AMANDA S. MEYER, B.S.

Graduate Student, McMahon Lab; Molecular Biology, USC
Phone: 401.632.5599 e-mail: meyeras@usc.edu

EDUCATION

University of Southern California **August 2018-Present**
Graduate PhD Student
Advisor: Andrew McMahon
Molecular Biology

University of Vermont **August 2012-May 2015**
Bachelor of Science (3-year graduate)
Biological Sciences

PUBLICATIONS

1. Sances, S., Ho, R., Vatine, G., West, D., Laperle, A., **Meyer, A**., Godoy, M., Kav, P.S., Mandefro, B., Hatata, S., Hinojosa, C., Wen, N., Sareen, D., Hamilton, G.A., Svendsen, C.N., "Brain microvascular endothelial cells and microengineered chip environment accelerate neuronal maturation *in vitro*" Stem Cell Reports, 2018, 10(4): 1222-1236

PRESENTATIONS

"Mapping protein communication between organs in homeostasis and disease", McMahon lab meeting, USC, Los Angeles, CA, March 2019

"Transcriptome profiling in HD-SCA", Kuhn-Hicks lab meeting, USC, Los Angeles, CA, January 2019

"High throughput creation of highly recombined yeast populations", Ehrenreich lab meeting, USC, Los Angeles, CA, November 2018

Sances, S., **Meyer, A**., West, D., Laperle, A., Dardov, V., Ho, R., Workman, M., Sareen, D., Svendsen, C.N., "Microphysiological Systems to Study Neurodegenerative Disease", *Poster*, 12TH NIH Tissue Chip Consortium Meeting, Bethesda, MD, March 2018

"Research in Progress: iPSC derived Microglial-like cells in developmental neurovascular units", Svendsen lab meeting, Cedars-Sinai Medical Center, Los Angeles, CA, March 2018

"Modeling Traumatic Brain Injury in a Microfluidic Chip", Svendsen lab meeting, Cedars-Sinai Medical Center, Los Angeles, CA, May 2017

Meyer, A.S., Miller, M., Helms Cahan, S., Ballif, B., "Identification of Hexamerin Storage Proteins in the *Aphaenogaster rudis* Species Complex", *Poster*, University of Vermont Student Research Conference, Burlington, VT, April 2015

EXPERIENCE

University of Southern California, Department of Molecular and Computational Biology, Los Angeles, CA
PhD Student I, Advisor: Dr. Andrew McMahon, April 2019-Present
"Mapping protein communication between organs in homeostasis and disease"
My research project investigates inter-organ communication at a systematics level by utilizing a promiscuous biotin ligase expressed in an origin tissue to biotinylate proteins proximal to it and use the biotin tag to identify secreted proteins in destination organs.

Cedars-Sinai Medical Center, Board of Governors Regenerative Medicine Institute, Los Angeles, CA
Research Associate I, Dr. Clive N. Svendsen's lab, June 2016-July 2018
Developmental neurovascular unit microfluidic chip model.
Sporadic ALS and Parkinson's Disease research using neurovascular unit cells derived from patient induced pluripotent stem cells (iPSCs) under Dr. Sam Sances. Aided in model optimization. Produced four of five cell

types used in the model and worked on population differences of maturation and differentiation between different tissue milieus using single cell transcriptomics.

Role of iPSC derived microglia in neurogenerative disease. Found and implemented iPSC derived microglia cell protocol. Worked on cell type characterization and investigation of sporadic disease specific phenotypes using RNA sequencing, imaging, and functional assays. Aided in RNA sequencing analysis in R. Wrote own scripts, functions, and methods to tag identified cell types and specific populations in single cell RNA sequencing data.

Using stem cell derived cortical neurons to investigate the effects of ALS (C9orf & sporadic) in the motor cortex. Worked under Dr. Veronica Garcia to support her cortical neuron cultures and data acquisition.
General lab support; worked on different projects when needed, including animal (rat) model research, perfusions, dissections, feeding, injections, various cell-based projects, and aided in single cell transcriptomics data analysis in R.

