

# BEAU POLLARD

101 Falls Park Drive Unit 3L, Greenville, SC 29601  
(706)331-0202 ◇ beaupollard@gmail.com

## EDUCATION

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**Clemson University, Clemson SC**  
Doctor of Philosophy  
Department of Mechanical Engineering

*August 2015 - Present*

**Clemson University, Clemson SC**  
Bachelor of Science, Mechanical Engineering.

*August 2010 - May 2015*

## RESEARCH INTERESTS

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- CFD particle methods for simulating swimming
- Bio-inspired locomotion and affects of passive appendages
- Machine learning
- Robotics
- Dynamics and controls

## AWARDS & HONORS

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- Best student paper from the Robotics Technical Committee of the ASME DSCC
- Eastman Excellence award winner 2018

## JOURNAL PUBLICATIONS

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- Pollard, Beau, Vitaliy Fedonyuk, and Phanindra Tallapragada. "Swimming on limit cycles with nonholonomic constraints." *Nonlinear Dynamics* 97.4 (2019): 2453-2468.
- Pollard, Beau, and Phanindra Tallapragada. "Passive appendages improve the maneuverability of fish-like robots." *IEEE/ASME Transactions on Mechatronics* (2019).
- Pollard, Beau, and Phanindra Tallapragada. "An aquatic robot propelled by an internal rotor." *IEEE/ASME Transactions on Mechatronics* 22.2 (2016): 931-939.

## CONFERENCE PUBLICATIONS

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- Pollard, Beau, Michael D. Patterson, and Siena Whiteside. "A Combined Blade Element and Vortex Panel Method for Stacked Rotor Analysis." *AIAA Aviation 2019 Forum*. 2019.
- Pollard, Beau, Vitaliy Fedonyuk, and Phanindra Tallapragada. "Limit Cycle Behavior and Model Reduction of an Oscillating Fish-Like Robot." *Proc. of the ASME Dynamic Systems and Control Conference (Atlanta, Ga., Sept 30-Oct 3, 2018)*. Vol. 1. 2018.
- Pollard, Beau, Tyler Berkey, and Phanindra Tallapragada. "Direct Tail Actuation vs Internal Rotor Propulsion in Aquatic Robots." *ASME Dynamic Systems and Control Conference*. 2017.
- Pollard, Beau, and Phanindra Tallapragada. "Fish like aquatic robot demonstrates characteristics of a linear system." *ASME 2016 Dynamic Systems and Control Conference*. American Society of Mechanical Engineers, 2016.

## ADDITIONAL PRESENTATIONS AND SEMINARS

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- Pollard, Beau, Vitaliy Fedonyuk, and Phanindra Tallapragada. "Swimming on limit cycles with nonholonomic constraints." Bulletin of the American Physical Society. 2018.
- Pollard, Beau and Phanindra Tallapragada. "A bioinspired modular aquatic robot." Bulletin of the American Physical Society. 2016.

## PROGRAMMING LANGUAGES

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- Matlab
- Fortran
- C++
- Python
- Latex
- Overflow
- Maple
- NDARC
- OpenVSP
- Solidworks