Curriculum Vitae – Joel W. Newbolt

Contact information:

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Education history:

Ph.D. in Physics at New York University (NYU) Sept. 2013 – Aug. 2019

B.S. in Physics from Rochester Institute of Technology (RIT) Sept. 2009 – May 2013

Relevant employment history:

Shmuel M. Rubinstein Lab, SEAS, Harvard University: Post-doc Sept. 2019 – Present
Research on vortex dynamics

Applied Math Lab, Courant Institute, NYU: Research assistant June 2017 – Aug. 2019
Research on flow-mediated interactions between flapping swimmers

NYU: MacCracken fellow Sept. 2013 – June 2017
Researcher in Applied Mathematics Lab at Courant Institute

NYU: Teaching assistant Jan. 2013 – July 2015
Lab instructor and recitation leader for undergraduate physics

National Oceanic and Atmospheric Administration (NOAA) Summer 2013
Implement atmospheric simulation (ROMS) on RIT computing cluster

Cornell University: Research assistant Summer 2012
Conduct simulation research on superconducting, RF cavities for particle acceleration

RIT: Teaching assistant Nov. 2010 – May 2013
Tutor, lab instructor, and recitation leader for undergraduate physics

Publications:

J.W. Newbolt, J. Zhang, & L. Ristroph (2019). Flow interactions between uncoordinated flapping swimmers give rise to group cohesion. *Proceedings of the National Academy of Sciences*, 116, 7 doi:10.1073/pnas.1816098116

A.D. Becker, J.W. Newbolt, et al. (2015). Hydrodynamic schooling of flapping swimmers. *Nature Communications*, 6, 8514. doi:10.1038/ncomms9514

Conference proceedings:

Joel Newbolt, Jun Zhang, & Leif Ristroph (Nov. 2018). *Flow-mediated formations of a robotic school.* Presented at 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, Georgia. Link to proceeding.

Joel Newbolt, Jun Zhang, & Leif Ristroph (Nov. 2017). *Fluid-mediated stability and speed-increase for heaving hydrofoils swimming side-by-side*. Presented at 70th Annual Meeting of the APS Division of Fluid Dynamics, Denver, Colorado. Link to proceeding.

Joel Newbolt, Leif Ristroph, & Jun Zhang (Nov. 2016). *Dynamic Schooling of a Tandem Pair of Heaving Hydrofoils*. Presented at 69th Annual Meeting of the APS Division of Fluid Dynamics, Portland, Oregon. Link to proceeding.

Fellowships:

GSAS Predoctoral Summer Fellowship	Summer 2019
GSAS Predoctoral Summer Fellowship	Summer 2017
Horizon Fellowship in the Natural and Physical Sciences	Summer 2016
MacCracken Fellowship	Sept. 2013 – June 2017