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**NC State University** was one of the first 23 National Centers of Academic Excellence in Cybersecurity Research (CAE-R), holding its designation since 2008. The university is located in Raleigh, NC and is part of the "Research Triangle," which is home to three large research universities and many technology companies including IBM, Cisco, NetApp, and RedHat. NC State's cybersecurity research expertise is based in the Department of Computer Science and its Wolfpack Security and Privacy Research (WSPR) Laboratory but extends to other departments including Electrical and Computer Engineering, Psychology, and Mathematics. NC State is the home of an NSA Science of Security Lablet, as well as the NSA Laboratory for Analytic Sciences (LAS).

Cybersecurity research at NC State spans many CAE focus areas, including principles, security mechanisms, architecture, assurance, and analysis. Its research

contributions range from theoretical to practical, from client-side to server-side, and the network in between. NC State has made strong contributions to the security and privacy of Android and iOS smartphones, building analysis tools to discover vulnerabilities and privacy flaws in both the platforms and their applications. It tackles hard problems in web browser security, developing novel analysis frameworks to help identify underlying principles that can lead to stronger protections for users. NC State has proposed novel security architectures for cloud platforms, providing security guarantees and functionality via hypervisors. Its research on software security has identified new metrics for predicting security vulnerabilities. Finally, research in cryptography has shown how advanced cryptographic protocols can enhance privacy of blockchain-based systems and explored new techniques to prove post-quantum security of existing cryptographic primitives.

## DESIGNATIONS

- CAE – Cyber Defense Research

## CONTACT INFORMATION

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