University of Vermont, Department of Biology, Burlington, VT
Contract Laboratory Technician, Dr. Sara Helms Cahan's lab, January 2016-June 2016
Evolution of heat tolerance across the proteome in warm and cold adapted ants using proteomic analysis. Used heat treatment and mass spectrometry to find the melting points and curves for the proteomes of *Aphaenogaster picae* and *Pogonomyrmex barbattus*.

Contract Laboratory Instructor, Biology Department, August 2015-December 2015
Taught three introductory biology laboratory sections and two senior level population genetics laboratory sections. Created lab curricula presentations and quizzes. Graded all work and met with students outside of class in office hours or when needed.

Undergraduate Researcher, Dr. Sara Helms Cahan's lab, October 2014-May 2015
Investigated how nutrient availability affects hexamerin storage protein levels in common woodland ants (*Aphaenogaster rudis* species complex) as a senior independent research project, "Diet effects on Hexamerin protein production in the *Aphaenogaster rudis* species complex". Identified hexamerin storage proteins in the *Aphaenogaster rudis* species complex and conducted a diet-manipulation experiment for future work quantifying hexamerin storage proteins in relation to protein and carbohydrate levels.

Undergraduate Research Assistant, Dr. Sara Helms, Cahan's lab, January 2014-May 2015
Assisted in research concerning the influence of climate and nutrient availability on the physiology and behavior of the common woodland ant, *Aphaenogaster rudis*. Strengthened my attention to detail and organizational skills through working with multiple samples at once. Aided in general lab work and up keep including, ant colony care, data sampling and collection, stocking, and solution & buffer maintenance.

CONFERENCES

American Society for Cell Biology, Career Session Moderator, San Diego, CA, December 2018
12TH NIH Tissue Chip Consortium Meeting, Bethesda, MD, March 2018
Cedars-Sinai Board of Governors Regenerative Medicine Institute Symposium, Los Angeles, CA, January 2017
University of Vermont Student Research Conference, Burlington, VT, April 2015
Catalyst Leadership Conference, Burlington, VT, February 2014

PROFESSIONAL SOCIETIES

American Society for Cell Biology, October 2017-Present
COMPASS (committee for postdocs and students) Associate Member, October 2018-Present
Subcommittees Member: Career, Outreach
Ecological Society of America, January 2015-January 2016

AWARDS

Grants

University of Vermont APLE (Academic Program for Learning Engagement) grant, "Diet effects on Hexamerin protein production in the *Aphaenogaster rudis* species complex" Burlington, VT, March 2015

Scholarships

University of Southern California Graduate Student Fellowship, 2018-2019
University of Vermont Presidential Scholarship, 2012-2014

OUTREACH & EDUCATION

ASCB COMPASS Outreach subcommittee member and outreach grant reviewer, on-going

"Beyond the Classroom" Exposing students to careers & higher education as well as resources available to help them achieve their goals, Group liaison, hosted by Graduate Student Government, USC, April 2019

Research Week 2018: Team Chip, Board of Governors Regenerative Medicine Institute Research Week Mentor, Cedars-Sinai, Los Angeles, CA, July 2018

Worked in collaboration to mentor, teach, and train high school students in the scientific method, culminating in a research presentation on work conducted by the students.

"Careers in Scientific Research & the Roadmap to Get There", *Presentation*, Bravo Medical Magnet High School, Los Angeles, CA, May 2018

"Science Corner" science column for Department Newsletter, *RMI-FYI*, Cedars-Sinai Medical Center, Los Angeles, CA, October 2017-July 2018

"Careers in Scientific Research & the Roadmap to Get There", *Presentation*, Vista High School, Los Angeles, September 2017

TECHNICAL TRAINING

Cedars-Sinai iPSC Core Training, Cedars-Sinai Medical Center, Los Angeles, CA, November 2016

Biosafety I & II Training, University of Vermont, Burlington, VT, January 2016