

Title: Morphogenetic Self-organization of Swarm Robots

Abstract: This talk introduces a morphogenetic approach to the self-organizing swarm robots using genetic and cellular mechanisms governing the biological morphogenesis. We demonstrate that the morphogenetic algorithms are able to autonomously generate patterns and surround moving targets without centralized control. Finally, morphogen based methods for self-organization of simplistic robots that do not have localization and orientation capabilities are presented.

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