DAVID M. ALTMAN

Associate Professor of Physics
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EDUCATION

Ph.D., Physics
Stanford University, Stanford, CA, September 2006
Dissertation title: "Regulation of the molecular motor myosin VI"
Dissertation advisor: James A. Spudich

Bachelor of Arts, Physics, with Honors
The University of Chicago, Chicago, IL, June 2000

PROFESSIONAL EXPERIENCE

Associate Professor, Department of Physics
Willamette University, Department of Physics, 2015–present
Research: We use approaches from multiple disciplines to understand how myosin motors are regulated through interactions with their cellular environment. We also study the growth of osteoblasts on laser modified titanium surfaces.

Assistant Professor, Department of Physics
Willamette University, Department of Physics, 2009–2015

Post-doctoral scholar, Department of Chemical Engineering
Stanford University, Stanford, CA, April 2009-August 2009
Research advisor: Alex Dunn
Research project: Used multiple biochemical and biophysical approaches to probe the force-generating step in the kinetic cycle of the molecular motor myosin.

Post-doctoral scholar, Department of Chemistry
Stanford University, Stanford, CA, September 2006-May 2009
Research advisor: Richard Zare
Research project: Designed and implemented a capillary flow system to measure the impedance spectrum of individual cells in a population in suspension.

Doctoral researcher, Department of Biochemistry and Department of Physics, Stanford University, 2001 - 2006
Research advisor: James A. Spudich
Research project: Performed single-molecule studies probing the detailed mechanism of the myosin VI mechanochemical cycle using optical traps. Used *in vivo* fluorescence techniques to

elucidate the oligomeric form of myosin VI in a cellular system. Used standard biochemical and molecular biology techniques to assist in studies of myosin II thick-filament self-assembly.

Doctoral researcher, National Center for Biological Sciences, Bangalore, India, 2005
Laboratory of Dr. Satyajit Mayor
Research project: Initiated collaborative work between the labs of Dr. James A. Spudich and Dr. Satyajit Mayor to develop an *in vivo* fluorescence experiment for measuring time-resolved fluorescence emission anisotropy.

Undergraduate researcher, Department of Physics, University of Chicago, 1999-2000
Research advisor: David G. Grier
Research project: Studied diffusional dynamics of colloidal polystyrene spheres in a thin-slit geometry using optical traps.

TEACHING AND ADVISING EXPERIENCE

Instructor, Willamette University, Department of Physics, Fall 2009-present

Introductory Physics I (PHYS 221) and lab (PHYS 221Y)

Introductory Physics II (PHYS 222) and lab (PHYS 222Y)

Modern Physics (PHYS 223) and lab (PHYS 223Y)

Physical Biology of the Cell (PHYS 250)

Mechanics (PHYS 339)

Research Experience in Physics (PHYS 360)

Advanced Topics in Experimental Physics (PHYS 396W) and lab (PHYS 396Y)

Research Seminar (PHYS 495 & 496)

Research Exploration in Biology (BIOL 297)

Senior Research Project (CHEM 495)

College Colloquium (IDS 101), *Knitting Culture*; *Controlling Life*

Guest Lecturer, Willamette University, Professor Nord's IDS 101 (College Colloquium), Fall 2019

Presented a lecture on the physics of the Electric Guitar

Guest Lecturer, Willamette University, Department of Chemistry, Fall 2010, Spring 2012, Fall 2012

Biochemistry (CHEM 351), talked about the history and biochemistry of molecular motors

Instructor, Stanford University, Department of Bioengineering, Fall 2008

Molecular and Cellular Bioengineering, graduate level course, required for graduate students in the Department of Bioengineering; team-taught

Instructor, Stanford University, Department of Chemistry, Spring 2007-Spring 2008

Biochemistry I, undergraduate and graduate level course, required for undergraduates in the biological chemistry track of the Department of Chemistry

Biological Chemistry Laboratory, undergraduate level course, required for undergraduates in the biological chemistry track of the Department of Chemistry

