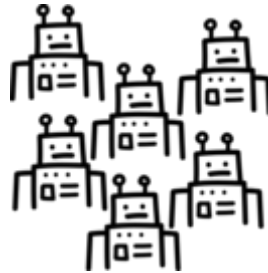


Welcome to NEST lab!

Novel Engineering for Swarm Technologies



What is NEST Lab?

Robot swarms are complex and weird machines. A robot swarm is a distributed system, with a constantly changing communication topology, populated by a large number of individuals that act in the physical space. Robot swarms must react intelligently to environmental stimuli and interact with humans in a friendly manner. At NEST, we study how to best express swarm algorithms, how to make swarms aware of their internal state and the environment, and how to prevent the robocalypse.



Latest News

- **Sep 19, 2018** » The paper *Decentralized Progressive Shape Formation with Robot Swarms* by Guannan Li, David St-Onge, Carlo Pinciroli, Andrea Gasparri, Emanuele Garone, and Giovanni Beltrame was accepted at the [Autonomous Robots journal](#).
- **Sep 3, 2018** » The paper *A Gamification Concept for Teaching Swarm Robotics* by Heiko Hamann, Carlo Pinciroli, and Sebastian von Mammen was accepted at the [12th European Workshop on Microelectronics Education \(EWME 2018\)](#).
- **Aug 30, 2018** » Nathalie Majcherczyk received a *IROS Student and Developing Countries (SDC) Travel Award* to attend IROS 2018 in Madrid and present her paper.
- **Jul 24, 2018** » The paper *Decentralized Connectivity-Preserving Deployment of Large-Scale Robot Swarms* by Nathalie Majcherczyk, Adhavan Jayabalan, Giovanni Beltrame, and Carlo Pinciroli was accepted at [IROS 2018](#).
- **Jul 24, 2018** » The paper *Circle Formation with Computation-Free Robots Shows Emergent Behavioral Structure* by David St-Onge, Carlo Pinciroli, and Giovanni Beltrame was accepted at [IROS 2018](#).
- **Jun 14, 2018** » The paper *Simulating Kilobots within ARGoS: Models and Experimental Validation* by Carlo Pinciroli, Mohamed Salaheddine Talamali, Andreagiovanni Reina, James A. R. Marshall, and Vito Trianni was accepted at the [11th International Conference on Swarm Intelligence \(ANTS 2018\)](#).

- **Jun 14, 2018** » The paper *Simulating Multi-Robot Construction in ARGoS* by Michael Allwright, Carlo Pinciroli, Navneet Bhalla, and Marco Dorigo was accepted at the [11th International Conference on Swarm Intelligence \(ANTS 2018\)](#).
- **Apr 16, 2018** » Nathalie Majcherczyk received an *Inclusion@RSS* travel grant to attend RSS 2018 in Pittsburgh and present a poster about her work.
- **Mar 27, 2018** » Nathalie Majcherczyk received an *WPI Graduate Student* travel grant to attend IROS 2018 in Madrid and present her paper.
- **Mar 6, 2018** » The paper *Engineering Safety in Swarm Robotics* by Giovanni Beltrame, Ettore Merlo, Jacopo Panerati, and Carlo Pinciroli was accepted at the [1st International Workshop on Robotics Software Engineering \(RoSE 2018\)](#).
- **Jan 12, 2018** » The paper *From Swarms to Stars: Task Coverage in Robot Swarms with Connectivity Constraints* by Jacopo Panerati, Luca Gianoli, Carlo Pinciroli, Abdo Shabah, Gabriela Nicolescu, and Giovanni Beltrame was accepted for publication at [ICRA 2018](#).
- **Aug 14, 2017** » [Worcester Channel 3 coverage](#) of research at NEST Lab.
- **Aug 8, 2017** » [Article of WPI Today](#) about research at NEST Lab.
- **May 29, 2017** » [Tutorial](#) about [Buzz](#) at [ICRA2017](#).
- **Apr 5, 2017** » WPI undergrad Brandon M. Sanders awarded a [Summer Undergraduate Research Fellowship](#). Brandon will use this scholarship to join NEST Lab over the summer.
- **Mar 7, 2017** » Nathalie Majcherczyk awarded the first [WPI PhD Global Research Scholarship](#). Nathalie will use this scholarship to visit [MIST Lab](#) in Montreal over the summer.
- **Feb 24, 2017** » WPI undergrad Sierra T. Palmer nominated [Clare Boothe Luce Research Scholar](#). Sierra will use this scholarship to join NEST Lab over the summer.
- **Nov 16, 2016** » Tutorial proposal about [Buzz](#) accepted at [ICRA2017](#).
- **Nov 9, 2016** » Talk about paper *Decentralized Progressive Shape Formation with Robot Swarms* at [DARS2016](#).
- **Oct 29-30, 2016** » [Buzz](#) demo at [NERC2016](#).
- **Oct 12, 2016** » Talk about [Buzz](#) at [IROS2016](#).
- **Sep 28, 2016** » Paper *Swarm-Oriented Programming of Distributed Robot Networks* to appear on the [IEEE Computer Magazine](#).

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