NSF Webinar on NSF Solicitation 21-591

COMPUTER AND INFORMATION SCIENCE AND ENGINEERING (CISE) RESEARCH INITIATION INITIATIVE (CRII)

NATIONAL SCIENCE FOUNDATION

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NEW THIS YEAR!

- (1) Max 6 years, not 5 since PhD for 2021 submissions only
- (2) Clarification of rules for faculty at PUIs
- (3) Resources available through CloudBank and Experimental Research Infrastructure
- (4) Department chair clarification, especially for PUIs

OUTLINE

- Goals of the program
- Eligibility
- Areas of interest
- Submission process
- Review process
- CloudBank and Research Infrastructure
- Questions
- Program Director contacts

STEP 1

- READ THE SOLICITATION: NSF 21-591

PROGRAM GOALS

- Encouraging research independence immediately upon obtaining one's first academic position
- Undertake exploratory investigations
- Acquire and test preliminary data
- Develop collaborations within or across research disciplines
- Develop new algorithms, approaches, and system designs/prototypes

****This program is not appropriate for PIs who already have access to resources to conduct any early-career research ****

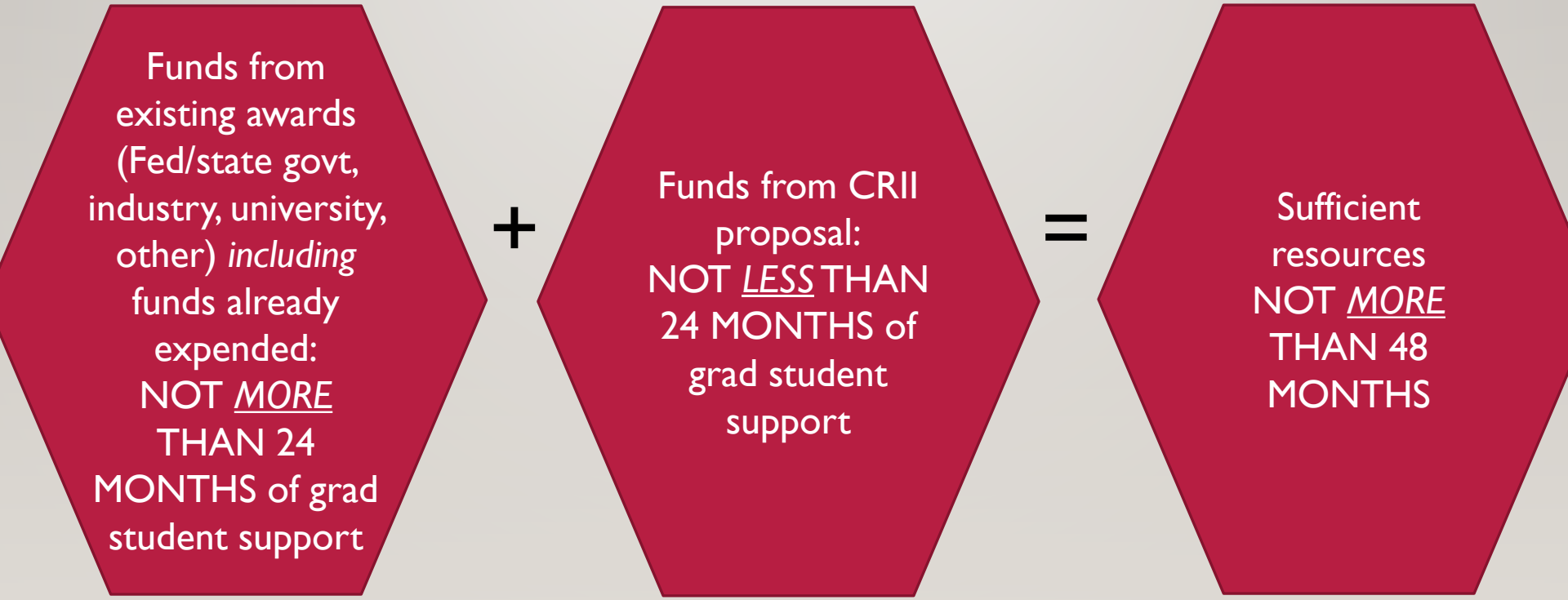
PROGRAM ELIGIBILITY

- Hold a primary appointment (or if applying to the CISE Office of Advanced Cyberinfrastructure, hold a full- or part-time appointment) in computer and/or information science and/or engineering, or in a related field of computational or data science (where the PI would normally submit proposals to CISE programs).
- Be untenured and;
- Be in the first three years of a tenure-track or research science or education position (or equivalent) as of the submission deadline. The number of years includes any academic position held post-PhD, exclusive of postdoctoral appointments.
  - Only official leaves of absence (for illness, family, etc.) may be subtracted from the total time in the position, as certified by the PI's department chair/head in the required letter, to be included in the Supplementary Documents section of the proposal.

