

# Government Grants Training



# What Are the Federal Government Grants?

- It's not a loan
- You don't pay back the money
- It's a financial award given by the federal government for a beneficial project
- It is a gift
- When you receive a grant award, government takes 0% ownership in your:
  - research or
  - technology startup company

# State of Government Grants

- 26 federal agencies administer more than 1,000 grant programs annually
- Funding for the
  - sciences
  - humanities & arts
  - educational institutions
- Largest funding goes to **science and technology** agencies and programs
- R&D funding is **\$151.5 billion** annually

# National Science Foundation (NSF)

- Independent federal agency to promote the progress of science
- Annual budget of **\$8.3 billion**
- Research areas ([www.nsf.gov/funding/index.jsp](http://www.nsf.gov/funding/index.jsp))
  - Biological Sciences
  - Computer and Information Science and Engineering
  - Crosscutting Research
  - Education and Human Resources
  - Engineering
  - Environmental Research and Education
  - Geosciences
  - Integrative Activities
  - International Science and Engineering
  - Mathematical and Physical Sciences
  - Social, Behavioral and Economic Sciences

# NSF Grants Search – Step 1

The screenshot shows the NSF Grants Search website. The browser tab is 'Funding | NSF - National Science Foundation' and the URL is 'nsf.gov/funding/index.jsp'. On the left sidebar, there are links for 'Recent Opportunities', 'Small Business', and 'Transformative Research'. The main content area is titled 'A-Z Index' and includes a search instruction: 'Use the A-Z Index to find funding opportunities by title.' Below this is a row of buttons for each letter of the alphabet from A to Z. The 'A-Z Index' section is followed by a 'Research Areas' section, which lists ten categories with corresponding icons: Biological Sciences, Geosciences, Computer and Information Science and Engineering, Integrative Activities, Crosscutting and NSF-wide, International Science and Engineering, Education and Human Resources, Mathematical and Physical Sciences, Engineering, and Social, Behavioral and Economic Sciences. Environmental Research and Education is also listed at the bottom. A red arrow points to the 'Computer and Information Science and Engineering' category.

