

## Unique Student Opportunities

### Postdoctoral Programs in Math & Physical Sciences

- [IC Postdoctoral Research Fellowship Program](#)

The Intelligence Community (IC) Postdoctoral Research Fellowship Program (IC Postdoc Program) supports unclassified basic research

in areas of interest to the IC. The Program annually supports several Postdoctoral Fellows (Postdocs) from U.S. accredited colleges, universities, and U.S. Government laboratories across the country. In collaboration with Research Advisors, Postdocs develop and submit technical research proposals that align with research opportunities proposed by the IC community. The research is conducted by the Postdocs while working in partnership with the Research Advisor, and collaborating with an advisor from the Intelligence Community (IC Advisor). More information available at <https://orise.orau.gov/icpostdoc/>.



INTELLIGENCE COMMUNITY  
POSTDOCTORAL RESEARCH  
FELLOWSHIP PROGRAM

- [Technology & National Security Fellowship \(TNSF\)](#)

The Technology and National Security Fellowship (TNSF) is an opportunity for technologists and entrepreneurs to serve their country by embedding with key decision makers at the top levels of the U.S. Government to provide advice and emerging expertise for issues at the critical intersection of national security and technology. More information available at <https://www.nsin.us/tnsf/>.

- [National Research Council \(NRC\) Research Associateship Programs \(RAP\)](#)

The NRC Research Associateship Programs (RAP) promote excellence in scientific and technological research conducted by the U.S. government through the administration of programs offering graduate, postdoctoral, and senior level research opportunities at sponsoring federal laboratories and affiliated institutions. More information available at <https://sites.nationalacademies.org/PGA/RAP/index.htm>.

### Grants/Scholarships

- [DoD Cyber Scholarship Program \(CySP\)](#)

The Department of Defense (DoD) Cyber Scholarship Program (CySP) is sponsored by the DoD Chief Information Office and administered by the National Security Agency (NSA). For additional information contact the DoD CySP Program Office at AskCySP@nsa.gov or you can visit: <https://public.cyber.mil/wid/cdp/dcysp/>.



- [Graduate Fellowships for STEM Diversity \(GFSD\)](#)

Formerly known as the National Physical Science Consortium, Graduate Fellowships for STEM Diversity (GFSD), is a partnership between government agencies and laboratories, industry and higher education. GFSD's goal is to increase the number of American citizens with graduate 2 degrees in STEM fields, emphasizing recruitment of a diverse applicant pool. NSA sponsors students pursuing doctorate degrees in mathematics, engineering, computer science and physics. NSA also provides technical mentoring and at least two summers of employment to each sponsored student. More information available at <https://stemfellowships.org>.



- [Intelligence and National Security Foundation \(INSF\) Scholarship Program](#)  
The Intelligence and National Security Foundation (INSF) launched a scholarship program for undergraduate and graduate students pursuing a degree in Intelligence Analysis, Computer Science, Cybersecurity, International Affairs, National Security Studies, Public Policy, or a comparable field of study. INSF is a 501(c)(3) nonprofit dedicated to addressing contemporary intelligence and national security challenges. More information available at <https://www.insaonline.org/foundation/>.
- [OnRamp II Scholarship/Research Program](#)  
The National Security Agency's (NSA) OnRamp II Program fosters educational partnerships between NSA and academic institutions to promote the technical health and diversity of students in Science, Technology, Engineering and Mathematics (STEM). An important element of this partnership includes: scholarships, internships, and opportunity for mission-focused research. More information available at <https://www.nsa.gov/Academics/For-Educators/OnRamp-II/>.
- [DoD Scholarship-for-Service Program](#)  
[Science, Mathematics & Research for Transformation \(SMART\) Scholarship](#)  
Students, including current DoD employees seeking advanced degrees, work in a full-time, paid summer internship. Participants must be pursuing degrees in science, technology, engineering and mathematical (STEM) fields of study. Benefits include full tuition and fees, stipend and guaranteed employment upon graduation. More information available at <https://www.smartscholarship.org/smart/>.

## Research Experiences for Undergraduates (REUs)

REUs are intensive summer programs that provide advanced course work. The goal of these programs is to bring undergraduates up to speed for rigorous graduate level programs.

Find more information about REUs in Mathematics at <https://www.nsa.gov/Research/Math-Sciences-Program/>.

NSA Research recently expanded their REU scholarships in Science of Security and Physical Sciences at Carnegie Mellon University. For more information about potential REU scholarships contact [Research\\_Partnerships@nsa.gov](mailto:Research_Partnerships@nsa.gov).

