



ESE Seminar Announcement

Mark W. Spong

**Lars Magnus Ericsson Chair and Dean
Erik Jonsson School of
Engineering and Computer Science
The University of Texas at Dallas**



**Thursday, May 7, 2015
Green Hall, Room 0120
1:10PM**

CONTROL AND APPLICATIONS OF NETWORKED ROBOTS

Abstract: In this talk we will discuss issues of control in networks of autonomous and semi-autonomous robots. Some theoretical issues will be discussed and some applications presented. Control of networked robots typically involves graph theoretic methods combined with nonlinear control for applications such as formation control, rendezvous, or synchronization. In addition to these applications, we will discuss cooperative manipulation, which require not only motion control but also control of interaction forces. We will also results on control that guarantees network connectivity and obstacle avoidance.

Bio: Mark W. Spong received the MS and PhD degrees in systems science and mathematics from Washington University in St. Louis. Since 2008 he has been Dean of the Erik Jonsson School of Engineering and Computer Science and holder of both the Lars Magnus Ericsson Chair and the Excellence in Education Chair in the Department of Electrical Engineering at the University of Texas at Dallas. Prior to joining UT Dallas, he held faculty positions at Lehigh University, Cornell University, and the University of Illinois at Urbana-Champaign. Dr. Spong is Past President of the IEEE Control Systems Society, a Fellow of both the IFAC and the IEEE and has served as Editor-in-Chief of the IEEE Transactions on Control System Technology. He was Vice President for Publication Activities and a member of the Board of Governors of the IEEE Control Systems Society.

His main research interests are in robotics, mechatronics, and nonlinear control theory. He has authored or coauthored over 300 technical articles in control and robotics, four books, and holds one patent. His recent awards include the 2011 Pioneer Award from the IEEE Robotics and Automation Society, the 2007 IROS Fumio Harashima Award for Innovative Technologies, the IEEE Transactions on Control Systems Technology Outstanding Paper Award, the Automatica Best Paper Award, the Senior Scientist Research Award from the Alexander von Humboldt Foundation, the Distinguished Member Award from the IEEE Control Systems Society, the IEEE Third Millennium Medal, and the John R. Ragazzini Award from the American Automatic Control Council. In addition, he has twice received the O. Hugo Schuck Award from the American Automatic Control Council for work on hybrid control and control of bipedal locomotion.

Host: Dr. Joseph O'Sullivan