Isabel D'Alessandro

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EDUCATION

Wellesley College-Wellesley, MA (2014-2018)
Bachelor of Arts, summa cum laude
Major in Neuroscience, Minor in Computer Science

RESEARCH EXPERIENCE

Harvard Medical School June 2018-Present
Research Assistant, Lab of Dr. Rachel Wilson
Specialize in imaging and computational neuroanatomy; assist on various projects in the lab
Skills: immunohistochemistry, confocal imaging, *Drosophila* genetics, computational neuroanatomy

Wellesley College Aug 2016-Present
Research Assistant, Lab of Dr. Sara Wasserman
Projects: State-dependent effects of polarized light tracking in two *Drosophila* species, sensory integration of visual and thermal stimuli by *Drosophila* in flight
Skills: *Drosophila* genetics, behavioral experiments, rig design/building

Stanford University Jun 2017-Aug 2017
Amgen Scholar, Stanford Summer Research Program, Lab of Dr. Miriam Goodman
Project: Characterization of MEC-4 and DEGT-1 mechanosensitive DEG-ENaC channel currents in response to amiloride-analogous drug applications
Skills: two-electrode voltage-clamp oocyte recordings, molecular biology

Harvard Medical School/Brigham and Women's Hospital Jun 2016-Aug 2016
Summer Research Fellow, Lab of Dr. Francisco Quintana
Funding through the Multiple Sclerosis Society- Buegeleisen Family MS Undergraduate Research Fellowship
Project: The role of Basigin as an actrocyte regulator in multiple sclerosis and EAE
Skills: cell culture, plasmid construction/cloning, transduction, viral transfection, qPCR, gel electrophoresis, EAE induction in mice, cell sorting

Wellesley College Jan 2015 –May 2016
Research Assistant, Lab of Dr. Michael Wiest
Project: Role of medio-dorsal frontal and posterior parietal neurons during auditory detection performance in rats
Skills: microelectrode array LFP recordings, rat husbandry and surgery, data processing (MATLAB)

Princeton Neuroscience Institute Jun 2015- Aug 2015
Summer Research Fellow, Lab of Dr. Mala Murthy
Summer Undergraduate Research Program in Molecular and Quantitative & Computational Biology
Project: The role of acoustic signal recognition in the control of *Drosophila* female behavior
Skills: behavioral experiment design, MATLAB, data analysis, *Drosophila* genetics

AWARDS

2018 The Klein Prize in Neuroscience in Memory of Louise Edwards
2018 Sigma Xi (Scientific Research Society) Nomination
2017 Cosyne (Computational & Systems Neuroscience Conference) Undergraduate Travel Grant Recipient
2016 Buegeleisen Family MS Undergraduate Research Fellowship Recipient
2015 Wellesley College First Year Chemistry Award

POSTERS, ABSTRACTS AND PRESENTATIONS

Poster: **D'Alessandro, I.**, Park, E.J., Wasserman, S.M. Visuomotor reflexes differ across *Drosophila* species. Poster presentation at The Society for Neuroscience Meeting 2018

Presentation: Integration of visual and thermal stimuli by *Drosophila* in flight. Oral presentation at the Tanner Conference at Wellesley College; 2018 Apr; Wellesley, MA.

Abstract: Fechner S, Loizeau F, Nekimken AL, **D'Alessandro** I, Pruitt BL, Goodman MB (2018) Characterization of DEGT-1: A DEG/ENaC/ASIC Ion Channel Subunit Involved in Touch Sensation. Biophys J 114:157

Poster: **D'Alessandro, I.,** Fechner, S., Goodman, M.B. Characterization of the drug response properties of mechanosensitive ion channel subunits. Poster presented at: Stanford Summer Research Program Poster Session; 2017 Aug; Stanford, CA.

Presentation: Characterization of the subunit composition and drug response properties of mechanosensitive ion channels. Oral presentation at Stanford Summer Research Program Symposium; 2017 Aug; Stanford, CA.

Abstract: Clemens, J., Deutch,D., **D'Alessandro, I.,** Murthy, M. Behavioral and neural tuning for acoustic communication signals in Drosophila.[abstract]. In: Computational and Systems Neuroscience Conference; 2016 February 25-28; Salt Lake City, UT: Abstract nr II-85.

Poster: **D'Alessandro,** A., Clemens, J., Murthy, M. The Role of Acoustic Signal Recognition in the Control of Dropshila Female Behavior. Poster session presented at: Princeton Summer Undergraduate Research Program in Molecular and Quantitative & Computational Biology Poster Session; 2015 Aug; Princeton, NJ.

ACADEMIC LEADERSHIP

Wellesley College Neuroscience Club, *President* Aug 2015- June 2018
Organize meetings, lectures, journal clubs, and other events for students interested in Neuroscience at Wellesley College; provide mentorship to students in the Neuroscience program

Wellesley College Neuroscience Department Jan 2018 - June 2018
Computational Neuroscience Grader
Grade weekly problem sets for the course Computational Neuroscience (Neur 335)

Wellesley Quantitative Analysis Institute Intern Sept 2017 – December 2017
Python/ MATLAB Tutor for the Sciences
Hold weekly office hours for students in science courses that rely on computation (upper level physics, chemistry), and work on developing MATLAB and Python tutorials for these classes.

Brains Minds and Machines: The Science of Intelligence Course Sept 2016- May 2017
Teaching Assistant, Curriculum Developer

Developed lab activities (MATLAB GUIs) for new course being offered Spring 2017 at Wellesley College through the Neuroscience and Computer Science departments (NEUR/CS 125) on the subject of human and machine intelligence. Assisted in the teaching of the lab during the semester.

Pforzheimer Learning and Teaching Center Aug 2015- June 2017
Academic Peer Tutor
Served as a general peer academic advisor for a group of 153 Wellesley College students and provided particular academic mentorship for first-year students; plan and deliver workshops throughout the year

OUTREACH

Science Learning and Mentoring (S.L.A.M) June 2017- June 2018
Co-Founder, Co-President
Founded and directed this organization offering low-cost, interactive, experimental after-school science curricula. SLAM partners with local elementary and middle schools to offer engaging after-school programming featuring curricula written, designed, and taught by a mentoring team of college science students. Currently, two such weekly after-school programs are being run each semester at public schools in Framingham, MA.

SeedKit Sept 2016-Present
Curriculum Developer, Executive Board Member
Develop curricula, and design experiments as part of Seedkit(Science Education Equity Development Kit), a startup which aims to create 'labs in a box', practical experimental laboratory resources that are low-cost, reusable, sustainable, and self-contained for secondary school students in low-resource classrooms

Science Club for Girls Sept 2014-June 2017
Mentor Scientist, Curriculum Developer
Lead weekly lessons for a class of 12 2nd-4th grade girls about a variety of topics in STEM and direct interactive experiments. Wrote and piloted a 4th grade biochemistry curriculum now being taught at Science Club for Girls sites across the country.

SKILLS

Technical: Working knowledge of Python, MATLAB, Java, JavaScript, R, PHP, SQL, HTML/CSS
Language: Spanish (proficient)