
Petras Swissler

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Research Interests

- Multi-Robot Systems and Swarm Robotics
- Large-Scale Multi-Agent Self-Assembly
- Mechatronics

Education

(Pursuing) Ph.D. Mechanical Engineering	2016 - Present
Northwestern University, Evanston, IL	GPA: 4.0 / 4.0
Proposed Thesis: Large-Scale Robotic Self-Assembly Using Alignment-Agnostic Docking (<i>Successfully proposed September 2019</i>)	
Advisor: Michael Rubenstein	
M.S. Mechanical Engineering	2018
Northwestern University, Evanston, IL	GPA: 4.0 / 4.0
Thesis: FireAnt: A Modular Robot with Full-Body Continuous Docks	
Advisor: Michael Rubenstein	
B.S. Mechanical Engineering	2012
Rose-Hulman Institute of Technology, Terre Haute, IN	GPA: 3.78 / 4.0
Minors: Robotics, Electrical Engineering, Spanish	

Peer-Reviewed Publications

Petras Swissler and Michael Rubenstein. "ReactiveBuild: Environment-Adaptive Self-Assembly of Amorphous Structures." *2021 Int'l Symposium on Distributed Autonomous Robotic Systems (DARS)*.

Petras Swissler and Michael Rubenstein. "FireAnt3D: a 3D self-climbing robot towards non-latticed robotic self-assembly." *2020 IEEE International Conference on Intelligent Robots and Systems (IROS)*.

Petras Swissler and Michael Rubenstein "FireAnt: A Modular Robot with Full-Body Continuous Docks." *2018 IEEE International Conference on Robotics and Automation (ICRA)*.

Employment

Teaching Assistant at Northwestern University. Evanston, IL. "ME 333: Introduction to Mechatronics"	2021
Mechanical Engineer at Parametric Solutions Incorporated. Jupiter, FL.	2012 – 2016

Awards and Notable Achievements

- Provisional Patent: Method and System for Docking Robotic Components 2019
- Murphy Fellowship 2016
- 1st Place Overall, ASME Human Powered Vehicle Competition 2010, 2011, 2012

Invited Talks

- “FireAnt3D: a 3D self-climbing robot towards non-latticed robotic self-assembly.” July 2020
Invited by Chicago-area Robotics and Automation Society.
- “Climbing Over the Bodies of Your Peers:
The Locomotive Challenges of Robotic Self-Assembly.” September 2019
Invited by the Mechanical Engineering Graduate Student Society.
- “ASME HPVC Best Practices: Team History and Advice to New Teams.” June 2012
Invited by ASME Human Powered Vehicle Challenge.

Professional and Community Service

Reviewer:

- Autonomous Robots
- International Symposium on Distributed Autonomous Robotic Systems (DARS)
- Robotics Science and Systems (RSS)
- IEEE International Conference on Intelligent Robots and Systems (IROS)
- Swarm Intelligence

Outreach:

- “Science in Your Community Center” (Volunteer Mentor). Evanston, IL. 2018 – Present
- “Day in the Life of a STEM-itist” (Presenter). Evanston, IL. 2020 – 2021
- “Northwestern Splash” (Teacher, Treasurer, Secretary). Evanston, IL. 2018 – 2021
- “National Robotics Week” (Volunteer). Chicago, IL. 2019