

Telecommunications Seminar Series & IEEE Communications Society present: "Standards and Trends for future RF Spectrum Sharing Environments"



Thursday, November 12 | 7 pm

Meet & Greet at 6:30 pm

IS Building, Room 403

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ABSTRACT: Wireless communication services and associated applications rely on the use of radio frequency (RF) spectrum resources for their operation. Due to the growth in the use of these services, spectrum management agencies and wireless service providers are determining ways to establish flexible spectrum assignment mechanisms as a means to respond in the near future to the demand for spectrum resources. Many of these mechanisms focus on moving away from rigid spectrum management policies and embracing dynamic spectrum access and spectrum sharing.

RF spectrum sharing environments will require an effective means of communicating the characteristics and limits of spectrum use of an RF transmitter, receiver, system or collection of systems in order to handle interference and dynamic spectrum assignments. Spectrum consumption models (SCMs) attempt to capture spectral, spatial, and temporal characteristics, and boundaries of the consumption of spectrum by any specific transmitter or receiver device or RF system. The information contained in the models enables better RF spectrum management practices and allows for the identification of spectrum reuse opportunities.

This talk presents and discusses current standardization and research efforts to develop policy description languages and spectrum consumption models (SCM) that can be used to support and enhance the provision of services in future wireless communication environments. It highlights the work of several IEEE 1900.X standardization groups and discusses its impact on the implementation of Spectrum Access Systems (SAS) and regulatory policy for wireless services.

BIO: [Carlos E. Caicedo Bastidas](#) is an associate professor at the School of Information Studies at Syracuse University and director of the Center for Convergence and Emerging Network Technologies (CCENT). He has a PhD in Information Science from the University of Pittsburgh and holds MSc degrees in Electrical Engineering from the University of Texas at Austin and from the Universidad de los Andes, Colombia. He has been a visiting professor at the University of Arizona, a teaching fellow at the University of Pittsburgh, as well as an instructor professor at the Universidad de los Andes in Colombia.

Caicedo is a member of ACM and IEEE (Communications, Computer and Education societies). He is also a member of the IEEE Standards Association and of the IEEE Dynamic Spectrum Access and Networks Standardization Committee's (DySPAN-SC) 1900.5 working group on Policy Language and Policy Architectures for Managing Cognitive Radio for Dynamic Spectrum Access Applications. His research interests are in the areas of dynamic spectrum access, new wireless markets and technologies, information security, and agent-based modeling.