
Education

Doctor of Philosophy Molecular Biology	2015	University of Southern California (USC) Laboratory of Dr. Susan L. Forsburg
Bachelor of Science Biological Sciences	2006	University of California, Riverside Laboratory of Dr. David Reznick

Course Teaching Experience

Assistant Professor of Gerontology (Instructional) 2022-Current; University of Southern California
Emphasis on undergraduate education for majors and non-majors. Mentor of honors program, professional development for students, curriculum design and implementation for undergraduate and graduate programs.

Visiting Professor of Biology 2021-2022; California Lutheran University
Developed lecture for cell and organismal biology, lecture/ lab materials for microbiology and molecular biology courses using equitable and accessible teaching practices. The laboratory used the Tiny Earth Project CURE and the lectures utilized active learning strategies such as interactive puzzles, mystery cases, and projects.

Instructor, Physiology; Division of Natural Science, Pasadena City College 2021
Developed interactive lectures and labs using equitable and accessible teaching practices. Guided students through interactive lecture and laboratory exercises online and in person. Utilized the Prism Distortion Gaze Throw Calibration CURE.

Instructor, General Biology; Division of Natural Science, Pasadena City College 2021, 2015
Developed interactive lectures and labs. Guided students through interactive lecture and laboratory exercises. Taught basic biology concepts in ecology, physiology, genetics, and cellular and molecular biology. Facilitated hybrid online courses using Canvas. Integrated Celebrate Urban Birds and Council for Watershed Health CURES.

Co-Instructor, The Structure of the Cytosol; Division of Biology and Biological Engineering, California Institute of Technology 2019

The class was structured as an in-depth analysis of emerging primarily literature that investigates membraneless organelles nucleated by proteins with characteristic that facilitate liquid-liquid phase separations in the cytosol. I supported course development and lead class discussions. I guided students in their understanding of the material and in their preparation for their presentation of primary literature.

Instructor, Science of Adult Aging; Leonard Davis School of Gerontology, USC Fall 2015
Facilitated online student learning. Provided real time feedback in discussion boards. Provided feedback and grading on written assignments, discussion posts, and exams.

Instructor, Introduction Neuroscience; Leonard Davis School of Gerontology, USC Summer 2015
Led lectures, laboratories, and discussions on basic topics in neuroscience. Graded written, verbal, and multimedia assignments. Provided guidance a feedback in classic classroom setting.

Teaching Assistant, Advanced Molecular Biology; Department Biological Sciences, USC Fall 2014
Led discussion sections based on reviewing primary literature, kept office hours, administered exams, guided and evaluated student performance, graded response sheets and exams.

Teaching Assistant, Neuroscience; Leonard Davis School of Gerontology, USC 2012, 2014

Led laboratory and discussion sections, set up and demonstrate experiments, created lab quizzes, graded² lab reports, reviewed lecture material, kept office hours, administered exams, guided and evaluated student performance on verbal and PowerPoint reports.

Teaching Assistant, Molecular Biology; Department of Biological Sciences, USC 2010

Led laboratory sections, set up and demonstrate experiments, created lab quizzes, graded lab reports, reviewed lecture material, kept office hours, administered exams, guided and evaluated student performance on verbal and PowerPoint reports.

Teaching Assistant, Genetics; Department of Biological Sciences, USC 2009

Prepared discussion lectures, reviewed homework solutions and lecture material, kept office hours, write exam questions, graded short answer and multiple-choice exams, administered exams.

Professional Development and Training

Center for Teaching and Excellent Brightspace	University of California	2023
Gate Keeper Training	Pasadena City College	2021
Leadership Development Workshop	Claremont Graduate University	2021
Online Teaching Certification	Pasadena City College	2020
Safe Zone Training	California Institute of Technology	2018
ASCB Mentoring Academy	American Society of Cell Biology	2017
Undergraduate Research Mentoring Series	California Institute of Technology	2016

Mentoring and Outreach

USC Gateway Scholars Mentor	University of Southern California	Current
Gerontology Undergraduate Honors Program Coordinator, Mentor, and Advisor	University of Southern California	2023-Current
Summer Research Mentor of LAUSD Highschool Student through Kaiser/Caltech Initiative	Los Angeles Unified School District, Caltech, Kaiser	2021
How to be a Neuroscientist	Pasadena Unified School District	2020
Gate STEM Seminar Presenter	Pasadena Unified School District	2017
Mentoring Summer Undergraduate Research Fellowship (SURF) students.	California Institute of Technology	2016-2019
Founder, Promotion of Diversity in Science and Engineering	California Institute of Technology	2016-2018
Upward Bound STEM Academy Instructor	Pasadena City College	
STEM superstar Presenter	Project Scientist	2017
Presenter Tech Savvy	Pasadena Unified School District	2017
Mentoring Undergraduate Research	University of Southern California	2009-2013
AVID Tutor, Biology, Math, Chemistry	Moreno Valley School District	2005-2006
Volunteer Teacher Assistant for students with special needs	Fountain Valley High School	2002-2003

