

**Beyond DART:
Opportunities to Sustain
Momentum**

Session Agenda

- Overview of relevant NSF funding opportunities
- Description of common first steps in the pathway to commercialization
- Suggestions to facilitate collaborative proposal submissions
- LUNCH
- Breakout Sessions - work through prompts to generate collaborative ideas and plan the submission process

NSF Campus Cyberinfrastructure (CC*)

INFRASTRUCTURE

[\[link\]](#) Proposals due: April 22 / October 15, 2024

- **Area (1) Data Driven Networking Infrastructure:** Campus- up to \$700k, 2 years. Region- up to \$1.4M, 2 years. Specific emphasis on supporting multiple under-resourced campuses through partnerships with small institutions and regional entities with experience in high-performance Research & Education networking.
- **Area (2) Computing and the Computing Continuum:** Campus- up to \$700k, 2 years. Region- up to \$1.4M, 2 years. Coordinated approaches to share unused compute cycles and resources across the entire academic fabric of highly connected and increasingly resourced campuses.
- **Area (3) Network Integration and Applied Innovation:** Small projects- up to \$500k, large projects- up to \$1M, 2 years. Goes beyond investments in Area 1 by leveraging campus network to develop and deploy new networking capabilities reflecting applied research and development in networking.
- **Area (4) Data Storage and Digital Archives:** Campus- up to \$700k, 2 years. Region- up to \$1.4M, 2 years. Coordinated approaches in scientific data storage and data management and digital archives at the campus or regional level with an emphasis on small and under-resourced institutions.
- **Area (5) Strategy:** Campus- \$100k, 1 year. Region- up to \$200k, 2 years. Strategic planning and coordination for a campus or the region, in part reflecting the challenges for institutions that presently do not participate in the R&E network fabric and community.

NSF CISE: Core Programs & Small Projects

[\[Link\]](#) No submission limits per organization, only limit on individuals. Opportunities for BPC, REU, and other supplements.

Small Projects (no deadline)

- Awards up to \$600k and 3 years total
- 1 or 2 investigators and at least 1 student or postdoc

Medium Projects (submission window Oct 1 - 23 annually)

- Awards between \$600k - \$1.2M and 4 years total
- 1+ investigators and several students or postdocs
- Collaboration plan required
- PI, co-PI, and senior personnel must hold either:
 - a tenured or tenure-track position, or
 - a primary, full-time, paid appointment in a research or teaching position

NSF CISE: Core Programs & Small Projects

Division of **Computing and Communication Foundations (CCF)**: research on foundations of computing and communication

- **Algorithmic Foundations (AF)** supports potentially transformative projects in the theory of algorithms and computational complexity, characterized by algorithmic innovation and rigorous analysis
- **Communications and Information Foundations (CIF)** supports foundational research that addresses the theoretical underpinnings of information acquisition, transmission, and processing in communications and information processing systems
- **Foundations of Emerging Technologies (FET)** supports foundational research at the intersection of computing and biological systems, nanoscale science and engineering, quantum information science, and other promising disruptive technologies supporting novel computing/communication models
- **Software and Hardware Foundations (SHF)** supports foundational research in the design, verification, operation, and evaluation of computer hardware and software through novel approaches, robust theories, high-leverage tools, and lasting principles

Reminder: **Small Projects (no deadline)** Awards up to \$600k and 3 years total

NSF CISE: Core Programs & Small Projects

Division of **Computer and Network Systems (CNS)**: novel or enhanced computing and/or networking, including using new technologies or new ways to apply existing technologies, with a focus on systems.

- **Computer Systems Research (CSR)** supports the advancement and holistic design and development of integrated software and hardware computing systems
- **Networking Technology and Systems (NeTS)** supports research that advances wired and wireless networking systems, develops a better understanding of the fundamental properties and tradeoffs involved, as well as the abstractions and tools used in designing, building, measuring and managing them

Reminder: **Small Projects (no deadline)** Awards up to \$600k and 3 years total

NSF CISE: Core Programs & Small Projects

Division of **Information and Intelligent Systems (IIS)**: research on inter-related roles of people, computers, and information.

