

Welcome to the Novel Engineering for Swarm Technologies Lab!

We conduct research on [swarm robotics](#), including **coordination algorithms**, **software engineering**, and **human-swarm interaction**.

Recent News

WPI Team Capricorn qualifies for NASA Space Robotics Challenge (January 15, 2021)

[WPI's Team Capricorn passes the qualification round](#) in the [NASA Space Robotics Challenge](#), advancing to the final competition round with 21 other teams out of 114 registered teams.

Dr. Glenn Yee Graduate Student Tuition Award (August 5, 2020)

Nathalie Majcherczyk was the recipient of a [Dr. Glenn Yee Graduate Student Tuition Award](#).

Amazon Research Award (June 17, 2020)

Carlo Pinciroli was the recipient of an [Amazon Research Award](#) for the project *An Immersive Interface for Multi-User Supervision of Multi-Robot Operations*.

NSF Grant (March 23, 2020)

Profs. Jing Xiao, Marko Popovic, Jie Fu, and Carlo Pinciroli are lead and co-PIs on a new [NSF award](#) "[Phase II I/UCRC WPI: Center for Robots and Sensors for the Human Well-Being](#)".

Recent Publications

Distributed Data Storage and Fusion for Collective Perception in Resource-Limited Mobile Robot Swarms

Nathalie Majcherczyk, Daniel Jeswin Nallathambi, Tim Antonelli, Carlo Pinciroli. IEEE RA-L (in press).

Flow-FL: Data-Driven Federated Learning for Spatio-Temporal Predictions in Multi-Robot Systems

Nathalie Majcherczyk, Nishan Srishankar, Carlo Pinciroli. [ICRA 2021](#).

SMAC: Symbiotic Multi-Agent Construction

Caleb Wagner, Neel Dhanaraj, Trevor Rizzo, Josue Contreras, Hannan Liang, Gregory Lewin, Carlo Pinciroli. [IEEE RAL-ICRA2021](#).

Designing Self-Organization in the Physical Realm

Heiko Hamann, Melanie Schranz, Wilfried Elmenreich, Vito Trianni, Carlo Pinciroli, Nicolas Bredeche and Eliseo Ferrante (eds.). *Frontiers in Robotics and AI: Multi-Robot Systems*. Research Topic [Designing Self-Organization in the Physical Realm](#).

Improving Human Performance Using Mixed Granularity of Control in Multi-Human Multi-Robot Interaction

Jayam Patel, Carlo Pinciroli. [Ro-Man 2020](#).

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