NSA's current REU partners and programs include the following:

- Georgetown University (GU)
  - Summer Program in Research & Learning (SPIRAL) | [www.spiralreu.org](http://www.spiralreu.org)
- North Carolina A&T University (NC A&T)
  - Data Science and Analytics REU | <https://math.sciences.ncsu.edu/wp-content/uploads/sites/27/2023/01/2023-NCAT-DSA-Summer-REU-Flyer.pdf>
- North Carolina State University (NC State)
  - Directed Research for Undergraduates in Mathematics & Statistics (DRUMS) | <https://math.sciences.ncsu.edu/undergraduate/drums/>
- Oregon State University (USO)

- Research for Undergraduate Summer Institute of Statistics (RUSIS) | <https://stat.oregonstate.edu/rusis%40OSU>
- Pomona College
  - Pomona Research in Mathematics Experience (PRiME) | <https://pages.pomona.edu/~ehga2017/prime.html>
- Texas State University (TXST)
  - REU Site: Algebra, Combinatorics, and Statistics | <https://www.math.txst.edu/research-conferences/summerreu.html>
- University of Connecticut (UCONN)
  - Markov Chains REU | <https://markov-chains-reu.math.uconn.edu/>
- University of Michigan-Dearborn
  - REU in Mathematical Analysis and Applications | <https://sites.google.com/a/umich.edu/math-reu/>
- University of Virginia (UVA)
  - REU in Number Theory and Topology | <https://uva.theopenscholar.com/reu/program>
- Carnegie Mellon University (CMU)
  - REU in Software Engineering (REUSE) Program | <https://www.cmu.edu/scs/s3d/reuse/>

### NSA Research Summer Internships

- [Cryptanalysis and Signals Analysis Summer Program \(CASA SP\)](#)  
**Open to:** Undergraduate freshmen, sophomores, juniors and seniors  
**Majors/fields:** Mathematics and computer programming  
**When:** 12-week program from mid-May or June

You will contribute to mission-essential operations by transforming collected data into a format analysts can readily consume for intelligence purposes by analyzing signals and protocols and overcoming security measures. Each summer, we invite 12 students to learn, use and further NSA's tradecraft as they work on operational problems of national importance.

This program begins with classified briefings on modern cryptography and operational projects that you will use for research throughout the summer. Research problems may include applications of math, statistics, computer science, reverse engineering and software development. You will work with data from many sources, analyze a wide range of technologies and access cutting-edge computing resources. Your results are integrated to provide new capabilities to our organization. More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

- [Director's Summer Program \(DSP\)](#)

**Open to:** Undergraduate freshmen, sophomores, juniors and seniors

**Majors/fields:** Mathematics, computer science and physics

**When:** 12-week program from mid-May or June

Each summer, we invite about two dozen exceptional mathematics students to collaborate with each other and with NSA mathematicians on problems critical to the intelligence gathering and information assurance missions of the agency. You will work on a wide range of problems and apply abstract algebra, geometry, number theory, analysis, probability, statistics, combinatorics, graph theory, algorithms and computer science skills. You will use mathematical theory, apply what you learn to real-time solutions and enjoy success built on hard work and innovation. You will use state-of-the-art resources, as well as a variety of computational algebra and statistics packages. We are seeking participants who have distinguished themselves in undergraduate research or national mathematics competitions. Admission to this program is highly competitive. More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

- [Graduate Mathematics Summer Program \(GMP\)](#)

**Open to:** Graduate students

**Majors/fields:** Mathematics and statistics

**When:** 12-week program from mid-May or June

In this program, exceptional mathematics and statistics graduate students work directly with mathematicians and statisticians on mission-critical problems and experience the excitement of the NSA technical community firsthand. You will work on a wide range of problems involving mathematics, statistics, data science, cryptology, and communications technology and document your work in internally published technical papers. You will access state-of-the-art computing resources and software packages such as Python, R, Sage, Magma, MATLAB and others. More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

- [Summer Program for Operations Research Technology \(SPORT\)](#)

**Open to:** Graduate or doctoral students

**Majors/fields:** Applied mathematics, data science and big data analytics, statistics, operations research, modeling and simulation, industrial engineering, systems engineering, computer network engineering, computer science or management science.