- **Human-Centered Computing (HCC)** supports research in human-computer interaction, integrating across fields including computing, information, social, and behavioral sciences, to (re)design technologies that amplify human capabilities, and understand how human, technical, and contextual aspects of computing and communication systems shape their benefits, effects, and risks
- **Information Integration and Informatics (III)** supports research on computational approaches to the full data lifecycle to maximize the utility of information resources
- **Robust Intelligence (RI)** supports computational research to understand and enable intelligent systems in complex, realistic contexts

Reminder: **Small Projects (no deadline)** Awards up to \$600k and 3 years total

NSF CISE Research Initiation Initiative (CRII)

EARLY CAREER
FACULTY

[\[link\]](#) Proposals due: September 18, 2024. **Awards up to \$175k, 24 months. R1 not eligible.**

CRII awards only issued to individual PIs who meet these criteria:

- Hold primary appointment in CISE related field
- Untenured
- Earned PhD within 3 years prior to submission (graduates starting Sept 2021)
- Not received any Federal research funding (workshops, trainings, fellowships okay)

Applicants choose a CISE division or office: OAC, CCF, CNS, IIS,

NSF EPSCoR: Research Fellows (Track-4)

[\[Link\]](#) Proposals due: April 22, 2024. Awards up to \$300k / 2 years.

- Principal Investigators must either:
 - Be in an early-career, or mid-career-track position at an eligible non-degree-granting organization
 - Hold a non-tenured or tenured faculty position at the Lecturer, Research Faculty, Assistant or Associate Professor rank
- Non-tenured research assistant professors or lecturers are eligible if they have a long-term appointment
- letter from an administrative manager at the home institution is required to verify PI eligibility

Only single-PI proposals will be considered. No co-PIs should be included in the proposal.

Limit of 4 proposals from any institution

NSF EPSCoR: E-CORE

INFRASTRUCTURE

[\[Link\]](#) Proposals due: July 9, 2024; July 8, 2025.

Submissions limited for individuals and institutions. Admin core required.

Initial awards of 4 years up to \$8M, with possibility of 4 year renewal based on performance

Goal is to support development, enhancement, and/or sustainability of:

- jurisdiction-wide research administration;
- research facilities;
- higher education pathways;
- STEM education (K-16) pathways;
- broadening participation;
- workforce development;
- national and global partnerships;
- community engagement and outreach;
- economic development and use-inspired research;
- and/or early career research trainee pathways.

NSF EPSCoR: E-RISE

COLLABORATIVE
RESEARCH

[\[Link\]](#) **Proposals due: Aug 13, 2024; Aug 12, 2025.** NOT a cooperative agreement.

Initial awards of 4 years, up to \$7M, funded annually. Renewals possible, 3 years and up to \$4.5M

Should be multi-institutional or multi-organizational. Limited submissions for individuals and institutions.

Proposals must address these six program goals:

1. Building of a jurisdiction-wide network of individuals, institutions, and organizations to develop high-quality research aligned with jurisdictional priority areas and the EPSCoR mission and goals
2. Incorporation of Diversity, Equity, Access, and Culture of Inclusion of different institution types and sectors (DEACI)
3. Development of a skilled workforce that is relevant to the project and its outcomes (WFD)
4. Incorporation of use-inspired perspectives and societal impact (SI)
5. Building of a pathway to sustainability
6. Development of a continual improvement cycle

NSF: Smart & Connected Health (SCH)

COLLABORATIVE
RESEARCH

[\[Link\]](#) Proposals due: October 3, 2024 or 2025. Awards up to \$1.2M / 4 years (\$300k/year)

Collaboration between NSF and NIH to support innovative, high-risk/high-reward research:

- disruptive transformations in biomedical and public health research
- well-coordinated, convergent, and interdisciplinary approaches with computer and information science, engineering, mathematical sciences and the biomedical, social, behavioral, and economic sciences
- must make fundamental scientific or engineering contributions to two or more disciplines

Addresses themes like: Fairness & Trustworthiness, Transformative Analytics, Next Generation Multimodal and Reconfigurable Sensing Systems, Cyber-Physical Systems, Robotics, Biomedical Image Interpretation, Health Disparities & Health Equity.