Mentor, Stanford Summer Research Program (SSRP), Summer 2008

SSRP is a research program for undergraduates planning on entering a graduate program in the sciences who will bring diversity to the biomedical sciences

Teaching assistant, Marine Biological Laboratory, Woods Hole, June 10-July 29, 2006

Physiology Course, intensive lab course for students at the graduate level or higher; labs explore concepts at the interface between cellular and computational biology

Teaching assistant, Stanford University, Department of Physics, 2002

Cosmic Horizons, undergraduate modern astronomy class for non-physics majors
The Nature of the Universe, undergraduate introductory astrophysics course for non-physics majors
Electricity and Optics, undergraduate introductory class for biology, social science, and premedical students

Instructor, The Science Bus, East Palo Alto, CA, 2002 and 2005

The Science Bus is an after-school science program for grade school students in a socio-economically diverse public charter school

UNIVERSITY SERVICE AND PROFESSIONAL DEVELOPMENT

Member of Institutional Review Board Committee, Willamette University, starting Fall 2020

Advisor to the Tabletop RPG Club, Willamette University, Spring 2020-present

Physics Department Chair, Willamette University, Fall 2017-present

Member of Faculty Council, Willamette University, Fall 2018-Spring 2020

Outside Consultant for the Physics Department's Tenure Track Search Committee, Whitman College, 2019-2020

Faculty Quartet Leader for the College Colloquium 4th hour, Willamette University, Fall 2019

Attended "Call out Culture: Context and Consequences" Workshop, Willamette University, December 2019

Attended Workshops on Managing Difficult Conversations & Improving Classroom Climate; Unpacking Everyday Ableism; and Building Discussions of Consent into the Classroom, Willamette University, May 2019

Developed and led an ALPhA Immersions advanced teaching lab workshop on fluorescence correlation spectroscopy, hosted at Willamette University, attended by professors from outside institutions, August 2018

Attended Teaching Workshop on Inclusive Pedagogy, Willamette University, January 13, 2018

Advisor to Games Unplugged!, Willamette University, Fall 2014-2016

Member of the Physics Department's Tenure Track Search Committee, Willamette University, 2015

Attended a Workshop on Metacognition in the Classroom, Willamette University, May 29, 2014

Member of the Undergraduate Grants and Awards Committee, Willamette University, Fall 2012-Spring 2016

Keck Fellow, Willamette University, Fall 2011-Fall 2013

Advisor to the Bearcat Robotics Club, Willamette University, Fall 2011

Attended the Little Red Schoolhouse Workshop, Willamette University, May 18-20, 2011

HHMI Leadership Team, Willamette University, Physics department representative, Spring 2011

Member of the Physics Department's Visiting Professor Search Committee, Willamette University, 2011

Member of the Biology Department's Microbiology Search Committee, Willamette University, 2010

Member of the Faculty Colloquium Committee, Willamette University, Fall 2010-Fall 2011

Attended the Junior Science Mentoring Program Retreat, Willamette University, August 12-13, 2010

Advisor to the Ping Pong Club, Willamette University, Spring 2010

Lab Manager, Stanford University, Bio-X Teaching Lab, Spring 2007-2009

PUBLICATIONS AND PRESENTATIONS

* Indicates undergraduate author

Manuscripts

Jung, Diane* and David Altman, "Experimental Studies and Stochastic Simulations of the Ensemble Behavior of Myosin VI Dimers." Manuscript in preparation.

Altman, David. *Myosin: Fundamental Properties and Structure*. In: Roberts G.C.K. (eds) Encyclopedia of Biophysics, second edition. Springer, Berlin, Heidelberg. Manuscript in preparation

Altman, David. *Myosin Work and Motility: Mechanism*. In: Roberts G.C.K. (eds) Encyclopedia of Biophysics, second edition. Springer, Berlin, Heidelberg. Manuscript in preparation.