Funding | NSF - National Science Foundation

nsf.gov/funding/index.jsp

Recent Opportunities

Small Business

Transformative Research

## A-Z Index

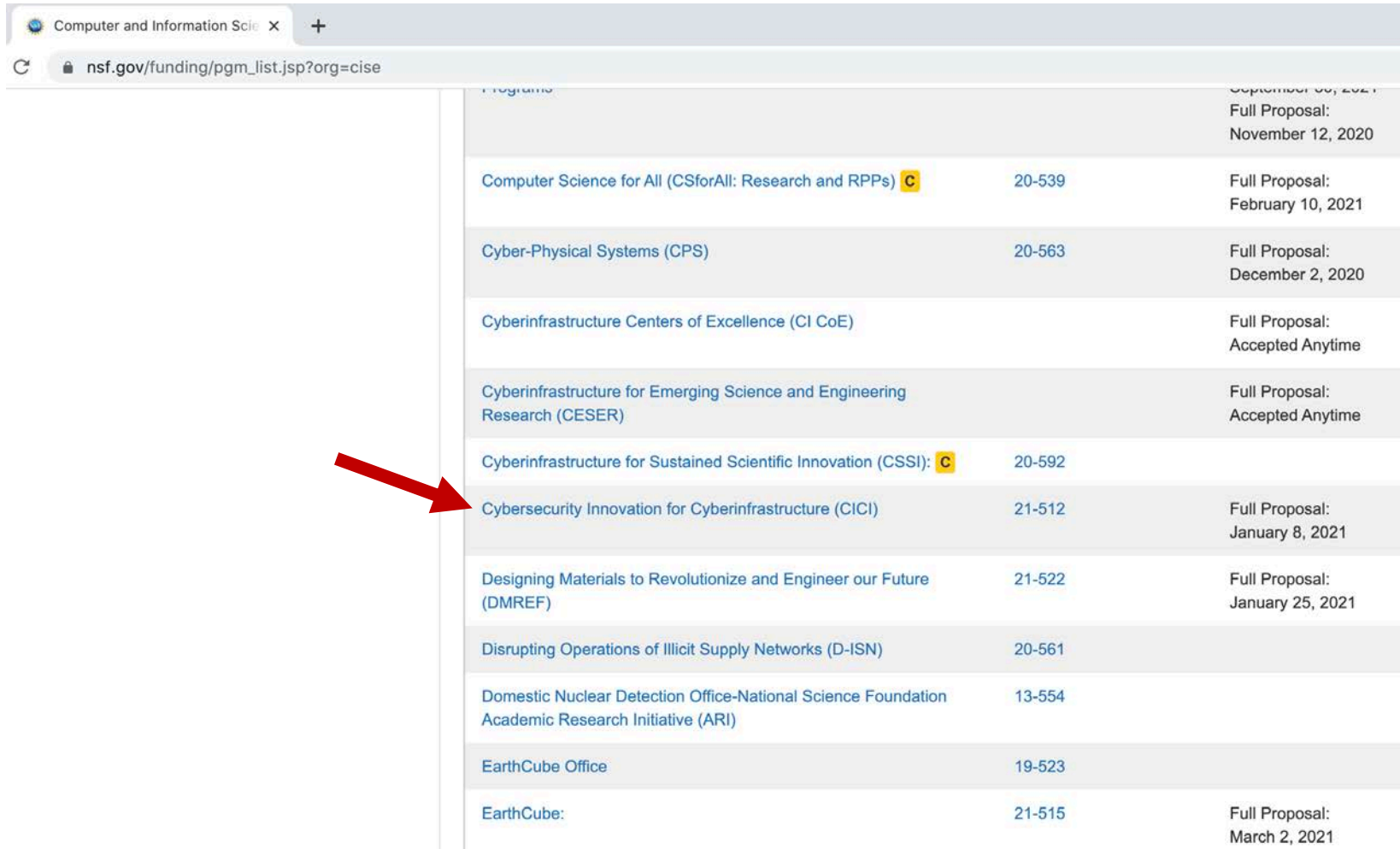
Use the [A-Z Index](#) to find funding opportunities by title.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

## Research Areas

- Biological Sciences
- Geosciences
- Computer and Information Science and Engineering
- Integrative Activities
- Crosscutting and NSF-wide
- International Science and Engineering
- Education and Human Resources
- Mathematical and Physical Sciences
- Engineering
- Social, Behavioral and Economic Sciences
- Environmental Research and Education

# NSF Grants Search – Step 2



Computer and Information Science x +

nsf.gov/funding/pgm\_list.jsp?org=cise

		September 10, 2021 Full Proposal: November 12, 2020
Computer Science for All (CSforAll: Research and RPPs) C	20-539	Full Proposal: February 10, 2021
Cyber-Physical Systems (CPS)	20-563	Full Proposal: December 2, 2020
Cyberinfrastructure Centers of Excellence (CI CoE)		Full Proposal: Accepted Anytime
Cyberinfrastructure for Emerging Science and Engineering Research (CESER)		Full Proposal: Accepted Anytime
Cyberinfrastructure for Sustained Scientific Innovation (CSSI): C	20-592	
Cybersecurity Innovation for Cyberinfrastructure (CICI)	21-512	Full Proposal: January 8, 2021
Designing Materials to Revolutionize and Engineer our Future (DMREF)	21-522	Full Proposal: January 25, 2021
Disrupting Operations of Illicit Supply Networks (D-ISN)	20-561	
Domestic Nuclear Detection Office-National Science Foundation Academic Research Initiative (ARI)	13-554	
EarthCube Office	19-523	
EarthCube:	21-515	Full Proposal: March 2, 2021

# NSF Grants Search – Step 3

The screenshot displays the NSF website for the Cybersecurity Innovation for Cyberinfrastructure (CICI) program. The left sidebar contains a navigation menu for the Computer and Information Science and Engineering (CISE) division. The main content area includes a breadcrumb trail, a title, contact information, program guidelines, and due dates.

