Thomas Samuel O'Leary

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Education

2019 – now Ph.D. Student, Biology, Mentor: Dr. Brent Lockwood, University of Vermont, *Burlington, VT*
2012 – 2016 B.A. Biology, c*um laude*, University of Vermont, *Burlington, VT*

Fellowships & Awards

2019 – now National Science Foundation (NSF) Research Traineeship Fellow, QuEST, *University of Vermont*
2012 – 2016 UVM Presidential Scholarship
2012 – 2016 UVM Men's Track and Field Athletic Scholarship
2015 America East All-Academic Team
2012 Physics Subject Award

Publications

Helms, A.S., Tsan, Y., Zhao, Y., Capilnasiu, A., Depalma, S., Wu, Y., ..., **O'Leary, T.S.,** ..., Liu, A. (submitted for publication). Myofibrillar alignment drives contractile maturation and reproducibility in micron-scale two-dimensional cardiac tissues.

Rahmanseresht, S., Lee, K. H., **O'Leary, T.S.**, McNamara, J. W., Sadayappan, S., Robbins, J., Warshaw., D. M., Craig, R., & M. J. Previs. (2021). The N Terminus of Myosin-Binding Protein C Extends toward Actin Filaments in Intact Cardiac Muscle. *The Journal of General Physiology,* 153 (3).

Lecheta, M.C., Awde, D.N., **O'Leary, T.S.**, Unfried, L.N., Jacobs, N.A., Whitlock, M.H, ... Helms Cahan, S. (2020). Integrating GWAS and transcriptomics to identify the molecular underpinnings of thermal stress responses in *Drosophila melanogaster*. *Frontiers in Genetics, 11* (658), 1–17.

Daneshparvar, N., Taylor, D.W., **O'Leary, T.S.**, Rahmani, H., Yeganeh, F.A., Previs, M.J., & Taylor, K.A. (2020). CryoEM Structure of *Drosophila* Flight Muscle Thick Filaments at 7Å Resolution. *Life Science Alliance, 3* (8), e202000823.

Helms, A.S., Tang, V.T., **O'Leary, T.S.**, Friedline S., Wauchope, M., Arora A., ... Day S.M. (2020). Effects of *MYBPC3* loss of function mutations preceding hypertrophic cardiomyopathy. *Journal of Clinical Insights, 5* (2), e133782.

O'Leary, T. S., Snyder, J., Sadayappan, S., Day, S. M., & Previs, M. J. (2019). MYBPC3 truncation mutations enhance actomyosin contractile mechanics in human hypertrophic cardiomyopathy. *Journal of Molecular and Cellular Cardiology, 127*, 165–173.

Li, A., Nelson, S. R., Rahmanseresht, S., Braet, F., Cornachione, A. S., Previs, S., **O'Leary, T.S.**, ... Warshaw, D. M. (2019). Skeletal MyBP-C isoforms tune the molecular contractility of divergent skeletal muscle systems. *Proceedings of the National Academy of Sciences*, *116* (43), 21882–21892.

Professional Experience

2018 – 2019 Lab Research Technician, Previs Lab, *Dept. Mol. Phys.* & *Biophys, University of Vermont*
2017 – 2018 Lab Research Technician, Lockwood Lab, *Biology Dept., University of Vermont*
2016 – 2017 Molecular Biology Laboratory Technician I & II, *Charles River Labs, Malvern, PA*

Teaching

Teaching Assistant
2020 – now Genetics, sophomore level for science majors, *University of Vermont*
2019 – now Comparative Physiology, biology capstone course, *University of Vermont*

Guest Lectures
2019 Proteomics & hypertrophic cardiomyopathy, Comparative Physiology, *University of Vermont*

Committees

2020 – now QuEST Leadership Team, Cohort Two Representative, *University of Vermont*
2020 – now Science Outreach and Communication Team, QuEST, *University of Vermont*
2020 – now Biology Graduate Student Social Committee, *University of Vermont*

Seminars & Presentations

2019 *MYBPC3* truncation mutations and hypertrophic cardiomyopathy. Graduate Seminar, *University of Vermont.*

Skills

Programming R, python, and Matlab
Lab proteomics, transcriptomics, RNA & DNA extraction and sequencing

Athletics

2017 – now Volunteer Coach, Varsity Cross Country and Track & Field, *University of Vermont*
2014 – 2016 Captain Cross Country and Track & Field, *University of Vermont*
2012 – 2016 Varsity Cross Country and Track & Field, *University of Vermont*