

ASHLEY LAUREN JUAVINETT, PHD

University of California, San Diego
School of Biological Sciences
Neurobiology Department
ajuavinett@ucsd.edu

EDUCATION

- 2011 – 2016 University of California San Diego (La Jolla, CA)
Ph.D. in Neuroscience
- 2007 – 2011 Lafayette College (Easton, PA)
B.S. in Neuroscience with Honors, Summa Cum Laude
Minor: Anthropology & Sociology

PROFESSIONAL APPOINTMENTS

- 2022 – Associate Teaching Professor, UC San Diego, School of Biological Sciences
- 2018 – 2022 Assistant Teaching Professor, UC San Diego, Division of Biological Sciences
- 2016 – 2018 Postdoctoral Research Fellow, Cold Spring Harbor Laboratory

EXTERNAL FUNDING

- 2022 – 2025 GENENTECH HEALTH EQUITY & DIVERSITY IN STEM INNOVATION FUND
Role: Co-PI
Title: “Preparing Diverse Transfer Students for Research Careers in Neuroscience”
Amount Awarded: \$300,000
- 2020 – 2025 NATIONAL INSTITUTES OF HEALTH BP-ENDURE R25 Grant (Award #R25NS119707)
Role: Co-PI
Title: “Preparing Diverse Transfer Students for Research Careers in Neuroscience”
Amount Awarded: \$1,293,140
- 2020 – 2023 THE KAVLI FOUNDATION NWB SEED GRANT
Role: PI
Title: “Training students and educators to use Neurodata Without Borders for learning Neural Data Science”
Amount Awarded: \$20,000

INTERNAL FUNDING

- 2024 – 2025 UC SAN DIEGO GENERAL CAMPUS RESEARCH AWARD
Role: PI
Title: “Investigating how sense of belonging in STEM community college transfer students impacts decisions to pursue graduate degrees”
Amount Awarded: \$13,000
- 2023 – 2024 UC SAN DIEGO COURSE DEVELOPMENT AND INSTRUCTIONAL IMPROVEMENT PROGRAM (CDIIP)
Role: PI
Title: “Programming growth: An inclusive approach to teaching biology students how to code”
Amount Awarded: \$7,500

2021 – 2022 UC SAN DIEGO GENERAL CAMPUS RESEARCH AWARD
Role: PI
Title: “Mentor perceptions of transfer student success in STEM research”
Amount Awarded: \$15,000