Hewage, Navindi* and David Altman. "A role for myosin VI in retinal pigment epithelium phagocytosis." *Biochemical and biophysical research communications* 504.4 (2018): 759-764.

de Souza Leite, Felipe, Fabio C. Minozzo, David Altman, and Dilson E. Rassier. "Microfluidic perfusion shows intersarcomere dynamics within single skeletal muscle myofibrils." *Proceedings of the National Academy of Sciences* 114.33 (2017): 8794-8799.

Altman, D. “Cell Culture Protocols, HeLa and CHO Cells.” *WHOAS: Woods Hole Open Access Server,* MBLWHOI Library (2017): https://hdl.handle.net/1912/8720.

Minozzo, Fábio C., David Altman, and Dilson E. Rassier. "MgADP activation contributes to force enhancement during fast stretch of isolated skeletal myofibrils." *Biochemical and biophysical research communications* 463.4 (2015): 1129-1134.

Altman, David, Fabio C. Minozzo, and Dilson E. Rassier. "Thixotropy and rheopexy of muscle fibers probed using sinusoidal oscillations." *PloS one* 10.4 (2015).

Daniel, Rebekah,* Andrew T. Koll,* and David Altman. "Force dependence of phagosome trafficking in retinal pigment epithelial cells." *Optical Trapping and Optical Micromanipulation XI*. Vol. 9164. International Society for Optics and Photonics (2014).

Altman, David. *Myosin: Fundamental Properties and Structure*. In: Roberts G.C.K. (eds) Encyclopedia of Biophysics, first edition. Springer, Berlin, Heidelberg (2013).

Altman, David. *Myosin Work and Motility: Mechanism*. In: Roberts G.C.K. (eds) Encyclopedia of Biophysics, first edition. Springer, Berlin, Heidelberg (2013).

Altman, D., Goswami, D., Hasson, T., Spudich, J. A., & Mayor, S. "Precise positioning of myosin VI on endocytic vesicles in vivo." *PLoS biology* 5.8 (2007).

Bryant, Zev, David Altman, and James A. Spudich. "The power stroke of myosin VI and the basis of reverse directionality." *Proceedings of the National Academy of Sciences* 104.3 (2007): 772-777.

Altman, David, and James A. Spudich. "Single-molecule optical trap studies and the myosin family of motors." *Nanoscale Technology in Biological Systems*. CRC Press (2004): 195-238.

Hostetter, Daniel, Sarah Rice, Sara Dean, David Altman, Peggy M. McMahon, Shirley Sutton, Ashutosh Tripathy, and James A. Spudich. "Dictyostelium myosin bipolar thick filament formation: importance of charge and specific domains of the myosin rod." *PLoS biology* 2.11 (2004).

Altman, David, H. Lee Sweeney, and James A. Spudich. "The mechanism of myosin VI translocation and its load-induced anchoring." *Cell* 116.5 (2004): 737-749.

Dufresne, Eric R., David Altman, and David G. Grier. "Brownian dynamics of a sphere between parallel walls." *EPL (Europhysics Letters)* 53.2 (2001): 264.

Conference Presentations

Hickman, T.* and D. Altman, “MG-63 Osteosarcoma Cell Adhesion and Growth on Laser Ablated Titanium.” Poster presentation at the *Oregon Bioengineering Symposium 2019*, Corvalis, OR November 22, 2019.

Jung, D.* and D. Altman, "Experimental Studies and Stochastic Simulations of the Ensemble Behavior of Myosin VI Dimers." Poster presentation at the *Oregon Bioengineering Symposium 2019*, Corvalis, OR November 22, 2019.

Rumley, E.* and D. Altman, "The force-dependent activity of multiple myosin VI monomers working in concert." Poster presentation at *Biophysical Society 62th Annual Meeting*, San Francisco, CA February 17-21, 2018.

Altman, D. "Regulation of the motor protein myosin in the cell." Oral presentation at the *PacNow QB Symposium*, Portland, OR, September 22, 2017.

Hewage, N.* and D. Altman, "The Role of Myosin VI in Retinal Pigment Epithelium Phagocytosis." Poster presentation at *Biophysical Society 61th Annual Meeting*, New Orleans, LA, February 11-15, 2017.

