

## Petras Swissler – Curriculum Vitae

McCormick School of Engineering  
Northwestern University  
Evanston, IL 60208

Phone: (608)-630-1970  
Web: [pswiss.github.io](http://pswiss.github.io)  
Email: [pswissler@u.northwestern.edu](mailto:pswissler@u.northwestern.edu)

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### Research Interests

- Multi-robot systems and swarm robotics
- Robotic self-assembly
- Mechatronics
- Social insect behavior

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### Education

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

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### 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)*.  
(Winner: Best student paper)
- 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)*.

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### Employment

<b>Teaching Assistant</b> at Northwestern University. Evanston, IL. “ME 333: Introduction to Mechatronics”	2021
<b>Mechanical Engineer</b> at Parametric Solutions Incorporated. Jupiter, FL.	2012 – 2016

## Awards and Notable Achievements

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- McCormick School of Engineering Terminal Year Fellowship 2021
- Best Student Paper at DARS 2021: *ReactiveBuild* 2021
- Provisional Patent: “Method and system for docking robotic components” 2019
- Murphy Fellowship 2016
- 1st Place Overall, ASME Human Powered Vehicle Competition 2010, 2011, 2012

## Talks

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- “ReactiveBuild: environment-adaptive self-assembly of amorphous structures.” June 2021  
*Virtual presentation and live Q&A session for DARS conference*
- “FireAnt3D: a 3D self-climbing robot towards non-latticed robotic self-assembly.” Nov. 2020  
*Virtual presentation and Q&A session for IROS conference*
- “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.” Sept. 2019  
*Invited by the Mechanical Engineering Graduate Student Society.*
- “FireAnt: a modular robot with full-body continuous docks” May 2018  
*Presented at Swarm Robotics workshop at ICRA 2018.*
- “ASME HPVC best practices: team history and advice to new teams.” June 2012  
*Invited by ASME Human Powered Vehicle Challenge.*

## Professional and Community Service

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### 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. 2017 – Present
- “Day in the Life of a STEM-ist” (Presenter). Evanston, IL. 2020 – 2021
- “Northwestern Splash” (Teacher, Treasurer, Secretary). Evanston, IL. 2016 – 2021
- “National Robotics Week” (Volunteer). Chicago, IL. 2019