UCF Faculty Cluster Initiative and Dept. of Computer Science

Spring 2018 Seminar Series

Security and Enforcement in Dynamic Spectrum Sharing

January 29th 2018

Time 2:00pm-3:00pm – HEC 356

Fueled by user demands, emerging applications, and advanced technologies, the use of radio spectrum has intensified and expanded enormously in the last two decades. As the demand for spectrum continues to skyrocket, it will become increasingly difficult, if not impossible, to meet that demand through the legacy spectrum policy based on the assignment of siloed, exclusive -use spectrum bands to particular applications. Consequently, both incumbent users (IUs), who want to maintain access to their spectrum, and secondary entrant users (SUs), who seek access to more spectrum, will, by necessity, need to share the spectrum by embracing efficient, flexible, and agile spectrum sharing technologies. When different stakeholders share a common resource, such as the case in spectrum sharing, security and enforcement become critical considerations that affect the welfare of all stakeholders. Recent advances in spectrum access technologies have made spectrum sharing a viable option for significantly improving spectrum utilization efficiency. However, those technologies have also contributed to exacerbating the difficult problems of security and enforcement. In this presentation, I will review some of the critical enforcement issues and security threats that impact spectrum sharing, with a particular focus on challenges related to ex post enforcement.

Dr. Jerry Park

Professor, Dept. of Electrical and Computer Engineering at Virginia Tech

Dr. Park received his Ph.D. degree in Electrical and Computer Engineering from Purdue University in 2003. He is currently a Professor in the Department of Electrical and Computer Engineering at Virginia Tech and the Site Director of an NSF Industry-University Cooperative Research Center (I-UCRC) called Broadband Wireless Access & Applications Center (BWAC). Park is also an Executive Committee Member of the National Spectrum Consortium (NSC). NSC is a large consortium of wireless industry stakeholders and universities collaborating with multiple US federal government agencies through a $1.25 billion agreement to support the development of advanced spectrum access technologies. Park's research interests include wireless security and privacy, applied cryptography, dynamic spectrum sharing, cognitive radio networks, and IoT applications. Park has been very active in externally funded research. Since beginning his career at Virginia Tech, he has been the PI or co-PI of 28 grants/contracts totaling $14.3 million (with a personal share of $5.3 million). Current or recent research sponsors include the NSF, NIH, DARPA, ARO, ONR, and several industry sponsors. Park is a recipient of a 2017 Virginia Tech College of Engineering Dean's Award for Research Excellence, a 2014 Virginia Tech College of Engineering Faculty Fellow Award, a 2008 NSF Faculty Early Career Development (CAREER) Award, a 2008 Hoeber Excellence in Research Award, and a 1998 AT&T Leadership Award. He is currently serving on the editorial boards of the IEEE Trans. on Wireless Communications, IEEE Trans. on Mobile Computing, and IEEE/KICS Journal of Communications and Networks. He is also actively involved in the organization of a number of flagship conferences. Park is currently the Steering Committee Co-Chair of the IEEE Symposium on Dynamic Spectrum Access Networks (DySPAN). Park is an IEEE Fellow for his contributions to dynamic spectrum sharing, cognitive radio networks, and security issues.

Hosted by: ***Dr. Gary Leavens***

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4328 Scorpius Street Orlando, FL 32816

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