Cyber Security

UNT is recognized by the National Security Agency and the Department of Homeland Security as having one of the nation's leading university-based programs in cyber security. Information and computer security, trust and information assurance, systems architecture, Internet protocols, data mining, and cybercrime are interlocking areas within the cyber security field that demand advanced expertise, resilient approaches, and diverse, cutting edge technologies in order to identify and address a range of changing information sources and security vulnerabilities. UNT brings this advantage with an interdisciplinary infrastructure that taps the knowledge and research of faculty across the departments of Computer Science and Engineering, Information Technology and Decision Sciences, Library and Information Sciences, and Electrical Engineering. Conferences, workshops, seminars, and other professional networking events bridge university research with commercial applications for real-world solutions. UNT is expanding its security related research program and aims to increase the number of graduates and train new experts to address next generation challenges.

- **The UNT-based Center for Information and Computer Security is ranked as a National Center of Academic Excellence in Information Assurance Education (CAE-IAE) and National Center for Academic Excellence in Information Assurance Research (CAE-R); UNT is one of approximately 35 universities in the nation to have received both designations**

- **Areas of research expertise include Internet-based technologies, trust and information assurance, protocol security, digital forensics, watermarking, cryptography, secured electronic commerce, and secured mobile applications and VoIP security**

- **UNT is one of four universities in Texas designated as CAE-IAE and CAE-R by the National Security Agency (NSA) and the Department of Homeland Security**

- **UNT is one of only 12 universities in the nation to receive the label of "Committee on National Security Systems 4013 National Standard"—the national training standard for information systems security professionals and system administrators**

Representative Faculty

Ram Dantu, Director of the Center for Information and Computer Security; and Professor of Computer Science and Engineering: *network security; and Internet protocols*

Saraju P. Mohanty, Associate Professor of Computer Science and Engineering: *nanoscale mixed-signal circuits; and VLSI architectures for multimedia signal processing*

Kamesh Namuduri, Associate Professor of Electrical Engineering: *image/video processing; information assurance; and wireless sensor networks*

Song Fu, Assistant Professor of Computer Science and Engineering: *cloud computing and distributed and parallel systems, including architecture and security*

Mahadevan Gomathisankaran, Assistant Professor of Computer Science and Engineering: *secure systems architecture; and cryptography*

Dan J. Kim, Associate Professor of Information Technology and Decision Sciences: *trust and information assurance; information security; and social informatics*

John Windsor, Farrington Professor of Information Technology and Decision Sciences: *electronic commerce; knowledge management; and information system and software quality*

Yu "Andy" Wu, Assistant Professor of Information Technology and Decision Sciences: *information security; social networks; and information systems*

Select Research Resources

CICS: Center for Information and Computer Security
www.cics.unt.edu

CICS is an interdisciplinary center that brings together individuals and organizations in the areas of information security, computer security, information assurance, and cybercrime. Recognized by the National Security Agency and Department of Homeland Security as a "Center of Academic Excellence in Information Assurance Education and Research," its mission is to provide, coordinate, and promote educational, research, and service expertise in information and computer security, with an emphasis on cross-disciplinary initiatives in the North Texas area.

NSL: Network Security Laboratory
nsl.cse.unt.edu/index.php?section=1

NSL pursues research, training activities, and workshops for students and faculty with the fundamental objective to study the problems related to next generation networks, from multimedia wireless devices and roaming issues to networked readers and scanners.

Trusted Secured Systems Laboratory
tssl.cse.unt.edu

Lab researchers aim to design and develop computer systems architecture that provides isolated execution environment; verification mechanisms for varied trust models; trust guarantee independent of the system software; and minimal or no impact on performance. Research projects include virtualization based secure architecture testing and implementation framework, and energy efficient memory integrity verification mechanisms.

TXCDK: Texas Center for Digital Knowledge
txcdk.unt.edu

TXCDK is a research, development, and consulting service enterprise that brings together researchers from multiple disciplines to enhance the relationships between individual knowledge workers and the technology-based environments in which they work to advance today's global knowledge economy.

ISRC: Information Systems Research Center
www.unt.edu/cdit

The ISRC acts as a catalyst within the North Texas business community and beyond, facilitating research, educational seminars, problem specific projects, group meetings, and shared information through its network. The center utilizes the expertise of its member organizations and UNT faculty and students in the areas of information technology, quality, business continuity and security, continuous improvement, and decision-making techniques.

Net-Centric Software and Systems Center
netcentric.cse.unt.edu

Net-Centric is an NSF Industry/University Cooperative Research Center (IUCRC) built as a model of collaborative research and development among industry, academe, and government partners. Participating members access world class expertise and cutting edge technology in net-centric systems.

Emergency Operations Center
www.unt.edu/features/emergencylab

UNT's state-of-the-art center serves as a nexus for all disaster communications. It provides faculty and students with an opportunity to apply various technologies in simulation and real emergency settings to understand how individuals and organizations interact during a crisis and to better manage low level and catastrophic disasters.