Mechanical & Aerospace Engineering

seminar

Control of Multi-Robot Systems: From Formation to Human-Swarm Interactions

January 29, 2016 at 1:30pm in SCOB 228

abstract

The area of multi-agent robotics has undergone a significant transformation during the last decade due to a confluence of new application domains, low-cost platforms, and novel control and coordination protocols. As a result, we now have a better understanding of how large teams of robots should be structured in order to solve increasingly complex tasks. In this talk, we will discuss some of these recent developments and we will show how one can go from high-level specifications and instructions for the team as a whole, to local interaction rules for the individual robots that achieve and maintain formations, cover areas, and make the robots move together in response to high-level, human instructions.

Magnus Egerstedt

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biosketch

Magnus Egerstedt is the Schlumberger Professor in the School of Electrical and Computer Engineering at the Georgia Institute of Technology, where he serves as Associate Chair for Research. He received the M.S. degree in Engineering Physics and the Ph.D. degree in Applied Mathematics from the Royal Institute of Technology, Stockholm, Sweden, the B.A. degree in Philosophy from Stockholm University, and was a Postdoctoral Scholar at Harvard University. Dr. Egerstedt is the director of the Georgia Robotics and Intelligent Systems Laboratory (GRITS Lab), where he conducts research in the areas of control theory and robotics, with particular focus on control and coordination of complex networks, such as multi-robot systems, mobile sensor networks, and cyber-physical systems. Magnus Egerstedt is a Fellow of the IEEE and a recipient of a number of research and teaching awards, including the Ragazzini Controls Education Award from the American Automatic Control Council.

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