**When:** 12-week program from mid-May or June

SPORT offers you the opportunity to apply your academic knowledge in the stimulating professional environment of one of the most advanced intelligence agencies in the world. You will spend the summer developing innovative solutions to unique problems. You will apply the technical skills you've learned in graduate school to challenging operational problems. You will lead the technical development of your project and communication with your agency customer, work with operations research analysts and attend weekly seminars on best methods and practices. At the end of your internship, you will present your findings directly to your project

customer, fellow interns and senior leadership. More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

- [Science of Security \(SOS\) Summer Intern Program](#)

**Open to:** Undergraduate freshman, sophomores, juniors, seniors and graduate students

**Majors/fields:** Computer science, cybersecurity, engineering, information technology, mathematics, psychology

**When:** 12-week program from mid-May or June

This paid internship allows you to gain hands-on experience working with researchers on innovative cybersecurity research and technology. The Research Directorate (RES) is home to a highly technical and talented workforce that performs cutting-edge research and creates breakthroughs in mathematics, computer science, engineering, cybersecurity, physics, neuroscience and linguistics that lead to creative solutions to our most challenging problems. The National Security Agency (NSA) Science of Security (SoS) & Privacy Lablets Summer Internship Program is for undergraduate and graduate students currently enrolled at U.S. universities and colleges. The program provides an opportunity for exceptional science, technology, engineering, and math (STEM) students to work directly with NSA SoS Champions on mission-critical hard problems and experience the excitement of the NSA research community first-hand. More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

- [Research Experience Student Program \(RESP\)](#)

**Open to:** Undergraduate and graduate students

**Majors/fields:** Cybersecurity, computer network operations, computer science, engineering, physics and information technology

**When:** 12-week program from mid-May or June

The National Security Agency (NSA) Laboratory for Telecommunication Science (LTS) Summer Internship Program offers paid research internship opportunities for undergraduate and graduate-level university students pursuing STEM degrees.

The 12-week program offers interns the opportunity to gain hands-on experience working with full-time NSA researchers on innovative cybersecurity research and technology. NSA/CSS Research Directorate (RES) is home to a highly technical and talented workforce that performs cutting-edge research and creates breakthroughs in cybersecurity, computer network operations (CNO), computer science, engineering, and physics that lead to creative solutions to NSA's most challenging problems. This internship offers introductory opportunities for collaboration with other Federal Laboratories and organizations. More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

## Opportunities at Cryptologic Centers

NSA/CSS has offices around the world and four cryptologic centers outside of the headquarters in Maryland within the United States. The four cryptologic centers are NSA/CSS Colorado, NSA/CSS Georgia, NSA/CSS Hawaii, and NSA/CSS Texas.

A highlight of current opportunities at the cryptologic centers includes:

- [NSA Colorado College Summer Intern Program](#)  
This program offers you the chance to gain hands-on work experience while building knowledge and skills in fundamental aspects of the NSA mission. We offer internships in multiple mission areas requiring a range of competencies like computer science, programming and engineering. There are two positions offered for the NSA Colorado Summer Internship:
  - [Software engineer internship positions duties](#): Analyze user/customer requirements related to software or software system design; build software prototypes; design, develop and debug software applications; and, troubleshoot and debug computer code.
  - [Target analyst internship positions duties](#): Conduct analysis of metadata; target analysis; and, target research.
- [NSA Hawaii Technical Summer Intern Program](#)  
In this program, we offer internships in multiple mission areas requiring a range of competencies like computer science, programming, engineering and analysis. You will gain hands-on work experience while building knowledge and skills in fundamental aspects of the NSA mission. Plus, this position is in Hawaii, so you will spend your summer in a tropical paradise unlike anything you can find stateside.
- [NSA Georgia Summer Internship Program](#)  
How would you like to spend your summer developing technological solutions that contribute to the security of our nation? Does the prospect of applying your skills to NSA/CSS mission spark your interest? You can join a team of highly skilled, motivated and passionate professions who lead the cryptologic enterprise. You will gain hands-on work experience while building knowledge and skills in fundamental aspects of the NSA mission. Take charge of your professional development and experience a once-in-a-lifetime internship opportunity.
- [Texas Summer Intern Program](#)  
You will gain hands-on work experience while building knowledge and skills in fundamental aspects of the NSA mission. We offer internships in multiple mission areas requiring a range of competencies like computer science, programming and engineering.

More information available at <https://www.intelligencecareers.gov/nsa/students-and-internships>.

## Visiting Professors/Sabbaticals

NSA Employees currently serve at a number of academic institutions across the United States, representing NSA and teaching Agency coursework in public, private, and military universities.