Kleinert, M. and D. Altman. "Optics and Photonics Training for Inquisitive eXperimentalists (OPTIX): Facilitating the transition from teaching to research labs." Poster presentation at the *AAPT Summer Meeting*, Sacramento, CA, July 16-20, 2016.

Altman, D. "Regulation of the motor protein myosin in the cell." Poster presentation at *Scialog: Molecules Come to Life*, Tucson, AZ, March 31-April 3, 2016.

Altman, D. "Regulation of the motor protein myosin in the cell." Poster presentation *at Scialog: Molecules Come to Life*, Tucson, AZ, March 12-15, 2015.

Daniel R.,* B. Nagata,* and D. Altman. "Force dependence of phagosome trafficking in retinal pigment epithelial cells." Poster presentation at the *Optical Trapping & Optical Micromanipulation Conference*, which is a part of the *SPIE Optics + Photonics Meeting*, San Diego, CA, August 17 – 21, 2014.

Daniel R.,* B. Nagata,* and D. Altman. "The role of myosin VI in retinal pigment epithelium phagocytosis." Poster presentation at the *Physics Research & Education Gordon Research Conference, The Complex Intersection of Biology and Physics*, South Hadley, MA. June 8-13, 2014.

Daniel, R.,* B. Nagata,* and D. Altman. "A role for myosin VI in retinal pigment epithelium phagocytosis." Poster presentation at *Biophysical Society 58th Annual Meeting*, San Francisco, CA, February 15-19, 2014.

Altman, D., F. Minnozo, and D.E. Rassier. "Thixotropy of muscle fibers probed with sinusoidal oscillations," Poster presentation at *Biophysical Society 58th Annual Meeting*, San Francisco, CA, February 15-19, 2014.

Howard, J.* and D. Altman, "Exploring the force-sensitivity of *Acanthamoeba* myosin 1c function." Poster presentation at *Biophysical Society 57th Annual Meeting*, Philadelphia, PA, February 2-6, 2013.

Green, J.,* J. Sant,* I. McGahan,* and D. Altman, "Studies of the force-dependent motor activity of myosin I." Poster presentation at *Biophysical Society 55th Annual Meeting*, Baltimore, MD, March 5-9, 2011.

Altman, D. and R.N. Zare, "An undergraduate biological chemistry lab course." Oral presentation at the *California Innovative Life Science Education Symposium*, UCLA, Nov 30-Dec 1, 2007.

Altman, D. and R.N. Zare, "Designing an undergraduate biological chemistry lab course." Oral presentation at the *HHMI Society of Professors Meeting*, Chevy Chase, MD, March 2-4, 2007.

Altman, D., D. Goswami, B.J. Spink, T. Hasson, J.A. Spudich, and S. Mayor, "Myosin VI is an oligomer on endocytic vesicles." Oral presentation at the *Biophysical Society 50th Annual Meeting*, Salt Lake City, UT, Feb 18-22, 2006.

Altman, D., T.J. Purcell, and J.A. Spudich, "Coordination of myosin VI heads studied with optical traps." Poster presentation at the *Single Molecule Biophysics Workshop at the Aspen Center for Physics*, Aspen, CO, Jan 2-8, 2005.

Altman, D., H.L. Sweeney, and J.A. Spudich, "The mechanism of myosin VI translocation and its load induced anchoring." Poster presentation at the *Biophysical Society 48th Annual Meeting*, Baltimore, MD, Feb 14-18, 2004.

Sweeney, H.L., S. Rosenfeld, P. Coureux, J Ménétrey, A. El-Amraoui, D. Altman, C. Morris, C. Yengo, T.J. Purcell, R.S. Rock, A.L. Wells, J.A. Spudich, and A. Houdusse, "Unusual aspects of myosin design and function: mechanisms of myosin V and VI." Poster presentation at *The American Society for Cell Biology 43rd Annual Meeting*, San Francisco, CA, Dec 13-17, 2003.

Altman, D. and J.A. Spudich, "Role of myosin VI as a transporter and a linker: a single molecule analysis." Oral presentation at *The Protein Society 17th Annual Symposium*, Boston, MA, July 16-30, 2003.

