UTSA Computer Science

CS Guest Speaker

Fred Schneider
Cornell University

Friday, March 29, 2019
NPB 3.108A—CS Conference Room
10:30am - 11:30am

CS Lunch w/ Dr. Schneider 12:30pm -2:00PM

Title: Security from Tags

Abstract: Reference monitors typically enforce security policies by intercepting operation invocations -- the policy to be enforced is decomposed into operation-specific checks. This lecture discusses a data-centric alternative. Here, labels are attached to data, and each label gives a policy that describes how the associated value may be used. A new class of reactive information flow (RIF) labels is needed to fully support this view. We discuss the design of these RIF labels, give examples of their use, describe a suitable information flow policy, and describe a static enforcement scheme. Joint work with Elisavet Kozyri.

Short Bio: Fred B. Schneider is a Samuel B. Eckert Professor of Computer Science at Cornell University. He joined Cornell's faculty in Fall 1978 and served as department chair from 2014 through 2018, having completed a Ph.D. at Stony Brook University and a B.S. in Engineering at Cornell in 1975. Schneider's research has focused on various aspects of trustworthy systems --- systems that will perform as expected, despite failures and attacks. He is a fellow of ACM, AAAS, and IEEE, and is a member of the US National Academy of Engineering, the American Academy of Arts and Science, and a foreign member of the Norwegian Academy of Technological Sciences. Schneider was awarded a Doctor of Science honoris causa by the University of Newcastle-upon-Tyne in 2003 for his work in computer dependability and security. He received the 2012 IEEE Emanuel R. Piore Award for "contributions to trustworthy computing through novel approaches to security, fault-tolerance and formal methods for concurrent and distributed systems". He is co-recipient of 2017 Jean-Claude Laprie Award for the invention of on fail-stop processors, and co-recipient of the 2018 Edsger W Dijstra Prize in Distributed Computing for his work on safety and liveness properties.