NSA Research has hosted professors in Sabbaticals. If interested please email [Research\\_Partnerships@nsa.gov](mailto:Research_Partnerships@nsa.gov).

## NSA Research Programs

- [Science of Security \(SoS\)](#)

The National Security Agency (NSA) sponsors the Science of Security (SoS) Initiative for the promotion of a foundational cybersecurity science that is needed to mature the cybersecurity discipline and to underpin advances in cyber defense. The program includes Grants for university research in SoS (Lablets and Sub-lablets); Best Scientific Cyber-security Paper Competition; HoTSOS (Hot Topics in Science of Security). More information available at <https://cps-vo.org/group/SoS/>.

- The **Hot Topics in the Science of Security (HotSoS)** Symposium is an annual research event centered on Science of Security, which aims to address the fundamental problems of security in a principled manner. More information available at <https://cps-vo.org/group/HotSoS>.

- [Mathematical Sciences Program \(MSP\)](#)

Established in 1987, NSA's Mathematical Sciences Program (MSP) offers grant funding for eligible faculty members to support mathematics in the United States. This mutually beneficial program helps the U.S. maintain a vigorous mathematics community. More information available at <https://www.nsa.gov/Research/Math-Sciences-Program/>.

## Other Opportunities

- [Codebreaker Challenge](#)

The NSA Codebreaker Challenge provides students with a hands-on opportunity to develop their reverse-engineering / low-level code analysis skills while working on a realistic problem set centered on the NSA's mission. While the challenge is intended for students, professors are encouraged to participate as well. Furthermore, the site was designed to make it easy for those 6 professors interested in incorporating the challenge into their courses to do so. More information available at <https://nsa-codebreaker.org/challenge>.

- [Hackathons](#)

Hackathons are innovative marathons, where students with an interest in technology can attend to learn, build, and share their computer programming projects. NSA engages with exceptional technical talent at numerous hackathons near our NSA facilities to includehackGT , Bitcamp, Technica, RowdyHacks, hackUMBC and TAMU hacks.



- [INSuRE \(Information Security Research and Education\)](#)

The INSuRE program is a collaboration between government agencies, national labs, FFRDCs, and CAE institutions to provide students with an opportunity to work on real-world applied research problems. INSuRE aims to improve the workforce readiness of participating students by building skills in applied cybersecurity research, teamwork, communication, problem solving, and project management.

INSuRE provides CAE institutions with a means to offer opportunities to their students on research methods working on real-world problems in a way that otherwise may not exist at their institutions. The central activity of the INSuRE program is a research course that is offered at each participating institution, linking student teams with Problem Mentors (PMs) from government agencies and laboratories to work on problems of national interest proposed by the PMs. More information available at <https://caecommunity.org/initiative/insure>.

- [International Collegiate Programming Contest \(ICPC\) North America Championship \(NAC\)](#)

ICPC is an algorithmic programming contest for college students. Teams of three, representing their university, work to solve real-world problems, fostering collaboration, creativity, innovation, and the ability to perform under pressure. Through training and competition, teams challenge each other to raise the bar on the possible.

The North America Championship (NAC) is a new competition designed to increase competitiveness and diversity throughout the U.S. and Canada. NSA was the Titanium sponsor for the inaugural ICPC NAC in 2020 and is the Titanium sponsor for the 2021 NAC; sponsorship included speakers, presentations, challenge problems and puzzles, as well as information booths. More information available at <https://nac.icpc.global/>.

- [NSA Cyber Defense Exercises \(NCX\)](#)

The NSA Cyber Exercise (NCX) is a year-round, education, training and exercise program that culminates in an annual three-day cyber competition that challenges students at the U.S. Service Academies, Senior Military Colleges, and other colleges in near full-spectrum cyber operations. This culminating cyberspace training exercise helps to develop and test cybersecurity skills, teamwork, planning, communication, critical thinking, and decision-making. NCX helps prepare the Nation's next generation of cyber leaders and warriors in defending the Nation from an ever-increasing number of cyber threats. More information available at <https://www.nsa.gov/Cybersecurity/NSA-Cyber-Exercise>.

- [NSA Publication: \*The Next Wave \(TNW\)\*](#)

*The Next Wave (TNW)* is a journal discussing the research and technological innovation taking place at NSA. By sharing our research in TNW, the Agency aims to strengthen our existing relationships with federal labs, academia, industry, and the public, as well as generate new partnerships. More information available at <https://www.nsa.gov/Research/The-Next-Wave/>.