**Computer and Information Science and Engineering (CISE)**

- Computer and Information Science and Engineering (CISE) Home
- About
- Programs
- Staff
- Funding
- Awards
- News
- Events
- Additional Resources
- Computing and Communication Foundations (CCF)
- Computer and Network Systems (CNS)
- Information and Intelligent Systems (IIS)
- Advanced

Home > Funding > Computer and Information Science ...

**Cybersecurity Innovation for Cyberinfrastructure (CICI)**

**CONTACTS**

Name	Email	Phone	Room
Robert Beverly	<a href="mailto:rbeverly@nsf.gov">rbeverly@nsf.gov</a>	(703) 292-7068	
Kevin Thompson	<a href="mailto:kthompso@nsf.gov">kthompso@nsf.gov</a>	(703) 292-4220	

**PROGRAM GUIDELINES**

Solicitation [21-512](#)

**Important Information for Proposers**

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 20-1), is effective for proposals submitted, or due, on or after June 1, 2020. Please be advised that, depending on the specified due date, the guidelines contained in NSF 20-1 may apply to proposals submitted in response to this funding opportunity.

**DUE DATES**

**Full Proposal Deadline Date**

January 8, 2021



# NSF Grants Search – Step 4

Cybersecurity Innovation for C x +

← → ↻ nsf.gov/pubs/2021/nsf21512/nsf21512.htm

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## Cybersecurity Innovation for Cyberinfrastructure (CICI)

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### PROGRAM SOLICITATION


#### NSF 21-512

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#### REPLACES DOCUMENT(S):

##### NSF 19-514

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**National Science Foundation**  
Directorate for Computer and Information Science and Engineering  
Office of Advanced Cyberinfrastructure

**Full Proposal Deadline(s)** (due by 5 p.m. submitter's local time):

January 08, 2021

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#### IMPORTANT INFORMATION AND REVISION NOTES

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This solicitation updates the Cybersecurity Innovation for Cyberinfrastructure (CICI) solicitation [NSF 19-514](#). The CICI program continues to support the goal of a secure scientific workflow. The current solicitation:

- Renames and updates the Secure Scientific Cyberinfrastructure program area to Usable and Collaborative Security for Science;
- Adds two new program areas: Research Scientific Security Datasets, and Scientific Infrastructure Vulnerability Discovery; and
- Removes the Collaborative Security Response Center and Research Data Protection program areas.

Any proposal submitted in response to this solicitation should be submitted in accordance with the revised *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) ([NSF 20-1](#)), which is effective for proposals submitted, or due, on or after June 1, 2020.

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#### SUMMARY OF PROGRAM REQUIREMENTS

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##### General Information

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**Program Title:**

Cybersecurity Innovation for Cyberinfrastructure (CICI)

**Synopsis of Program:**



# NSF Grants Search – Step 5

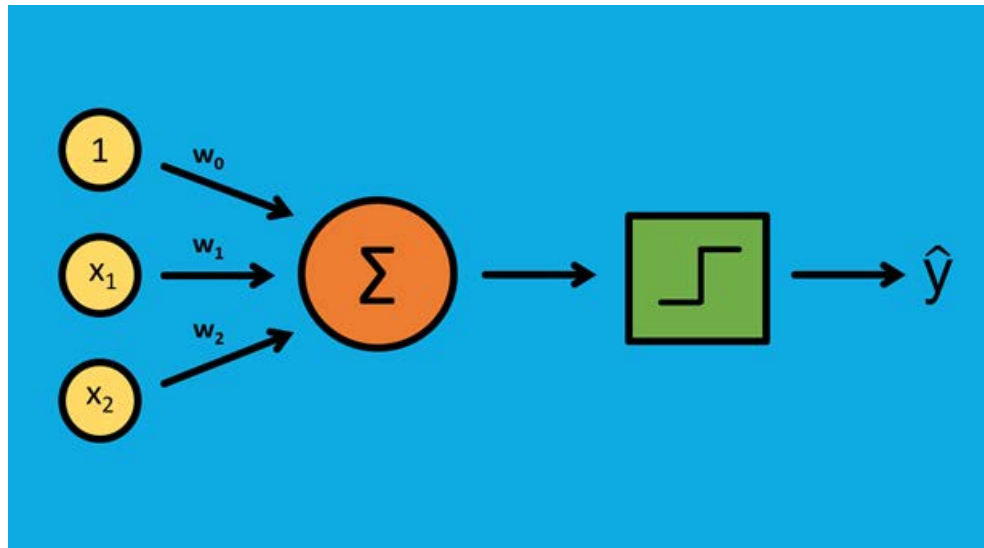
- **Program Solicitation** is the most important document
- It provides information on the
  - application deadline(s)
  - what the program funds (synopsis)
  - how many awards it will be made
  - funding amount per award
  - merit review principles and criteria
  - review and selection process

