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 PUls
- (3) Resources available through CloudBank and Experimental Research Infrastructure
- (4) Department chair clarification, especially for PUls
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

Funds from existing awards (Fed/state govt, industry, university, other) including funds already expended: NOT MORE THAN 24 MONTHS of grad student support

Funds from CRII proposal: NOT LESS THAN 24 MONTHS of grad student support

= Sufficient resources NOT MORE THAN 48 MONTHS
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.

• 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