Holcombe Department of Electrical and Computer Engineering
Seminar Series

Current Topics in Military Wireless Communications Research

Dr. Thomas C. Royster, IV
MIT Lincoln Laboratories

Abstract

The design of military wireless networks offers additional challenges beyond those of standard wireless networks. For example, it is crucial that links, protocols, and algorithms be reliable in interference and unpredictable environments. Lincoln Laboratory has multiple roles in the development of many military communications systems. One role is to design and build prototypes of proposed systems to mature new technology and provide reference hardware implementations. Another role is to develop new concepts through research.

This talk covers a sample of the communications research areas of current interest at Lincoln Laboratory. We begin by considering the relationship between satellite modem architecture and link performance, which impacts the design of future systems. Then, the importance of dynamic resource allocation in satellite communications systems is discussed. Finally, we discuss some topics of current interest in airborne ad hoc networking.

Biography of Speaker

Thomas C. Royster IV received the B.S. degree (summa cum laude) in 2002 from Louisiana State University, Baton Rouge, LA, and the M.S. and Ph.D. degrees in 2004 and 2008 from Clemson University, Clemson, SC, all in electrical engineering. His research interests include spread-spectrum communications, satellite communications, adaptive protocols for packet radio networks, and applications of error-control coding.

Dr. Royster is currently a member of the technical staff in the Advanced Satcom Systems and Operations group at MIT Lincoln Laboratory. He is a member of the IEEE, Tau Beta Pi, Eta Kappa Nu, and Golden Key.