Ben T. Larson

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Education and Training

University of California, San Francisco — San Francisco, CA
Postdoc, Biophysics, Laboratory of Cell Geometry — *2019-present*
Mentor: Wallace Marshall

Marine Biological Laboratory — Woods Hole, MA
Physiology Course — *2016*

University of California, Berkeley — Berkeley, CA
PhD, Biophysics with Designated Emphasis in Computational Biology, Animal Origins Lab — *2014-2019*
Mentor: Nicole King

National Institutes of Health, NHLBI — Bethesda, MA
Postbac, Biophysics, Laboratory of Molecular and Cellular Imaging — *2012-2014*
Mentor: Justin Taraska

Reed College — Portland, OR
BA, Physics — *2008-2012*

Fellowships, Honors, and Awards

Merck Postdoctoral Fellowship
Jane Coffin Childs Memorial Fund for Medical Research — *2020-2023*

Graduate Research Fellowship
National Science Foundation — *2016-2019*

Post-course Research Award
Marine Biological Laboratory, Physiology Course — *2016*

Society of General Physiology Scholar
Society of General Physiology — *2016*

Orloff Science Award
National Institutes of Health — *2013*

Post-baccalaureate Intramural Research Training Award
National Institutes of Health — *2012-2014*

Phi Beta Kappa
Reed College — *2012*

Commendation for Academic Excellence
Reed College — *2008-2012*

Ruby-Lankford Grant for Faculty-Student Collaborative Research
Reed College — *2010*

Publications

Google Scholar

1. BT Larson, J Garbus, JB Pollack, WF Marshall
A unicellular walker controlled by a microtubule-based finite state machine
bioRxiv doi: 10.1101/2021.02.26.433123 — *2021*

2. NT Chartier*, A Mukherjee*, J Pfanzelter*, S Fürthauer, BT Larson, M Kreysing, F Jülicher, SW Grill
A hydraulic instability drives the cell death decision in the nematode germline
Nat. Phys. doi: 10.1038/s41567-021-01235-x — *2021*

3. BT Larson, T Ruiz-Herrero, S Li, S Kumar, L Mahadevan, N King
Biophysical principles of choanoflagellate self-organization
Proc. Natl. Acad. Sci. 117 (3) *2020*

4. T Brunet*, BT Larson*, TA Linden*, MJA Vermeij, KL McDonald, N King
Light-regulated collective contractility in a multicellular choanoflagellate
Science 366 (6463) *2019*

5. D Laundon, BT Larson, KL McDonald, N King, P Burkhardt
The architecture of cell differentiation in choanoflagellates and sponge choanocytes
PLOS Bio. 17 (4) *2019*

6. BT Larson, KA Sochacki, JM Kindem, JW Taraska
Systematic spatial mapping of proteins at exocytic and endocytic structures
Mol. Bio. Cell 25 (13) *2014*

7. MA Bedau and BT Larson
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 *2013*

8. KA Sochacki, BT Larson, DC Sengupta, MP Daniels, G Shtengel, HF Hess, JW Taraska
Imaging the post-fusion release and capture of a vesicle membrane protein
Nat. Comm. 3 (1) *2012*

**denotes equal contribution*

Selected Presentations

SICB Annual Meeting† *2023*
Microscale Life Symposium, Society of Integrative and Comparative Biology, Austin, TX

APS March Meeting* *2022*
American Physical Society, DBIO, Chicago, IL

Microbiology Seminar† *2022*
Department of Microbiology and Molecular Genetics, UC Davis

Established and Emerging Model Organisms Course† *2022*
Department of Biology, Duke University

ASCB/EMBO Annual Meeting* *2016, 2021*
American Society for Cell Biology

US Protistology Network† *2021*
Independently organized, various institutions

Biological Physics and Physical Biology Seminar† *2021*
Independently organized, various institutions

Stochastic Physics in Biology* *2021*
Gordon Research Conference and Seminar

Cellular Dynamics and Models* *2021*
Cold Spring Harbor Laboratory

BioWeb Conference† *2021*
Department of Biological Sciences, Smith College

Build-a-Cell Seminar† *2020*
NSF Build-a-Cell Network

Electronic Symposium on Protistology† *2020*
Independently organized, various institutions

Biophysics Seminar† *2019*
Life Sciences Institute, Exeter University

Bio Lunch† *2019*
Department of Applied Mathematics and Theoretical Physics, Cambridge University

Size and Shape Workshop* *2018*
European Molecular Biology Organization, NCBS/INSTEM

International Choanoflagellate Workshop*,* *2015, 2017*
Station Biologique de Roscoff, UC Berkeley

Integrated Microbial Biodiversity *2016*
Canadian Institute for Advanced Research

BPS Annual Meeting *2014, 2022*
Biophysical Society

Upcoming
†*Invited talk*
**Talk selected from abstract*

Teaching and Mentorship

Undergraduate and PhD Student Mentor
Laboratory of Wallace Marshall, University of California, San Francisco *2019-present*
Biophysics PhD student Greyson Lewis (UCSF), Computer Science PhD student Jack Garbus (Brandeis), and MBL Physiology post-course research students Veronica Farmer (Vanderbilt) and Alice Herneisen (MIT).
Laboratory of Nicole King, University of California, Berkeley *2017-2019*
Physics undergrad Kevin Marroquin, MCB undergrads Sheel Chandra and Jake Hira, MCB PhD student Max Ferrin, and Biophysics PhD students Mike Levy and Ben McInroe (all UCB).

Lead Instructor
Center for Cellular Construction, CCC Summer Course, San Francisco, CA *2021, 2022*
Guided research experience with students (undergrad-PhD) from SFSU and UCSF emphasizing quantitative image analysis.

Teaching Assistant
Marine Biological Laboratory, Physiology Course, Woods Hole, MA *2018, 2021, 2022*
Evolution of Genomes, Cells, and Development, University of California, Berkeley *2016*

Service and Outreach

Special Interest Subgroup Co-organizer
ASCB Annual Meeting, Cells in the wild: environmental influences on cell morphology and behavior *2021*
With Guillermina Ramirez-San Juan and David Booth.

Cellular Basis of Patterns Working Group Co-founder and Co-organizer
University of California, Berkeley *2015-2017*
Interdepartmental seminar series and collaborative network dedicated to fostering a community of researchers interested in self-organization and pattern formation in biological systems. With Amy Shyer and Mike Levy.

Protist Editor
International Microbiology Literacy Initiative *2021-present*
Aims to foster understanding and appreciation of microbes through open-access school curriculum development

Data Science Mentor
Gaza Sky Geeks *2018-present*
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*
Venues such as Exploratorium, California Academy of Sciences, Chabot Space & Science Center, and Oakland schools

Nuclear Reactor Operator
Reed Research Reactor *2008-2012*
Licensed by the Nuclear Regulatory Commission in 2009, responsibilities included training new operators, giving tours to the public, reactor operation, and detector calibration