# How Are Grants Reviewed and Evaluated?

Your idea / research

(should match)

NSF Review Criteria



## Content of the Proposal

- Basic principles
  - ✦ Explain clearly what you want to do: reviewers should not have to guess
  - ✦ Why is your project important: you are competing for priority with other proposals
  - ✦ Why are you the person to do it: what have you done before? what unique facilities or equipment do you have access to? ....
- Follow the guidelines (call / request for proposals, solicitation, NSF Grant Proposal Guide). **Failure to follow guidelines even at the level of font size or reference format could lead to return of the proposal without review. Don't miss the deadline!**
- Check that you have provided all the required information.
- Align the budget with the proposed activities.
- Proofread!

NSF review criteria is broad to encourage innovation

# NSF Grants Search – Step 3

Cybersecurity Innovation for C x +

nsf.gov/funding/pgm\_summ.jsp?pims\_id=505159&org=CISE&sel\_org=CISE&from=fund

Home > Funding > Computer and Information Science ...

Email Print Share

## Cybersecurity Innovation for Cyberinfrastructure (CICI)

### CONTACTS

Name	Email	Phone	Room
Robert Beverly	<a href="mailto:rbeverly@nsf.gov">rbeverly@nsf.gov</a>	(703) 292-7068	
Kevin Thompson	<a href="mailto:kthomps@nsf.gov">kthomps@nsf.gov</a>	(703) 292-4220	

### PROGRAM GUIDELINES

Solicitation [21-512](#)

**Important Information for Proposers**

A revised version of the *NSF Proposal & Award Policies & Procedures Guide* (PAPPG) (NSF 20-1), is effective for proposals submitted, or due, on or after June 1, 2020. Please be advised that, depending on the specified due date, the guidelines contained in NSF 20-1 may apply to proposals submitted in response to this funding opportunity.

### DUE DATES

**Full Proposal Deadline Date**

January 8, 2021

# NSF Grants Search – Step 6

Cybersecurity Innovation for C x +

nsf.gov/funding/pgm\_summ.jsp?pims\_id=505159&org=CISE&sel\_org=CISE&from=fund

**Systems (CNS)**

**Information and Intelligent Systems (IIS)**

**Advanced Cyberinfrastructure (OAC)**

Get CISE Email Updates

your@email.com **GO**

**Contact CISE**

**NSF on Twitter**

**NSF on Facebook**

**NSF on YouTube**

**DUE DATES**

**Full Proposal Deadline Date**

January 8, 2021

**SYNOPSIS**

The objective of the Cybersecurity Innovation for Cyberinfrastructure (CICI) program is to develop, deploy and integrate solutions that benefit the broader scientific community by securing science data, workflows, and infrastructure. CICI recognizes the unique nature of modern, rapid collaborative science and the breadth of security expertise, infrastructure and requirements among different practitioners, researchers, and scientific projects. CICI seeks projects in three program areas:

1. **Usable and Collaborative Security for Science (UCSS):** Projects in this program area should support novel and applied security and usability research that facilitates scientific collaboration, encourages the adoption of security into the scientific workflow, and helps create a holistic, integrated security environment that spans the entire scientific CI ecosystem.
2. **Reference Scientific Security Datasets (RSSD):** Projects in this program area should capture the unique properties of scientific workflows and workloads as reference data artifacts to support reproducible security research and protect the scientific process.
3. **Scientific Infrastructure Vulnerability Discovery (SIVD):** Projects in this program area should develop and apply techniques to proactively discover vulnerabilities and weaknesses in scientific infrastructure.

