



Operations Research Seminar

Throughput Optimization in Mobile Backbone Networks

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15:00-16:00 in GL-115

Refreshment 14:45-15:00 in GL-239

The *mobile backbone network* architecture is a hierarchical communication framework in which some nodes are dedicated to providing communication support for other nodes. Originally proposed as a solution to scalability issues facing single-layer wireless networks, this framework also effectively models systems of interest in military and humanitarian applications. This seminar will describe the mobile backbone network architecture, formulate a mobile backbone network optimization problem, describe exact and approximate solution techniques for this problem, and discuss extensions to the model and problem formulation.

Emily Craparo received her S.B, S.M. and Ph.D. from the Massachusetts Institute of Technology. Her doctoral thesis, "Cooperative Exploration under Communication Constraints," incorporates optimization techniques into decision and control algorithms for teams of robotic agents and makes contributions in the area of wireless communication network design.