Hostetter, D., D. Altman, and J.A. Spudich, "The molecular mechanism by which heavy chain phosphorylation regulates myosin II thick filament assembly in *Dicytostelium discoideum*." Poster presentation at *The American Society for Cell Biology 42nd Annual Meeting*, San Francisco, CA, Dec 14-18, 2002.

Invited Talks

Regulated activity of the motor protein myosin in a cell, Whitman College, Department of Physics, September 17, 2019

Regulated activity of the motor protein myosin in a cell, Portland State University, Department of Physics, November 26, 2018

Regulation of the motor protein myosin in the cell, Willamette University Faculty Colloquium, Salem, OR, February 9, 2018.

Moving in the cell, OMSI Science Pub, Portland, OR, February 1, 2018.

Regulation of the motor protein myosin in the cell, Department of Physics, Linfield College, McMinnville, OR, September 13, 2017.

Guest on the podcast *Criss-crossing Science*, Linfield College, McMinville, OR September 15, 2016

Regulation of the motor protein myosin in the cell, Department of Physics, Willamette University, October 9, 2015

Regulation of the motor protein myosin in the cell. SSO seminar, Oregon State University, Corvalis, OR, March 12, 2014.

What do aliens look like? Science Night at the Campus, The Gilgamesh Campus, Nov 21, 2013

Regulation of the motor protein myosin in the cell. Faculty Colloquium, Willamette University, March 8, 2013

Studies of the regulated activity of the motor protein myosin. Department of Physics, Reed College, March 7, 2012

Studies of the regulated activity of the motor protein myosin. Department of Physics, Oregon State University, November 30, 2011

Physics of the nano-realm. Institute for Continued Learning, Willamette University, October 11, 2011

Nanotech and the physics of the nano-realm. Salem Science Pub, February 8, 2011

Understanding the regulated activity of the motor protein myosin. Department of Physics, Lewis and Clark College, October 25, 2010

GRANTS

RUI: Collaborative Research: From molecular to collective behavior: identifying mechanisms of feedback between myosin activity and actin architecture, collaborative with Adriana Dawes and Timothy Atherton, National Science Foundation, 2017, not funded.

RUI: Collaborative Research: From molecular to collective behavior: identifying mechanisms of feedback between myosin activity and actin architecture, collaborative with Adriana Dawes and Timothy Atherton, National Science Foundation, 2016, not funded.

Optics and Photonics Training for Inquisitive eXperimentalists (OPTIX), collaborative with Michaela Kleinert and Rick Watkins, *Integrative Activities in Physics (IAP) program*, National Science Foundation, 2015, funded.

Developing RNAi as a tool for probing the role of myosin motors in cells, *Atkinson Research Grant*, Willamette University, 2014, funded.

INTER-POGIL: A POGIL Approach to Interdisciplinary STEM Education, collaborative with Brian Gilbert (Linfield College), Anne Kruchten (Linfield College), Elizabeth Atkinson (Linfield College), Joelle Murray (Linfield College), Tricia Sheppard (Westminster College), and Kimberly D. Tanner (San Francisco State University), *Improving Undergraduate STEM Education (IUSE) program*, National Science Foundation, submitted 2014, not funded.

The role of force in regulating the function of myosin motors, *College Research Program for Life Sciences Grant*, M.J. Murdock Charitable Trust, 2014, funded.

Request for a temporary lab technician to identify, test, and organize lab equipment in our introductory and intermediate labs, with Michaela Kleinert and Richard Watkins, *Hewlett Grant*, Willamette University, 2013, funded.

Interdisciplinary Research Using Imaging Science (IRIS), collaborative with Jason Duncan, Emma Coddington, Gary Tallman, Alison Fisher, and Barbara Stebbins-Boaz, *Research Experiences for Undergraduates*, National Science Foundation, submitted 2012, not funded.