[What Has Been Funded \(Recent Awards Made Through This Program, with Abstracts\)](#)

[Map of Recent Awards Made Through This Program](#)

[News](#)

# NSF Grants Search – Step 7

NSF Award Search: Advanced | x +

nsf.gov/awardsearch/advancedSearchResult?ProgEleCode=8027&BooleanElement=Any&BooleanRef=Any&ActiveAwards=true&#results

National Science Foundation  
WHERE DISCOVERIES BEGIN

SEARCH

RESEARCH AREAS | FUNDING | AWARDS | DOCUMENT LIBRARY | NEWS | ABOUT NSF

Simple Search | Advanced Search | Popular Searches | Download Awards | Send Comments | Award Search Help

### Advanced Search Results

Export up to 3,000 Awards: CSV | XML | Excel | Text | Email this Link | Export All Results

Sort By: Relevance Results size: 30 per page Table | List Page 1 of 2 Displaying 1 - 30 of 49

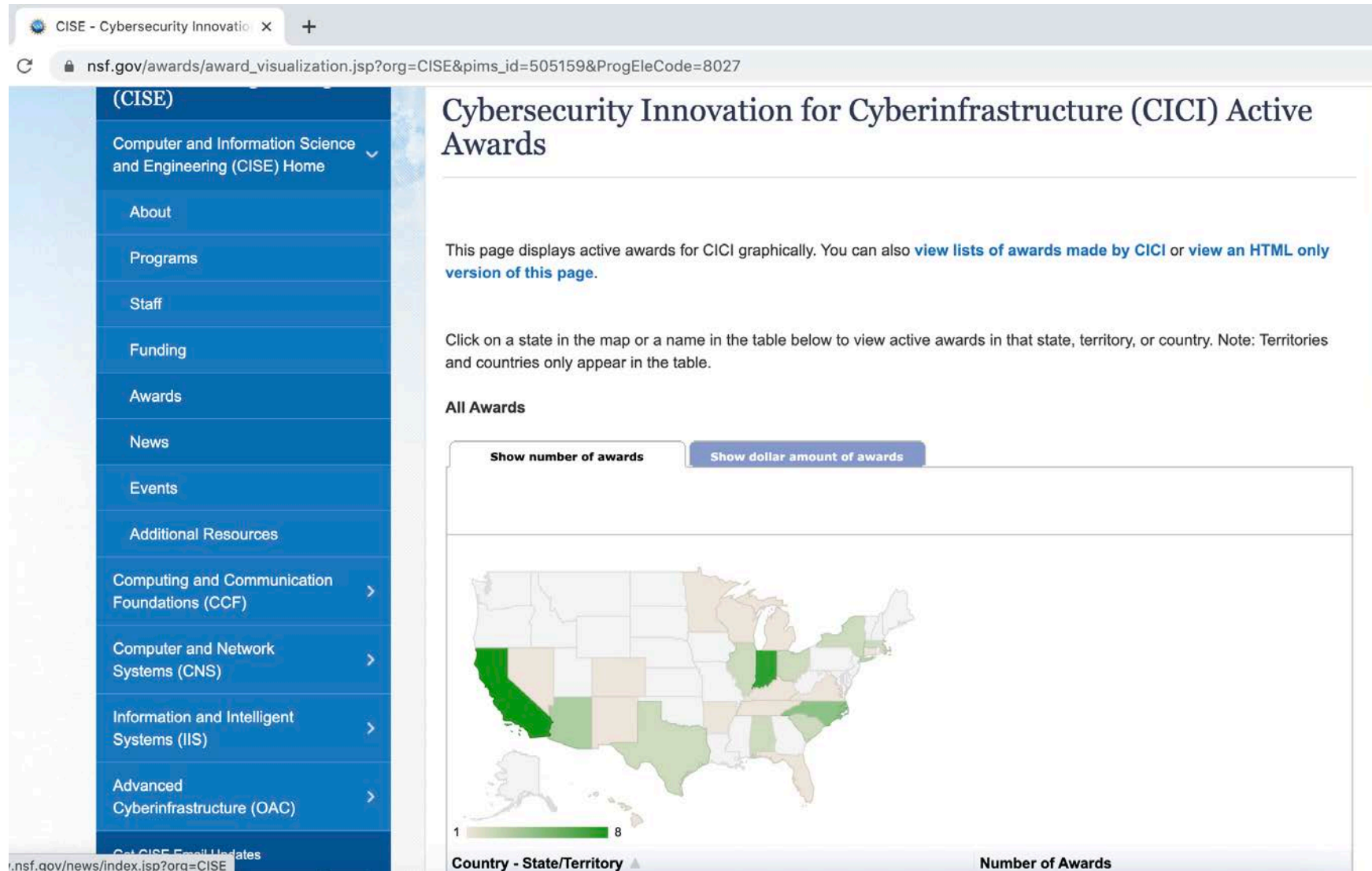
Filtered For:  
Program Element: 8027  
Active Awards: true

