

Swarm Intelligence Course—INFO-H-414

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Today's Menu: Bugs

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14h-16h Coackroach Aggregation

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16h-18h Firefly Synchronization

Aggregation: Idea

AIM: Forming a unique aggregate of robots.

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HOW?

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HOW? (**propose something!**)

Aggregation: Basics

METHOD: obstacle avoidance + stop with a certain probability

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The more nearby robots are stopped, the higher is P_{stop} (*positive feedback*)

Once in an aggregate, robots can go back to obstacle avoidance with a probability P_{walk} (*negative feedback*)

The more nearby robots are stopped, the lower is P_{walk}

Aggregation: In Practice

To count the nearby robots in stopped state, use the *range and bearing communication system*

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Experiment with S , W , α and β

Aggregation: First Modification

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HOW do we build an aggregate in the dark spot?

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Experiment with D_S , D_W

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Simple: we don't need to change anything!