

Tenure-track Position in Cyber-physical System Security in the National Capital Region:

The Bradley Department of Electrical and Computer Engineering at Virginia Tech seeks applications for a tenure-track assistant professor position in computer engineering, specifically in the area of cyber-physical system security (CPSS) with emphasis in embedded networking and computing. This position is based in Virginia Tech's National Capital Region campus, located in the vibrant Washington, DC metropolitan area. Applicants should have expertise in one or more of the following areas: security for embedded systems and networks; formal models for robust software and hardware development; compile- and run-time software instrumentation and analysis; and/or hardware-enabled secure system design. A key application domain of interest is connected and autonomous platforms, such as intelligent transportation systems and unmanned vehicles. Other critical infrastructure application areas such as industrial control systems, energy networks, or manufacturing systems are also of interest.

A goal of this position is to collaborate with existing strengths across the university to respond to the challenges and opportunities presented by cyberphysical/Internet of Things security threats facing federal, state, and local governments, industry, and the community at large. The successful candidate will be expected to develop a vigorous research program in his or her areas of expertise and to work with existing Virginia Tech ECE faculty both in the NCR and on the main campus in Blacksburg, with expertise covering embedded systems and software, hardware security, reconfigurable computing and security, network security, communication security, design automation, formal methods, autonomous systems, power and energy, and system implementations. Beyond the ECE department, the university has world-class research activities in robotics, transportation and civil infrastructure, advanced manufacturing, data analytics, and policy.

The successful candidate will be expected to develop and maintain a nationally-recognized funded research program, teach undergraduate and graduate courses, and participate in department, college, and/or university service and outreach activities.

Additionally, it is anticipated that the successful candidate will work as part of the Hume Center for National Security and Technology at Virginia Tech (www.hume.vt.edu), which is active in cybersecurity research supporting federal defense and intelligence, as well as industrial, sponsors. Additionally, the Hume Center is a leading element of the university's initiative to grow research in cyber-physical system security and operates laboratory facilities in Arlington, VA tailored to this mission. For more information on cybersecurity education and research at Virginia Tech, see www.cyber.vt.edu

More broadly, the successful candidate should contribute to Virginia Tech's growing strength and leadership in cybersecurity research, education, and outreach in the National Capital Region, in collaboration with the Office of the Vice President for the NCR.

Required Qualifications

- An earned Ph.D. in Computer Science, Computer Engineering, Electrical Engineering, or a related field, completed prior to employment
- Demonstrated excellence in research, scholarship, and teaching in cybersecurity, or evidence of high potential for such excellence
- Ability to articulate a coherent agenda of research or scholarship and to identify potential funding sources to support such research
- Effective communication skills

- Willingness and ability to work in a technology-based research and education environment, such as is characterized by use of learning technologies, distance learning, online courses, video-conferencing, and network and grid-based collaborative research

Preferred Qualifications

- Prior experience in the role of PI or Co-PI on funded research projects
- Ability and willingness to work collaboratively with faculty from a variety of disciplines
- Experience in working with students as academic or career advisor, overseeing student internships or service-learning activities
- Interest or experience in mentoring students, both undergraduate or graduate, in research
- Interest or experience working effectively with a diverse student population
- Eligible for, and able to obtain and maintain, a security clearance at the TS/SCI level as required to perform potential duties

About the ECE Department

The Bradley Department of Electrical and Computer Engineering offers B.S., M.S., and Ph.D. degree programs in both Electrical Engineering and Computer Engineering with a current enrollment of approximately 1,100 undergraduate and 550 graduate students at the Blacksburg, VA campus. A graduate program and research activities are also located in the National Capital Region with full-time ECE faculty who interact closely with the programs in Blacksburg. An additional 90 graduate students are enrolled in off-campus full-time and part-time degree programs.

The Department has 70 full-time tenured or tenure-track faculty members. The department has some of the nation's best programs in the areas of power electronics, wireless communications, computer networking, digital design, electromagnetics, space science and remote sensing, fiber optics, sensors, and photonics. The Department is the beneficiary of the Bradley Endowment valued in excess of \$15 million. For additional information about the department and the College of Engineering, please visit www.ece.vt.edu and www.eng.vt.edu.

About the Hume Center

The Hume Center leads Virginia Tech's research, education, and outreach programs focused on the communication and computation challenges of the national security community. Education programs provide mentorship, internships, scholarships, and seek to address key challenges in qualified US citizens entering federal service. Advanced research programs sit at the intersection of digital signal processing, embedded systems and networks, machine intelligence, and autonomous platforms. Application areas include signals intelligence, electronic and cyber warfare, and critical infrastructure security.

About the National Capital Region

The Virginia Tech National Capital Region (NCR) campus, located in the greater Washington, DC area, is the university's urban platform for the next generation land-grant university. The NCR is the home to numerous Federal funding agencies and research organizations, as well as the one of the greatest concentrations of high technology companies in the world. Virginia Tech offers a wide range of graduate

programs, workshops, and customized educational programs in the NCR, and via distance learning technologies. The ECE Department has established faculty, research activities, and a full-time graduate program in the NCR, with facilities in the Virginia Tech Research Center in Arlington--within walking distance of the NSF, ONR, AFOSR, DARPA, and other agencies--and in the Northern Virginia Center (NVC) in nearby Falls Church. The primary ECE research focus areas in the NCR include bioinformatics, cybersecurity, energy systems, information and communications technologies, networking, and national security. There are close ties between the NCR and Blacksburg faculty in both research and education.

About the University

Through a combination of its three missions of discovery, learning, and engagement, Virginia Tech continually strives to accomplish the charge of its motto *Ut Prosim* (That I May Serve). Virginia Tech is the Commonwealth's senior land-grant institution located in Blacksburg in the scenic mountains of southwestern Virginia, about 40 miles west of Roanoke. Highly selective in admissions, the University enrolls approximately 25,000 undergraduate and 6,500 graduate students, and more than 2,600 faculty members and researchers. The university offers 77 bachelor's degree programs through its seven undergraduate academic colleges: Agriculture and Life Sciences, Architecture and Urban Studies, Engineering, Liberal Arts and Human Services, Natural Resources, Pamplin College of Business, and Science. On the graduate level, the university offers 76 master's and 62 doctoral degree programs through the Graduate School and a professional degree from the Virginia-Maryland Regional College of Veterinary Medicine. The university also has a public-partnership in the form of a medical school and research institute, the Virginia Tech Carilion School of Medicine and Research Institute. For more information about the university and the Town of Blacksburg, please visit www.vt.edu and www.blacksburg.va.us, respectively.

The Application Process

Qualified applicants must submit a letter of application, a curriculum vita, and a list of at least three references electronically to jobs.vt.edu. Apply to posting number TR0150092. Please follow carefully the instructions found on the employment website regarding the application submission process. Unfortunately, we are unable to accept paper applications. Paper applications or electronic applications sent via e-mail cannot be considered. Review of applications will begin October 15, 2015 and will continue until the position is filled with an appropriate candidate. The anticipated start date is January 2016.

Applications from women and other underrepresented populations in engineering are especially encouraged. Virginia Tech has a program designed to support the retention and advancement of female faculty; see www.advance.vt.edu. Individuals with disabilities desiring accommodation in the application process should notify K. Atkins, ECE Dept, (540) 231-4136 or TDD/PC 1-800-828-1120 or Voice 1-800-828-1140.

Virginia Tech is an Affirmative Action/Equal Opportunity Employer.