PROGRAM ELIGIBILITY (CONT)

- **As of the submission deadline**, the PI may not have received any other grants in the PI role from any institution or agency
- Following do NOT disqualify:
  - Award as a co-PI or Senior Personnel on another grant;
  - Workshop or student conference travel awards;
  - Doctoral dissertation improvement grants;
  - Post doctoral research fellowship awards, such as CI Fellows;
  - A Graduate Research Fellowship or similar fellowship award from NSF;
  - REU or RET awards;
  - SBIR or STTR awards that were received while the PI worked in industry;
  - Awards from PI's university;
  - Awards from companies or private foundations

PROGRAM ELIGIBILITY (CONT) - PHD INSTITUTIONS



PROGRAM ELIGIBILITY (CONT) - PUI INSTITUTIONS

This rule does not apply

MAGIC DATES FOR 2021

- Sep 20 2015 – PhD must be granted *after* this date to meet the six year limit
- Sep 20 2018 – must have started academic appointment *after* this date to meet three year limit
- ONLY EXCPEPTIONS ARE FOR FAMILY OR MEDICAL LEAVE
- No exceptions for any other reason, including work abroad, "just a few days", etc.

AREAS OF INTEREST

- Anything that fits within any of the NSF CISE research programs
- Office of Advanced Cyberinfrastructure (OAC)
  - OAC Core Research
- Computing and Communications Foundations (CCF):
  - Algorithmic Foundations (AF)
  - Communications and Information Foundations (CIF)
  - Software and Hardware Foundations (SHF)
  - Foundations of Emerging Technologies (FET)
- Computer and Network Systems (CNS):
  - Computer Systems Research (CSR)
  - Networking Technology and Systems (NeTS)
  - CISE Education and Workforce (EWF)
  - Cyber-Physical Systems (CPS)
  - Secure and Trustworthy Cyberspace (SaTC)
- Information and Intelligent Systems (IIS):
  - Information Integration and Informatics (III)
  - Human-Centered Computing (HCC) - formerly Cyber-Human Systems (CHS)
  - Robust Intelligence (RI)
  - Smart Health and Biomedical Research in the Era of Artificial Intelligence and Advanced Data Science (SCH) – formerly Smart and Connected Health
- **Program sites have more information on topics for each program**

STEP 2

- READ THE SOLICITATION: NSF 21-591

SUBMISSION DETAILS

- Project summary plus **10 pages** of project description; see Proposal and Award Policies and Procedures Guide (PAPPG) for standard NSF font & margin limits.
  - The Project Description **must justify** how the proposal helps obtain essential resources that the PI otherwise lacks to initiate the PI's research career, and not just for this project.
  - The department chair letter must follow the template provided – no changes.
- Proposals (<= $175,000 for **exactly** 2 years – no more, no less)
  - Must include a minimum .5 months salary for PI per year
  - Must include a minimum of 24 months grad student support over the 2 years (except PUI)
  - No co-PIs or other senior personnel permitted
  - Postdocs are allowed
- Submission deadline: September 20, 2021
- Limit of 1 proposal per PI
  - **Note**: this limit is distinct from the PI limit in any other NSF solicitation
- No classified proposals will be accepted

SUBMISSION DETAILS (CONT)

- Data Management Plan
- Postdoc Mentoring Plan
- **Department Chair/Head Letter (required): A letter from the PI's department chair/head must be submitted as a Supplementary Document, following the template provided.**
  - https://nsf.gov/cise/crii/deptchair.pdf
- Four sections, for four criteria:
  - Time criterion
  - Appointment criterion
  - Federal financial assistance criterion
  - Essential resources criterion

BUDGET DETAILS

- Up to $175,000 / 2 years
- Eligible for Research Experience for Undergraduates (REU) supplements
- Funding for students, equipment, travel
- Minimum of 0.5 months of support for the PI per year, except for faculty on 12 month contracts
- Most of the funds should go toward student(s)
  - Except at PUIs, must include at least one full-time graduate student – minimum 24 months of support over the 2 years
  - May be used toward postdoctoral scholars, travel, and/or research equipment.

PROPOSAL REVIEW PROCESS

- Proposals will be reviewed through standard NSF merit review process including **Intellectual Merit** and **Broader Impact** criteria
- Factors to be considered:
  - Relevance to one or more CISE programs
  - Appropriateness to 2-year timeline
  - Potential of activities to produce sufficient preliminary results to serve as the basis for future competitive research proposals (e.g., CAREER, other solicitations)
  - Whether the activities are necessary and critical steps for the PI to achieve research independence

CLOUDBANK AND RESEARCH INFRASTRUCTURE

- Cloudbank – NSF organized cloud computing resources
  - See additional instructions in solicitation if you need cloud resources – generally less expensive than going to commercial cloud providers
  - Cost counts against $175K limit
- Experimental Research Infrastructure
  - XSEDE
  - PAWR
  - FABRIC
  - Chameleon
  - CloudLab

STEP 3

- READ THE SOLICITATION: NSF 21-591

TAKEAWAYS

- CRII is for new faculty members to initiate independent research through funding students, equipment, and travel
- Proposals due September 20, 2021
- READ THE SOLICITATION
  - Follow font and margin requirements
  - Follow title guidelines
  - Make certain all the required sections are easily identifiable
  - Department chair letter must follow the template – no changes except to put it on letterhead and fill in the blanks
- Contact an NSF program officer with questions!

Questions?

Submit your questions through the Zoom Q&A

Thank You

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Jeremy Epstein

Ephraim Glinert

Alan Sussman

Our email addresses can be located on the NSF web site