

AMY SCALERA

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EDUCATION

Brandeis University, Waltham MA **Anticipated January 2023**
Doctorate of Philosophy (Ph.D.), 6th Year, Neuroscience **GPA: 3.93**
“Regulation of extracellular vesicle trafficking by the synaptic endocytic and recycling machinery”
Advisor: Dr. Avital Rodal

Lafayette College, Easton PA **May 2017**
Bachelor of Science (B.S), Neuroscience; Minor: Chemistry **GPA: 3.66**
“Examining the role of corticosterone on pair bonding in zebra finches”
Advisor: Dr. Michelle Tomaszycski

Honors: Cum Laude, Marquis Scholar, Dean’s List (Spring 2015; Spring 2016; Fall 2016); Psi Chi:
National Psychology Honors Society

RESEARCH EXPERIENCE

Graduate Student, Brandeis University **August 2017-Present**
Lab of Dr. Avital Rodal; examining the role of extracellular vesicles (EV) and their cargo proteins in neurons in *Drosophila melanogaster*. We seek to understand how canonical regulators of endocytosis and recycling impact EV trafficking, as well as how activity dependent bulk endocytosis may regulate EVs.

Undergraduate Researcher, Lafayette College **October 2015-May 2017**
Lab of Dr. Michelle Tomaszycski; localizing oxytocin in the lateral septum of Zebra Finch brains by fluorescence immunocytochemistry and in situ hybridization. We tested the hypothesis that song quality affects activation of oxytocin receptors in brain regions involved in song.
Honors Thesis: Studying the effects of the stress hormone corticosterone on pair bonding in zebra finches using intramuscular injection and behavioral observation. I found that corticosterone had no effect on pair bonding.

Summer Undergraduate Research Program, Rutgers University **June 2016-August 2016**
Lab of Dr. Ron Hart; examining the role of the protein ATM in glucose transport in order to elucidate the effects of various mutations in the ATM gene, which is responsible for the disease, Ataxia Telangiectasia. We hypothesized that when ATM is inhibited, cells will show decreased glucose uptake and an increase in mitochondrial oxidation.

Nalven Scholar Research Program, Lafayette College **June 2015-August 2015**
Lab of Dr. James Dearworth; comparing the presence of various turtle species in the Bethlehem, Pennsylvania area and correlating their presence with water quality to determine Red Ear Slider nervous system adaptability. We expected the red-eared sliders to thrive in poorer environmental conditions, as this would provide reasoning for their invasiveness and adaptability.

PUBLICATIONS AND PRESENTATIONS

Gordon Research Conference – Lysosomes and Endocytosis **June 2022**
Poster: Local regulation of extracellular vesicle trafficking by the synaptic endocytic machinery

Blanchette, C.R.*, **Scalera, A.L.***, Harris, K.P., Zhao, Z., Koles, K., Yeh, A., Apiki, J.K., Stewart, B.A., Rodal, A.A. (2022) Local regulation of extracellular vesicle traffic by the synaptic endocytic machinery. *Journal of Cell Biology*, 221 (5). * indicates co-first authors

Walsh, R.B., Dresselhaus, E.C., Becalska, A.N., Zunitch, M.J., Blanchette, C.R., **Scalera, A.L.**, Lemos, T., Lee, S.M., Apiki, J., Wang, S., Isaac, B., Yeh, A., Koles, K., Rodal, A.A. (2021) Opposing functions for retromer and Rab11 in extracellular vesicle traffic at presynaptic terminals. *Journal of Cell Biology*, 220 (8).

American Society for Cell Biology, Virtual **December 2020**
Talk: A novel role of presynaptic periaxial zone proteins in extracellular vesicle trafficking
Minisymposium: Neuronal trafficking and cell polarity

Volen Center for Complex Systems, Brandeis University (Virtual) **September 2020**
Talk: A novel role of presynaptic endocytic proteins in extracellular vesicle trafficking

American Society for Cell Biology, San Diego, CA **December 2018**
Poster: Neuronal periaxial zone membrane remodeling machinery regulates the traffic of extracellular vesicle cargoes at *Drosophila* synapses

Scalera, A.L. & Tomaszycski, M.L. (2018). Exogenous corticosterone decreases pair bonding in both sexes of Zebra Finches. *General and Comparative Endocrinology*, 286, 121-127.

EXCEL Scholar Poster Session, Easton, PA **October 2015**
Ecological evidence for the Red-Eared Slider as a model for neurodegenerative disease

Lacawac Ecology Conference, Paupack, PA **September 2015**
Ecological evidence for the Red-Eared Slider as a model for neurodegenerative disease

TEACHING EXPERIENCE

Teaching Assistant, Brandeis University **January 2019-April 2019**
Guiding undergraduates through General Biology Laboratory (BIOL 18A) by leading a lab section of 20 students once per week, providing help and instruction with experiments, grading assignments, and providing individual feedback and assistance to students in weekly office hours.

Teaching Assistant, Brandeis University **August 2018-December 2018**
Assisting in teaching an introductory biology class, Cells and Organisms (BIOL 15B) by holding two weekly recitation sections where I generated presentations for review of course materials for smaller groups of 10-15 students. I also graded exams and provided individual assistance to students in weekly office hours.

Amy Scalera

Psychology Lab Assistant, Lafayette College

August 2016-May 2017

Aiding in Physiological Psychology lab by setting up, answering questions, helping to design a lab practical, grading, and running some of the labs.