No limits on submissions per institution, only limit on individual participation

NSF TIP: Partnerships for Innovation (PFI)

ENTREPRENEURSHIP

[\[Link\]](#) **Proposals due:** First Tuesday in May **OR** First Tuesday in January. **Update:** I-Corps no longer counts for PFI lineage.

- identify and support NSF-sponsored research and technologies with potential for accelerated commercialization
- support previous NSF awardee partnerships with an IHE for proof-of-concept work and technology development of prototypes derived from NSF-sponsored research with potential market value
- promote sustainable partnerships between NSF-funded institutions, industry, and other organizations within academia and the private sector with the purpose of accelerating the transfer of technology
- professional development, mentoring, and advice in entrepreneurship, project management, and technology and business development to innovators

PFI- Technology Translation (PFI-TT) awards up to \$550,000 for 18-24 months

PFI-Research Partnerships (PFI-RP) awards up to \$1,000,000 for 36 months

Outcomes: commercialization of new intellectual property derived from NSF-funded research outputs; collaborations with industry; licensing of NSF-funded innovations to businesses; and training of future innovation and entrepreneurship leaders.

Some limits on submission, check the solicitation.

NSF I-Corps Teams (National Program)

ENTREPRENEURSHIP

Rigorous entrepreneurial training program for teams of 3-5 people. [\[link\]](#)

National teams must demonstrate NSF research lineage or prior completion of regional program. **Participation in DART meets the lineage criteria.**

Teams must include entrepreneurial lead, technical lead, and industry mentor.

Start by submitting 2-page executive summary. Participation in cohort by invitation only.

Awards \$50k per team for 6 month training period. **Central Office offers \$5k honorarium for industry mentors on DART teams.**

Multiple DART folks have completed this and can answer questions.

NSF SBIR/STTR

ENTREPRENEURSHIP

[\[Link\]](#) Project pitches accepted anytime, rolling proposal submission windows, some limitations

SBIR awards to small businesses. STTR awards to business/research institution partnerships.

SBIR/STTR funds the **development of new, high-risk technology innovations** intended to generate positive societal and economic outcomes.

First step is submission of project pitch describing the technology, challenges, market opportunity, and company. Full proposals by invitation only.

SBIR Phase I awards up to \$275k for R&D, 6-12 months. **Phase II awards up to \$1M**, 24 months.

State offers SBIR matching funds through AEDC, up to \$50k for Phase I and up to \$100k for Phase II. This money is unrestricted and can be used for operational expenses or other costs not covered by NSF award.

Common Commercialization Pathway

- Research lab develops an innovative technology.
- Faculty and/or grad student participate in local, regional, national I-Corps.
- Team consults with institutional offices, ASBTDC, and other support orgs.
- Intellectual property or patent is disclosed. Business entity is formed.
- Team applies for TTAG through AEDC to hire a consultant for SBIR proposal writing.
- Identify appropriate SBIR mechanism/agency and pursue submission.
- Apply for AR SBIR Matching Grant through AEDC to help with operational expenses.
- Team pursues additional funding through SBIR Phase II or other mechanisms.
- Team applies for TDP, R&D Tax Credits, and other incentives from AEDC.

Prompts to Guide Collaborations

- Do you already have some ideas for a submission to this program? If so, share a summary with your table.
- Do you need collaborators? Is anyone at the table willing to form a team? What does each team member need to effectively participate (subaward, salary support, equipment, etc)? Who will engage external partners if needed? What could each team member contribute?
- Who should lead the submission? What kind of administrative resources are available or needed for the proposal development?
- Working backwards from the proposal due date, think about a submission timeline. When will the relevant grants offices need the final documents? When will subrecipient forms be due? When should the budget draft be completed? What about the narrative? Do you reasonably have time to complete the submission?
- Assign tasks and responsibilities. Who will ensure subrecipient documents are submitted to the lead in time? Who is responsible for sections of the narrative? Who is responsible for following up after this meeting? Exchange contact information if you don't have it already.