INTER-POGIL: A POGIL Approach to Interdisciplinary STEM Education, collaborative with Brian Gilbert (Linfield College), Anne Kruchten (Linfield College), Elizabeth Atkinson (Linfield College), Joelle Murray (Linfield College), Tricia Sheppard (Westminster College), and Kimberly D. Tanner (San Francisco State University), *Transforming Undergraduate Education in Science, Technology, Engineering, and Mathematics (TUES) Award*, National Science Foundation, submitted 2012, not funded.

A collaboration to develop measurements of the biodynamic response of muscle fibers exposed to vibrations, *Collaborative Research Travel Grant*, Burroughs Wellcome Fund, 2012, funded.

STEM Colloquium Series: Promoting Interdisciplinary Communication & Collaboration, collaborative with Inga Johnson, David Craig, Haiyan Cheng, Erin McNicholas, Alison Fisher, *Hewlett Grant*, Willamette University, 2012, funded.

Development of a new course for science majors: Advanced Data Analysis and Simulation, ADAS, collaborative with Michaela Kleinert and Richard Watkins, *Hewlett Grant*, Willamette University, 2012, funded.

MRI: Acquisition of a laser-scanning confocal system to advance research and training in biology, chemistry, and physics at Willamette University, collaborative with Emma Coddington, Jason Duncan, Gary Tallman, Alison Fisher, and Barbara Stebbins-Boaz, National Science Foundation, 2011, funded.

Studying the regulated mechanical activity of the motor protein myosin, *College Research Program for the Life Sciences Grant*, M.J. Murdock Charitable Trust, 2010, funded.

Elucidating the role mechanical forces play in the regulation of myosin function, *Single Investigator Cottrell College Science Award*, Research Corporation for Science Advancement, 2010, funded.

RESEARCH WITH STUDENTS

Students who have conducted research in my lab (arranged by date of graduation):

Dillon Garrett (Willamette University, Physics Department, 2023)

Isabel Martinez (Willamette University, Physics Department, 2022)

Luke Werkmeister-Martin (Willamette University, undeclared, 2021)

Lexie Andrade (Willamette University, Physics Department, 2021)

Tara Hickman (Willamette University, Physics Department, 2021)

Char Howland (Willamette University, Physics Department, 2021)

Brendan Otani (Willamette University, Physics Department, 2021)
Sasha Sumner (Willamette University, Physics Department, 2021)
Caspar Croft (Willamette University, Physics Department, 2020)
Reagan Dreiling (Willamette University, Biology Department, 2020)
Colin Fisher (Willamette University, Physics Department, 2020)
Diane Jung (Willamette University, Physics Department, 2020)
Yoojin Kim (Willamette University, Biology Department, 2020)
Misty Parker (Willamette University, Biology Department, 2020)
Teddy Rose (Willamette University, Physics Department, 2020)
Lydia Savelli (Willamette University, Math Department, 2020)
Giancarlos Ortega Marcelino (South Salem High School, 2019)
Cassie Logan (Willamette University, Physics Department, 2019)
Josh Sakai (Willamette University, Biology Department, 2019)
Jo Stensaas (Willamette University, Physics Department, 2019)
Marcus Weaver (Willamette University, Physics Department, 2019)
Navindi Hewage (Willamette University, Biology Department, 2018)
Thelonious Humphreys (Willamette University, Physics Department, 2018)
Rosaline Kim (Willamette University, Anthropology Department, 2018)
Daniel Pekich (Willamette University, Physics Department, 2018)
Chase Pipkin (Willamette University, Physics Department, 2018)
Kricia Ruano (Willamette University, Physics and Chemistry Departments, 2018)
Ellen Rumley (Willamette University, Physics Department, 2018)
Miles Smith (Willamette University, Physics Department, 2018)
Todd Denning (Willamette University, Physics Department, 2017)
Brendan Blosser-McGinnis (Willamette University, Physics Department, 2017)
Dylan Tooley (Willamette University, Physics Department, 2017)
Neal McGinnis (Willamette University, Physics Department, 2017)
Kristian Barajas (Willamette University, Physics Department, 2017)
Hyakub Herring (Willamette University, undeclared, 2017)
Marika McCarthy (Willamette University, Physics Department, 2016)
Jacob Shafi (Willamette University, Physics Department, 2016)
Avery Pike (South Salem High School, 2015)
Elisa Ahern (Willamette University, Physics Department, 2015)
Forrest Betton (Willamette University, Physics Department, 2015)
Max Vellequette (Willamette University, Physics Department, 2015)