Teaching Assistant, Lafayette College

August 2016-December 2016

Helping with Neurobiology lab by setting up and assisting students with questions.

Peer Mentor, Lafayette College

August 2014-May 2015

Aiding first year students in the Science Horizons Program by teaching them about research, coordinating team-building exercises and ice-breakers, and getting them acclimated to both the school and the Science Horizons program.

PROFESSIONAL EXPERIENCE

Graduate Career Consortium

June 2022 - Present

Member networking in the field of higher education career advising.

Quantitative Biology workshop – Visually representing your data

January 2022

Worked with the Science Communication Lab at Brandeis to host a two-hour workshop in which Graduate students in the Quantitative Biology cross-disciplinary PhD program developed visual materials (either digital or physical) to represent their research projects. We provided inspiration materials, gave feedback, and facilitated collaboration between students.

Doctoral Student Admissions Committee, Brandeis University

November 2021-March 2022

Participated in admissions decisions with a committee of four students and four faculty. Duties included reading all Neuroscience PhD applications, deciding which candidates to interview, interviewing some of the candidates, choosing which students to offer acceptance to, and participating in admitted students' day.

Cientifico Latino Mentor, virtual

August 2021-May 2022

With a co-mentor, advising four first year graduate students on navigating graduate school, choosing a lab, maintaining work-life balance and time management.

Annual Volen Center for Complex Systems Retreat, West Dennis MA

May 2021-September 2021

Worked with a committee of six students and one department staff to plan the annual retreat for Brandeis Molecular and Cell Biology and Neuroscience PhD programs. Duties included inviting and hosting keynote speaker Dr. Sarah Forrester of University of Massachusetts Chan Medical School, hosting a panel for new graduate students on navigating Brandeis, and logistical planning.

Roundtable: Fostering a Supportive Training Culture,

December 2020

American Society for Cell Biology (virtual)

Planned and hosted a discussion with Dr. Sharon Milgram and 30 participants about making scientific training more supportive and inclusive with a focus on finding the right mentors and mental health advocacy.

Annual Biomedical Research Conference for Minority Students, virtual

November 2020

Networked with prospective Brandeis graduate students with the goal of recruiting more diverse students by sharing Brandeis's values and culture.

Amy Scalera

Train the Trainers, NIH Office of Intramural Training and Education (virtual) **July 2020**

Participant: Learned how to navigate difficult conversations with trainees on topics including mental illness, trauma, career advising, and executive function; participated in small group discussions surrounding current events and role-played example scenarios of talking to trainees about mental health and career aspirations.

Point Person for Doctoral Recruitment, Brandeis University **March 2020 & 2021**

Coordinated a group of twelve doctoral recruits, helping them with logistics for their visit to campus, coordinating timely arrival at interviews, planning a dinner and/or activities for them, and fielding any questions they had about Brandeis or the interview day (one virtual and one in person interview).

Posse Mentor, Brandeis University **August 2019-May 2021**

Coaching a group of ten undergraduate Posse Scholars academically, socially, and personally through bi-weekly one-on-one meetings. Facilitated over 20 workshops to promote leadership skills. Attended 3 training sessions (one at Posse Headquarters in NYC and two at Posse's Atlanta office) to hone my abilities as a neutral discussion facilitator.

Externship, Good Shepard Specialty Hospital **January 2017**

Observing physical and occupational therapy, learning the dynamic of a specialty hospital and the healthcare system, and observing meetings.

Externship, Mathematica Policy Research **January 2016**

Learning company basics, helping with qualitative background research on the Primary Care Initiative, and observing meetings.

VOLUNTEER AND LEADERSHIP EXPERIENCE

Volunteer Mentorship, Brandeis University **November 2018-Present**

Training two undergraduates and a rotation student from the Neuroscience PhD program *Drosophila* genetics and husbandry, immunohistochemistry, and confocal microscopy and providing instruction on the scientific knowledge and questions that drive our research.

Women in Science Initiative, Brandeis University **September 2018-December 2019**

Planning and organizing events to help promote the role of women in science and support undergraduates in furthering their scientific development.

SKIP, Lafayette College **September 2015-May 2017**

Volunteering through the Easton Area Community Center at an after-school program for low-income children in Easton, providing homework assistance and fostering communication and learning through play.

Marquis Scholar Steering Committee, Lafayette College **February 2014-May 2017**

Attending weekly meetings to discuss and plan various campus events and participating in assessment days for future Marquis Scholars.

Lafayette Leadership Education (LLE), Lafayette College **February 2015**

Attended talks and panels and participated in events in order to learn about and become a better leader.

Kids in the Community (KIC), Lafayette College **August 2013-May 2015**

Co-leading an after-school program for less fortunate children in Easton by organizing team-building activities, providing homework assistance and promoting a safe and healthy environment.

Girl Scout, Tewksbury NJ

September 2001-Present

Held numerous workshops for younger Girl Scouts, received Bronze (15 hours), Silver (40 hours), and Gold (80 hours) Awards.

SKILLS

Computer: Microsoft Word, PowerPoint, Excel; SPSS; Graphpad; ImageJ; Adobe Illustrator

Technical: Light Microscopy, cloning, western blots, immunostaining, cell culture, *Drosophila* husbandry and larval dissection

Language: Proficient in reading, writing and speaking Spanish