Generating Swarm Behaviours in Multi Robot Systems

Conan Veitch [1]

Recent technological advancements and applications in the field of robotics have allowed researchers to explore novel ways of designing optimal control strategies for multi-robot systems.

In this respect, the concept of ergodicity has successfully been applied as an effective control technique for area coverage in autonomous robots. We can apply ergodicity-based control strategies to emulate swarm behaviours in a multi robot system; behaviours such as dispersion, aggregation, collective movement, and pattern formation.

In this talk, I will give an overview of how ergodicity-driven control in multi agent systems is achieved and as well as a demonstration of emulated swarm behaviours in action.

[1]Department of Computer Science, University of Northern British Columbia, Prince George, B.C., V2N4Z9, Canada (conan.veitch@unbc.ca).