Search Results:

- CICI: Secure and Resilient Architecture: Effective and Economical Protection for High-Performance Research and Education Networks**  
Award Number:1642161; Principal Investigator:Johanna Amann; Co-Principal Investigator:Robin Sommer, Michael Dopheide; Organization:International Computer Science Institute;NSF Organization:OAC Start Date:10/01/2016; Award Amount:\$999,513.00; Relevance:48.0;
- CICI: SSC: Horizon: Secure Large-Scale Scientific Cloud Computing**  
Award Number:1840197; Principal Investigator:Anton Burtsev; Co-Principal Investigator:Gene Tsudik; Organization:University of California-Irvine;NSF Organization:OAC Start Date:09/01/2018; Award Amount:\$1,015,925.00; Relevance:48.0;
- CICI: CCoE: Trusted CI: Advancing Trustworthy Science**  
Award Number:1920430; Principal Investigator:Von Welch; Co-Principal Investigator:Barton Miller, James Basney, James Marsteller, Dana Brunson; Organization:Indiana University;NSF Organization:OAC Start Date:10/01/2019; Award Amount:\$12,497,861.00; Relevance:48.0;
- CICI: Secure Data Architecture: Improving the Security and Usability of Two-Factor Authentication for Cyberinfrastructure**  
Award Number:1547350; Principal Investigator:Nitesh Saxena; Co-Principal Investigator:; Organization:University of Alabama at Birmingham;NSF Organization:OAC Start Date:01/01/2016; Award Amount:\$249,719.00; Relevance:48.0;
- CICI: RDP: Open Science Chain (OSC) - A Novel Distributed Ledger-Based Framework for Protecting Integrity and Provenance of Research Data**  
Award Number:1840218; Principal Investigator:Subhashini Sivagnanam; Co-Principal Investigator:Viswanath Nandigam; Organization:University of California-San Diego;NSF Organization:OAC Start Date:09/01/2018; Award Amount:\$818,433.00; Relevance:48.0;
- Collaborative Research: CICI: Secure and Resilient Architecture: NetSecOps -- Policy-Driven, Knowledge-Centric, Holistic Network Security Operations Architecture**  
Award Number:1642134; Principal Investigator:James Griffioen; Co-Principal Investigator:Jane Hayes, Vernon Bumgardner; Organization:University of Kentucky Research Foundation;NSF Organization:OAC Start Date:09/01/2016; Award Amount:\$515,925.00; Relevance:48.0;
- CICI: SSC: SciTrust: Enhancing Security for Modern Software Programming Cyberinfrastructure**  
Award Number:1940855; Principal Investigator:Yanfang Ye; Co-Principal Investigator:; Organization:Case Western Reserve University;NSF Organization:OAC Start Date:06/05/2019; Award Amount:\$633,744.00; Relevance:48.0;
- CICI: CSRC: Research Security Operations Center (ResearchSOC)**



