

Ben T. Larson

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EDUCATION AND TRAINING

University of California, San Francisco <i>Postdoc, Biophysics, Laboratory of Cell Geometry</i> Mentor: Wallace Marshall	San Francisco, CA 2019-present
Marine Biological Laboratory <i>Physiology Course</i>	Woods Hole, MA 2016
University of California, Berkeley <i>PhD, Biophysics with Designated Emphasis in Computational Biology, Animal Origins Lab</i> Mentor: Nicole King	Berkeley, CA 2014-2019
National Institutes of Health, NHLBI <i>Postbac, Biophysics, Laboratory of Molecular and Cellular Imaging</i> Mentor: Justin Taraska	Bethesda, MA 2012-2014
Reed College <i>BA, Physics</i>	Portland, OR 2008-2012

RESEARCH STATEMENT

Inspired by the intricate complexity and diversity of eukaryotes, I seek to deepen our understanding of how cells regulate shape and movement to thrive in various environments and of how these capacities evolve. To do so, I leverage my interdisciplinary training grounded in microscopy and quantitative data analysis to creatively address fundamental questions in cell biology.

FELLOWSHIPS, HONORS, AND AWARDS

Postdoctoral Fellowship <i>Merck Fellow of the Jane Coffin Childs Memorial Fund for Medical Research</i>	2020-2023
Graduate Research Fellowship <i>National Science Foundation</i>	2016-2019
Post-course Research Award <i>Marine Biological Laboratory, Physiology Course</i>	2016
Society of General Physiology Scholar <i>Society of General Physiology</i>	2016
Post-baccalaureate Intramural Research Training Award <i>National Institutes of Health</i>	2012-2014
Orloff Science Award <i>National Institutes of Health</i>	2013
Phi Beta Kappa <i>Reed College</i>	2012
Commendation for Academic Excellence <i>Reed College</i>	2008-2012
Ruby Grant for Student Collaborative Research <i>Reed College</i>	2010

PUBLICATIONS

Google Scholar

1. NT Chartier*, A Mukherjee*, J Pfanzerter*, S Fürthauer, BT Larson, M Kreysing, F Jülicher, SW Grill 2020
A hydraulic instability drives the cell death decision in the nematode germline
bioRxiv doi: 10.1101/2020.05.30.125864
2. BT Larson, T Ruiz-Herrero, S Li, S Kumar, L Mahadevan, N King 2020
Biophysical principles of choanoflagellate self-organization
Proc. Natl. Acad. Sci. 117 (3)
3. T Brunet*, BT Larson*, TA Linden*, MJA Vermeij, KL McDonald, N King 2019
Light-regulated collective contractility in a multicellular choanoflagellate
Science 366 (6463)
4. D Laundon, BT Larson, KL McDonald, N King, P Burkhardt 2019
The architecture of cell differentiation in choanoflagellates and sponge choanocytes
PLOS Bio. 17 (4)
5. BT Larson, KA Sochacki, JM Kindem, JW Taraska 2014
Systematic spatial mapping of proteins at exocytic and endocytic structures
Mol. Bio. Cell 25 (13)
6. MA Bedau and BT Larson 2013
Lessons from environmental ethics about the intrinsic value of synthetic life
GA Kaebnick and TH Murray (Ed.)
Synthetic biology and morality: artificial life and the bounds of nature, MIT Press
7. KA Sochacki, BT Larson, DC Sengupta, MP Daniels, G Shtengel, HF Hess, JW Taraska 2012
Imaging the post-fusion release and capture of a vesicle membrane protein
Nat. Comm. 3 (1)

*denotes equal contribution

SELECTED PRESENTATIONS

- Build-a-Cell seminar**† 2020
Various institutions, Online
- Electronic Symposium on Protistology**† 2020
Various institutions, Online
- Biophysics Seminar**† 2019
Life Sciences Institute, Exeter University
- Bio Lunch**† 2019
Department of Applied Mathematics and Theoretical Physics, Cambridge University
- Beyond the Cell Atlas** 2018
Chan Zuckerberg Biohub
- Size and Shape Workshop*** 2018
European Molecular Biology Organization
- International Choanoflagellate Workshop***.* 2015, 2017
Station Biologique de Roscoff, UC Berkeley
- Integrated Microbial Biodiversity** 2016
Canadian Institute for Advanced Research
- ASCB annual meeting** 2016
American Society for Cell Biology

SKILLS

Wet lab: Optical and electron microscopy, cell culture, environmental sampling and field work, basic molecular techniques, basic electronics and machining

Computational: Quantitative data analysis and data visualization, image analysis using Imaris, Fiji, and MATLAB, programming in MATLAB and C++, working knowledge of R, Python, Fortran, LabView, and Mathematica

TEACHING AND OUTREACH

Data Science Mentor

2018-present

Gaza Sky Geeks

Included delivering lectures to Gaza's first tech hub covering topics in exploratory data analysis, basic approaches to quantitative analysis of data, and effective communication of results.

Cell Biology and Microscopy Outreach

2014-present

Various venues including the Exploratorium, California Academy of Science, Chabot Space & Science Center, and Oakland schools

Undergraduate and PhD Rotation Mentor

2017-2019

Laboratory of Nicole King, University of California, Berkeley

Mentored undergrads Kevin Marroquin, Sheel Chandra, and Jake Hira and MCB PhD student Max Ferrin.

Teaching Assistant

Marine Biological Laboratory, Physiology Course, Woods Hole, MA

2018

Evolution of Genomes, Cells, and Development, University of California, Berkeley

2016

Nuclear Reactor Operator

2008-2012

Reed Research Reactor

Licensed by Nuclear Regulatory Commission 2009, responsibilities included training new operators and giving tours to the public