

**“Game Theory for Smart, Secure, and Self-Organizing Networked Systems”**

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10555 West Flagler Street  
Miami, FL 33174

**Abstract:**

Next-generation networked systems are characterized by three key features: heterogeneity, in terms of technology and services, dynamics, in terms of rapidly varying environments and uncertainty, and size, in terms of number of users, nodes, and services. The need for smart and secure network designs has become a central research issue in a variety of applications and scenarios, such as in wireless communication systems. In this respect, game theory is expected to play a critical role toward deploying intelligent, distributed, and flexible networked systems. In this talk, we provide an introduction to game theory as it applies to the design of future networks. We introduce various classes of games and for each type we discuss the fundamental components as well as the potential applications in emerging areas such as wireless small cell networks, heterogeneous networks, adversarial networks, or smart grids.

**Biography:**

Walid Saad received his B.E. degree in Computer and Communications Engineering from the Lebanese University in 2004, his M.E. in Computer and Communications Engineering from the American University of Beirut (AUB) in 2007, and his Ph.D degree from the University of Oslo in 2010. Currently, he is an Assistant Professor at the Electrical and Computer Engineering Department at the University of Miami. Prior to joining UM, he has held several research positions at institutions such as Princeton University and the University of Illinois at Urbana-Champaign. His research interests include wireless and small cell networks, game theory, network science, cognitive radio, wireless security, and smart grids. He has co-authored one book and over 65 international conference and journal publications in these areas. He was the author/co-author of the papers that received the Best Paper Award at the 7th International Symposium on Modeling and Optimization in Mobile, Ad Hoc and Wireless Networks (WiOpt), in June 2009, at the 5th International Conference on Internet Monitoring and Protection (ICIMP) in May 2010, and at IEEE WCNC in 2012. Dr. Saad is a recipient of the NSF CAREER Award in 2013.

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