

New special report highlights NSF-funded cybersecurity research and education

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Cutting-edge, NSF-supported social and technical research -- as well as education and workforce development programs -- is critical for protecting national and personal security. Credit: NSF

Cybersecurity is one of the defining issues of our time. Can we keep our networks, devices and critical systems open, safe and secure, while maintaining personal privacy? How do we develop tomorrow's cybersecurity solutions?

Fundamental research plays a key part. Cutting-edge, National Science Foundation (NSF)-supported social and technical cybersecurity research—as well as education and workforce development programs—are critical for protecting national and personal security.

In celebration of Cybersecurity Awareness Month, NSF launched a special report: [Cybersecurity: Tech, Tools and Training to Secure the Future](#).

NSF has supported [fundamental research](#) in computer security for more than 40 years. From cryptography and network security to spam prevention and phishing detection tools, NSF funds research that makes the Internet a place where billions of people work, communicate and conduct business.

Today, NSF invests nearly \$160 million each year in research, education and [workforce development](#) at labs, centers and universities across the U.S. This support helps scientists develop the tools, training and people that will keep the nation safe and maintain online privacy.

In the special report, we look back at seminal technologies like public-key encryption and software debuggers, created by NSF-funded researchers, that are the basis for today's cyber-protection.

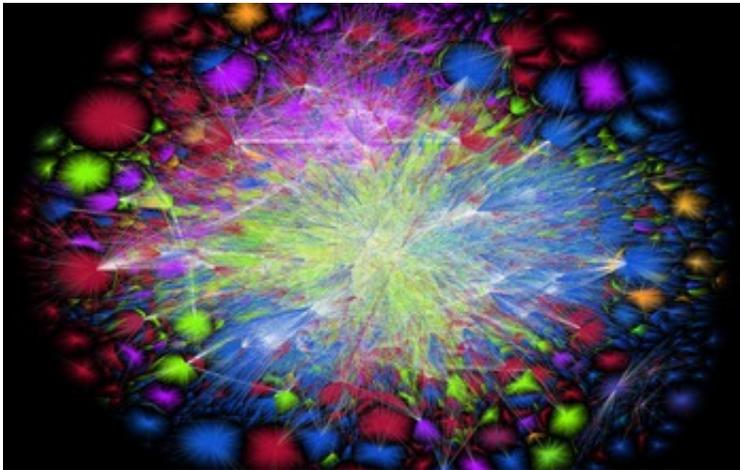
We also look forward to explore the future of encryption; new ways of securing medical devices and automobiles; and new types of experimental infrastructure required to create solutions that are unbreakable by design.



An infographic shows how NSF-supported research keeps you safe online.
Credit: Adrian Apodaca, NSF

It is increasingly clear that cybersecurity is not just a technical problem—people play a critical role. By studying the online behavior, social dynamics, and economics of individuals, hackers and adversaries, and by training cybersecurity experts capable of combating emerging threats, NSF supports the human side of cybersecurity.

The special report looks at innovative research into the behaviors of insider threats and how hackers communicate, as well as efforts such as CyberCorps: Scholarship for Service which trains thousands of [cybersecurity](#) experts each year.



A visualization of the routing paths of the Internet. NSF invests in research to enhance security practices and technologies, bolster education and training in cybersecurity, establish a science of cybersecurity and transition promising cybersecurity research into practice. Credit: Barrett Lyon/The Opte Project

Provided by National Science Foundation

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