PEER-REVIEWED PUBLICATIONS

- Zuckerman, A., Lo, S.M., **Juavinett, A.L.** Mentorship for Transfer Student Success in STEM Research: Mentor Approaches and Reflections. *CBE Life Sciences* 23(27): 1–17.
- Tan, T., Tomaszycki, M., Martinez Acosta, V., **Juavinett, A.L.** Centering Diversity, Equity, and Inclusion in Graduate Admissions. *Journal of Undergraduate Neuroscience Education*. 22(2):A137-A159.
- Zuckerman, A. & **Juavinett, A.L.** (2024). When Coding Meets Biology: The tension between access and authenticity in a contextualized coding class. In *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 1* (SIGCSE 2024), March 20–23, 2024, Portland, OR, USA. ACM, New York, NY, USA, 7 pages. <https://doi.org/10.1145/3626252.3630966>
- Zuckerman, A., Vo, L. & **Juavinett, A.L.** (2024). Student Motivations and Expectations for an Introductory Programming Course in Biology. In *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V. 1* (SIGCSE 2024), March 20–23, 2024, Portland, OR, USA. ACM, New York, NY, USA, 7 pages. <https://doi.org/10.1145/3626252.3630931>
- Shah, S. & **Juavinett, A.L.** (2022). The Mismatch Between Neuroscience Graduate Training and Professional Skill Sets. *Journal of Undergraduate Neuroscience*. 21(1):A35-A46.
- Zuckerman, A., **Juavinett, A.L.**, Macagno, E., Bloodgood, B., Gaasterland, T., Artis, D., Lo, S.M. (2022). A case study of a novel summer bridge program to prepare transfer students for research in biological sciences. *Disciplinary and Interdisciplinary Science Education Research* 4(27). doi: 10.1186/s43031-022-00067-w.
- Juavinett, A.L.** (2020). Learning How to Code While Analyzing an Open Access Electrophysiology Dataset. *Journal of Undergraduate Neuroscience* 19(1):A94-A104.
- Kim, E.J. Zhang, Z., Huang, L., Ito-Cole, T., Jacobs, M.W., **Juavinett, A.L.**, Senturk, G., Hu, M., Ku, M., Ecker, J.R., Callaway, E.M. (2020). Extraction of Distinct Neuronal Cell Types from within a Genetically Continuous Population. *Neuron*. doi: 10.1016/j.neuron.2020.04.018.
- Juavinett, A.L.**, Bekheet, G., Churchland, A.K. (2019). Chronically-implanted Neuropixels probes enable high yield recordings in freely moving mice. *eLife* 8:e47188. doi: 10.7554/eLife.47188.
- Juavinett, A.L.**, Kim, E.J., Collins, H.C., Callaway, E.M. (2019). A systematic topographical relationship between mouse lateral posterior thalamic neurons and their visual cortical projection targets. *Journal of Comparative Neurology*. doi: 10.1002/cne.24737.
- Musall, S.M. Kaufmann, M.T., **Juavinett, A.L.**, Gluf, S. Churchland, A.K. (2019). Single-trial neural dynamics are dominated by richly varied movements. *Nature Neuroscience* 22, 1677-1686. doi: 10.1038/s41593-019-0502-4.
- Juavinett, A.L.**, Nauhaus, I., Garrett, M.G., Callaway, E.M. (2017). Automated identification of mouse visual areas with intrinsic signal imaging. *Nature Protocols* 12(1):32-43. doi: 10.1038/nprot.2016.158.
- Kim, E.J., **Juavinett, A.L.**, Kyubwa, E.M., Jacobs, M.W., Callaway, E.M. (2015). Three Types of Cortical Layer 5 Neurons That Differ in Brain-wide Connectivity and Function. *Neuron* 88(6): 1253-67. doi: 10.1016/j.neuron.2015.11.002.
- Juavinett, A.L.**, Callaway, E.M. (2015). Pattern and Component Motion Responses in Mouse Visual Cortex. *Current Biology* 25(13): 1759-64. doi: 10.1016/j.cub.2015.05.028.
- Stewart, J.L., **Juavinett, A.L.**, May, A.C., Davenport, P.W., Paulus, M.P. (2015). Do You Feel Alright? Attenuated Neural Processing of Aversive Interoceptive Stimuli in Current Stimulant Users. *Psychophysiology* 52(2): 249-62. doi: 10.1111/psyp.12303

BOOKS

- Juavinett, A.L.** (2020). *So You Want to Be a Neuroscientist?* Columbia University Press (New York, NY).
- Juavinett, A.L. & Voytek, B. (forthcoming). *A Data Science Approach to Neuroscience*. Princeton University Press (Princeton, NJ).

BOOK CHAPTERS, PERSPECTIVE PIECES, & REVIEWS

- Juavinett, A.** (2024). Integrating Programming into Neuroscience Courses. *Journal of Undergraduate Neuroscience*. 22(2):A99-A103.
- Juavinett, A.** (2022). The next generation of neuroscientists needs to learn how to code, and we need new ways to teach them. *Neuron*, 110(4): 576-578.
- Neuromatch Academy (NMA). (2021). Neuromatch Academy: Teaching Computational Neuroscience with global accessibility. *Trends in Cognitive Science*, 25(7): 535-538.
- Baker, A., Kalmbach, B., Morishima, M., Kim, J., **Juavinett, A.L.**, Li, N. & Dembrow, N. (2018). Specialized Subpopulations of Deep-Layer Pyramidal Neurons in the Neocortex: Bridging Cellular Properties to Functional Consequences. *Journal of Neuroscience*, 38(24):5441-5455.
- Juavinett, A.L.**, Erlich, J., Churchland, A.C. (2018). Decision-making behaviors: weighing ethology, complexity, and sensorimotor compatibility. *Current Opinion Neurobiology* 49:42-50.
- Juavinett, A.L.**, Datko, M., Pineda, J. (2014). Rationale for Neurofeedback Training in Children with Autism. In *The Comprehensive Guide to Autism*, edited by Vinood B. Patel, Victor R. Preedy and Colin R. Martin.
- Pineda, J.A., **Juavinett, A.L.**, Datko, M. (2012). Self-regulation of brain oscillations as a treatment for aberrant brain connections in children with autism. *Medical Hypotheses* 79(6): 790-8.