Awards and Leadership

Co-Founder March for Science and Explore Caltech Open House	California Institute of Technology	2018
Diversity Chair	California Institute of Technology	2015-2018
Co-Founder, March for Science Pasadena	Southern California Region Event	2017
Travel Award Cell Modeling Workshop	Pittsburgh Supercomputing Center	2017
MAC Travel Award	American Society of Cell Biology	2017
Division Representative	California Institute of Technology	2015-2017
Women in Science and Engineering Travel Grant (WiSE)	University of Southern California	2010, 2011
President MCBGSA (Molecular and Computational Biology Graduate Student Association)	University of Southern California	2009-2011
Best Talk, Molecular and Computational Biology Retreat	University of Southern California	2011
Graduate and Professional Student Senate Travel Grant	University of Southern California	2011
Organizer Biological Sciences Interdisciplinary Graduate Symposia	University of Southern California	2009
Web director MCBGSA (Molecular and Computational Biology Graduate Student Association)	University of Southern California	2008-2009
NIH Undergraduate Student Research Grant	University of California, Riverside	2003-2005
Chancellor's Scholarship	University of California, Riverside	2003-2005

Research Experience

Visiting Associate, Research California Institute of Technology Laboratory of Dr. Mary B. Kenney	2021 -present	Investigations into the molecular and biochemical mechanisms of learning and memory, Alzheimer's Disease and autism spectrum disorders.
Postdoctoral Scholar California Institute of Technology Laboratory of Dr. Mary B. Kenney	2015- 2021	Investigations into the molecular and biochemical mechanisms of learning and memory, Alzheimer's Disease and autism spectrum disorders.
Predocctoral Research University of Southern California Laboratory of Dr. Susan Forsburg	2008-2015	Defining the intersection of DNA damage response and meiotic progression.
Rotation Student University of Southern California Laboratory of Dr. Steven Finkel	Fall 2008	The study of the evolution and molecular nature of the starvation response in <i>E. coli</i> and other prokaryotes.
Rotation Student University of Southern California	Spring 2008	Role of RCAN-1 in Huntington's Disease

Laboratory of Dr. Kelvin Davies		
Research Technician - Gene Expression Center California Institute of Technology Laboratory of Dr. José Luis Riechmann	2007-2008	Discovery of novel microRNA expression in <i>A. thaliana</i> floral development.
Chemist-Trade Metals E.S. Babcock Laboratories Moreno Valley, CA	2007	Determination of trace metals in varied environmental matrices.
Research Technician University of California, Riverside Laboratory of Dr. Thomas Miller	Summer 2006	Molecular progression Pierce's Disease due to the of the biofilm caused by the bacterium <i>Xylella fastidiosa</i> .
Undergraduate Research University of California, Riverside Laboratory of Dr. David Reznick	2003-2006	Evolutionary and anatomical characterization of the pseudo-placenta in <i>Peocillioopsis</i> .

Publications

- Anjalika Chongtham, J. Mario Isas, Nitin K. Pandey, Anoop Rawat, Jung Hyun Yoo, Tara L. Mastro, Mary B. Kennedy, Ralf Langen, Ali Khoshnan, Amplification of neurotoxic HTT_{ex1} assemblies in human neurons, *Neurobiology of Disease*, Volume 159, 2021, 105517, ISSN 0969-9961, <https://doi.org/10.1016/j.nbd.2021.105517>.
- Mastro, T. L., Tripathi, V. P., & Forsburg, S. L. (2020). Translesion synthesis polymerases contribute to meiotic chromosome segregation and cohesin dynamics in *S. pombe*. *Journal of Cell Science*, jcs.238709.
- Mastro TL, et al. A sex difference in the response of the rodent postsynaptic density to synGAP haploinsufficiency. *Elife*.2020 Jan 15;9. doi: 10.7554/eLife.52656. PubMed PMID: 31939740; PubMed Central PMCID: PMC6994236.
- Mary B. Kennedy and Tara L. Mastro. Liquid Phase Transition in the Postsynaptic Density? *Trends in Biochemical Sciences*. Dec. 2016
- Walkup W.G. IV, Mastro T.L., Schenker L.T., Vielmetter J., Hu R., Iancu A., Reghunathan M., Bannon B.D., Kennedy M.B. A model for regulation by SynGAP- α 1 of binding of synaptic proteins to PDZ-domain 'Slots' in the postsynaptic density. *eLife* 2016;5:e16813. September 13, 2016.
- Cohen S.N., John R.U., Reynosos Y., Mastro T.L., Reznick D.N. Comparative life histories of fishes in the subgenus *Limia* (Pisces: Poeciliidae). *J Fish Biol.* 2015 Jul;87(1):100-14. doi 10.1111/jfb.12695. Epub 2015 Jun 5.
- Mastro, T. L & Forsburg, S. L. Increased meiotic crossovers and reduced genome stability in absence of *Schizosaccharomyces pombe* Rad16 (XPF). *Genetics* 198(4):1457-72. doi: 10.1534/genetics.114.171355. (2014)
- Sabatino, S. A., Mastro, T. L., Green, M. D. & Forsburg, S. L. A Mammalian-like DNA damage response of fission yeast to nucleoside analogs. *Genetics* 193, 143-157, doi:10.1534/genetics.112.145730 (2013).
- Le, A. H., Mastro, T. L. & Forsburg, S. L. The C-terminus of *S. pombe* DDK subunit Dfp1 is required for meiosis-specific transcription and cohesin cleavage. *Biology open* 2, 728-738, doi:10.1242/bio.20135173 (2013).

Independent Funding

California Institute of Technology, Biology and Biological Engineering Postdoctoral Fellowship	Competition in the postsynaptic density for the PDZ domains, of PSD-95	08/01/18-07/31/20
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National Science Foundation Award 1612289	Competition in the postsynaptic density for the PDZ protein binding domains, of Post Synaptic Density protein 95	08/01/16- ⁵ 07/31/18
University of California, Riverside, Dean's Research Fellowship	Research on the life history traits of Peocilliopsis in the context of pseudo-placental development.	2004
