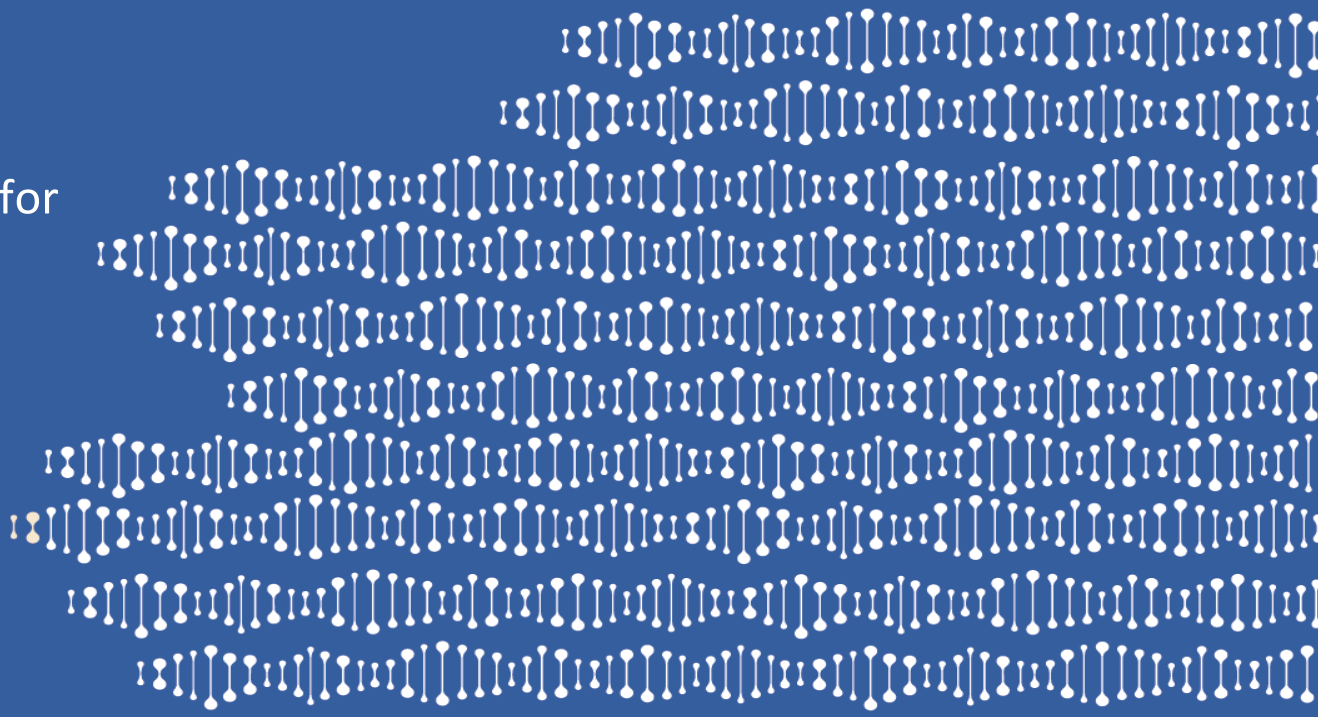

Individual Investigator Research Awards for Computational Biology

- CPRIT Oversight Committee adopted Computational Biology as a Program Priority in 2015

- In FY16, Cycle 1 (16.1) CPRIT offered an IIRA RFA targeted to Computational Biology

IIRACB Purpose and Objectives

- Develop innovative mathematical and computational research projects
- Develop descriptive mathematic models of cancer, as well as mechanistic models of cellular processes/interactions
- Build new tools for mining cancer research and treatment databases
- Create partnerships of computational scientists, cancer biologist, and oncologists

IIRACB – Examples of Projects

- Innovative analyses of various cancer-related databases
- Computational systems biology approaches to cancer drug development
- Identification of subjects at risk of developing cancer
- Image analysis of cells, tissues, organs, and human subjects
- In-silico models of cancer development
- New methodologies for design of clinical trials
- Modeling of cancer outcomes and economics
- Models of cancer cell signaling systems
- Modeling the impact of combinations and sequences of targeted therapy applied to cancer cells

IIRA for Computational Biology Applications Results

- 50 applications submitted
- All applications received a full review
- 13 were discussed at peer review meetings
- Scores ranged from 2.1 to 9.0
- One was funded; 2 close to cutoff score

Review Criterion - Collaboration

Does the applicant investigator demonstrate the required expertise to make a significant contribution in both mathematics and oncology, or are there appropriate collaborators or consultants with expertise in oncology or cancer biology?

Reviewer Comment: 32% of Applications Lack Biological/ Clinical Expertise

- Insufficient information about collaborators
- No clinicians or computational biologists listed in applications
- No biological collaborator to interpret results
- No pathologists or biostatisticians listed in grants
- Unclear or no level of effort specified for collaborators

Review Criterion – Preliminary Data

Does the proposed research have a clearly defined hypothesis or goal that is supported by sufficient preliminary data and/or scientific rationale?

Reviewer Comment: 38% of Applications had little to no Preliminary Data

- Lack of preliminary data made it difficult to assess significance
- No data on modeling
- Data presented were not compelling
- No coherent plans for gathering data

Reviewer Comments and Issues – Common Themes

- Already saturated research areas or lack of new ideas
- Tumor heterogeneity not addressed
- Failure to demonstrate understanding of cancer biology
- Weak scientific approaches to computational biology
- Low or unclear impact on cancer prevention/diagnosis/treatment

Conclusions

- Propose new and innovative ideas
- Collaboration is essential for a successful application
- Meaningful preliminary data should be presented
- Thoroughly explain your concept and how it will make a difference in cancer research, treatment, or prevention

Reviewer Concerns

- Did the RFA clearly explain purpose?
- Insufficient depth of expertise among reviewers
- Funding amount too low to permit demonstration of validity of mathematical/computational approach

Funding

- Applicants may request a maximum of $150,000 in total costs per year for up to 3 years.

- Investigators proposing a demonstration project may request an additional $150,000 in total costs per year during the years in which the demonstration project takes place.

Eligibility and Application Requirements

- A PI may only submit one new or resubmission application
- A PI may submit an application for only one IIRA mechanism
- A PI with 3 or more grants that will be active December 1 is not eligible to submit
- Only one Co-PI may be included in the application, unlimited number of collaborators
- Collaborators outside of Texas may not receive CPRIT funds
- Biosketch page limits and number for key personnel increased

IIRACB Key Dates

RFA	
RFA release	February 19, 2016
Application	
Online application opens	March 21, 2016, 7 AM central time
Application due	May 20, 2016, 3 PM central time
Application review	September - October 2016
Award	
Award notification	November 2016
Anticipated start date	December 1, 2016

Questions/Suggestions

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