Anders Koll (Willamette University, Physics Department, Fall 2014)

Cat Carragee (Willamette University, Chemistry Department, 2014)

Bianca Nagata (Willamette University, Biology Department, 2014)

Rebekah Daniel (Willamette University, Physics Department, 2014)

Jay Howard (Willamette University, Physics Department, 2014)

Travis Baer (Willamette University, Physics Department, 2013)

Ian McGahan (Willamette University, Physics and Math Departments, 2013)

Darrin Ginoza (Willamette University, Physics Department, 2013)

Jenna Hermann (Willamette University, Physics Department, 2012)

Ben Donovan (Willamette University, Physics Department, 2012)

Jesse Sant (Willamette University, Physics Department, 2012)

Jared Green (Willamette University, Physics Department, 2011)

Andrea Weiss (Willamette University, Physics Department, 2011)

VOLUNTEER WORK

Guest lecturer, Little Friends Montessori pre-school and elementary school in Salem, OR; Discussed what it means to be a scientist, February 12, 2020.

Skype a Scientist, Led a discussion with a seventh-grade class in Philadelphia, PA, February 11 2020.

Skype a Scientist, Led a discussion with a fourth-grade class in Craigieburn, Australia, May 2 2018.

Fundraising for the fires in Santa Rosa, My college colloquium class and I made and sold knit items, with proceeds going to the Redwood Credit Union Community Fund set up by Senator Mike McGuire and the Press Democrat, Fall 2017.

Led lab tours, Visitors were South Salem High School IB students, May 31, 2017.

Guest Lecturer, Awesome Academic Adventures Camp, Willamette University, July 27, 2016

Guest Lecturer, STATUS (STEM Access and Training for Underserved Students), Willamette University, May 20, 2015

Presented a Mini University Lecture, Willamette University Family Weekend, October 11, 2014

Guest Lecturer, Awesome Academic Adventures Camp, Willamette University, July 8, 2014

Sat on a GMO discussion panel, Willamette University, March 13, 2014

Moderator, Willamette University Student Scholarship Recognition Day, April 16, 2014

Volunteered to give a Theater Talk on citizen science before Willamette's production of Proof, February 27, 2014

Guest Lecturer, Awesome Academic Adventures Camp, Willamette University, July 9, 2013

Instructor, Salem-Keizer Indian Education Program, Willamette University, June 28, 2013

Moderator, Willamette University Student Scholarship Recognition Day, April 17, 2013

Judge, Oregon Junior Academy of Science presentations at the 2013 Oregon Academy of Science Annual meeting, Willamette University, March 2, 2013.

Guest lecturer, Young Writers Camp (Science-Fiction), Oregon Writing Project, Willamette University, August 14, 2012

Referee, First Lego League Robotics tournament, Adam Stevens Middle School, Salem, OR, December 3, 2011

As part of my College Colloquium course (IDS 101), my students and I knit hats for newborns at Salem Hospital, Fall 2011

Instructor, Willamette Academy, Summer 2010, Along with other faculty members and students from the Physics Department, we taught students how to build air rockets and understand their motion

Volunteer Scientist, Leslie Middle School's Research Day, November 12, 2009

HONORS AND FELLOWSHIPS

Named a Fellow for *Scialog: Molecules Come to Life* by the Research Corporation for Science Advancement and the Gordon and Betty Moore Foundation, 2014
Harold M. Weintraub Graduate Student Award, 2006
American Heart Association Pre-doctoral Fellow, June 2004–June 2006
Phi Beta Kappa, University of Chicago, 1999
Hugo Sonnenschein Presidential Scholar, 1998

PROFESSIONAL MEMBERSHIPS

Biophysical Society