# NSF Grants Search – Step 8



# Other Federal Agencies

- National Institutes of Health (NIH)
  - funds medical and health sciences R&D
  - grant search: <https://grants.nih.gov/funding/searchguide/index.html#/>
  - **\$42 billion** annual budget (almost 6 times larger than NSF budget)
- Department of Defense (DoD)
  - funds R&D on a variety of topics
  - **\$65 billion** annual budget (almost 8 times larger than NSF budget)
  - Office of Naval Research (ONR): [www.onr.navy.mil/en/work-with-us/funding-opportunities](http://www.onr.navy.mil/en/work-with-us/funding-opportunities)
  - Defense Advanced Research Projects Agency (DARPA): [www.darpa.mil/work-with-us/opportunities](http://www.darpa.mil/work-with-us/opportunities)
  - Other R&D grant programs: [www.usna.edu/AcResearch/Information-for-Researchers/DoD-Funding-Agencies.php](http://www.usna.edu/AcResearch/Information-for-Researchers/DoD-Funding-Agencies.php)



# Other Federal Agencies

- National Endowment for the Arts (NEA)
  - funds research and programs in arts
  - grant search: [www.arts.gov/grants](http://www.arts.gov/grants)
  - **\$162 million** annual budget
- National Endowment for the Humanities (NEH)
  - funds research, education, preservation, and public programs in the humanities
  - grant search: [www.neh.gov/grants](http://www.neh.gov/grants)
  - **\$162 million** annual budget

# Entrepreneurial Government Grants

Yes, government supports technology startups!



# SBIR and STTR GRANTS

- America's Seed Fund ([www.sbir.gov](http://www.sbir.gov))
- Government takes 0% ownership in your technology startup
- Funds technology startups and small businesses to
  - stimulate technological innovation
  - support research and development (R&D)
  - increase commercialization to transition R&D into impact
- More information:  
[www.sbir.gov/sites/default/files/SBA\\_SBIR\\_Overview\\_March2020.pdf](http://www.sbir.gov/sites/default/files/SBA_SBIR_Overview_March2020.pdf)

# SBIR vs. STTR

## **SBIR**

(Small Business Innovation Research)

- You have an idea for a technology that's promising and you want to
  - conduct R&D and
  - commercialize your idea/technology

## **STTR**

(Small Business Technology Transfer)

- You conduct research in a university and you want to
  - transfer the technology into business space, conduct more R&D, and
  - commercialize your idea/technology

# AGENCIES PARTICIPATING in SBIR and STTR

- National Science Foundation (NSF)
  - Dept of Health and Human Services (HHS) NIH, FDA, CDC, ACL
  - Department of Defense (DoD)
  - Department of Education (ED)
  - Department of Agriculture (USDA)
  - Department of Energy (DOE)
  - National Aeronautics and Space Administration (NASA)
  - Other agencies
- Largest funding

# SBIR and STTR FUNDING

## Three Phase Process



# DoD (AIR FORCE) OPEN TOPIC SBIR and STTR

- U.S. Air Force's **AFWERX** SBIR STTR program funds ideas and technologies and open to any technology, customer, or application
- It could be any topic
- AFWERX SBIR: [www.afwerx.af.mil/sbir.html](http://www.afwerx.af.mil/sbir.html)
- AFWERX STTR: [www.afwerx.af.mil/sttr.html](http://www.afwerx.af.mil/sttr.html)



# AFWERX FUNDING

- **Many Small Bets (Phase I) "a simple, open door for innovation"** - Up to \$50,000 per award | 1000-1500 awards per year | Three solicitations per year
- **Some Medium Bets (Phase II)** - Up to \$1.5M per award matched funding encouraged | 300-500 awards per year | Live & Virtual Matching
- **A Few Big Bets (Strategic Financing)** - Up to \$15M (SBIR) Awards | 20+ Awards per year | 1:1:2 Program-SBIR-Private Matching | Annual Solicitation

*Thank You!*

[yetkin@rice.edu](mailto:yetkin@rice.edu)