INVITED TALKS AND WORKSHOPS

- “Course-Based Undergraduate Research Experiences.” *UCSD IRACDA Fellows Program*, 2023.
- “Data Science & Reproducibility.” *INCF Short Course: Introduction to Neuroinformatics*, 2023. <https://www.incf.org/incf-short-course-introduction-neuroinformatics-2023>
- “How should we train the next generation of neuroscientists?” *Baylor College of Medicine Neuroscience Seminar Series*, 2023.
- “Integrating programming into neuroscience courses.” *Faculty for Undergraduate Neuroscience workshop*, 2023.
- “Building Paths for Diverse Transfer Students to Enter Neuroscience Careers.” *Gordon Research Conference on Undergraduate Biology Education Research*, 2023.
- “Why and how neuroscience students need to learn how to code.” *Federation of European Neuroscience Societies (FENS) seminar, Empowering Future Neuroscientists with Modern Computing Paradigms: The Training Perspective*, 2022. <https://youtu.be/Hia-0o-rpHc>
- “An honest look at an evolving field” (book talk), given at multiple institutions in 2021: *Harvard Brain Science Initiative*; available here: <https://youtu.be/T4BBsSKkCBA>
Cambridge Neuroscience Society Meeting
UCSC MCD Biology Seminar Series
University of Sussex Neuroscience Seminar Series
Norwalk Community College
- “Growing up in science,” *University of Oxford Cortex Club*, 2021. Available here: <https://youtu.be/CF3rftYoghI>
- “Learning how to code with open access neurobiology datasets,” *Virtual Conference of the Association for Biology Laboratory Education*, 2021.

“Defining cell types by their electrophysiology.” *Allen Institute Webinar*, 2020. Available here: <https://youtu.be/OQUOEKXPX8M>

“Learning how to code while analyzing an open access electrophysiology dataset.” *Faculty for Undergraduate Neuroscience Conference*, 2020.

“How to make the most of your PhD when you don’t know what comes next.” *Bernstein Computational Neuroscience PhD Symposium*, 2019.

“What tiny mouse brains can tell us about visual perception.” *Lehigh Valley Society for Neuroscience Keynote Talk*, 2018.

“Layer 5 cells in visual cortex with defined projections have distinct response properties.” *Society for Neuroscience Minisymposium*, 2017.

CONFERENCE POSTERS

Zuckerman, A., Vo, L., **Juavinett, A.L.** “Nervous but excited: Attitudes towards coding in an introductory coding class in biology.” *SABER West*, January 2023.

Zuckerman, A., Bloodgood, B., Avalos Morfin, J., Macagno, E., Artis, D., Gaasterland, T., Lo, S.M., **Juavinett, A.L.** “A Program to Prepare Diverse Transfer Students for Research Careers in Neuroscience.” *Society for Neuroscience*, November 2022.

Juavinett, A.L., Bekheet, G., Churchland, A.K. “Multisensory enhancement during audiovisual looming responses in mice.” *Society for Neuroscience*, November 2017.

Juavinett, A.L., Kim, E.J., Collins, H. “A precise connectivity map between the mouse thalamic nucleus LP and visual cortical areas.” *Society for Neuroscience*, November 2016.

Juavinett, A.L., Kim, E.J., Callaway, E.M. “Exploring the function of the secondary visual nucleus of the mouse in vivo.” *Janelia Thalamus and Corticothalamic Interactions Conference*, April 2015.

Juavinett, A.L., Callaway, E.M. “Plaid motion responses in mouse V1 and extrastriate areas.” *Society for Neuroscience*, October 2013.

Juavinett, A.L., “From neurons to perception: Using art to elucidate the visual system.” *Society for Neuroscience*, October 2013.

Juavinett, A.L., Stewart, J.L., May, A.C., Migliorini, R., Tapert, S.F., Paulus, M.P. “An interoceptive view of the adolescent brain.” *Society for Neuroscience*, October 2012.

Stewart, J.L., **Juavinett, A.L.**, Shukla, A., Paulus, M.P. “Altered Interoceptive Processing during Inspiratory Breathing Load in Stimulant Users who Develop Problems versus Those who Do Not.” *International Society of the Advancement of Respiratory Psychophysiology*, Sept 2012.

Juavinett, A.L., Stewart, J.L., Shukla, A., Paulus, M.P. “Something feels different: Altered interoceptive processing in problem stimulant users versus Desisters.” *College on Problems of Drug Dependence*, June 2012.

Juavinett, A.L., Reynolds, E. “Race, Crime, and the Power of Unconscious Stereotypes.” Presented at Student Research in Social Justice Conference at Muhlenberg College & Lehigh Valley SfN, April 2011.

COMMUNITY & UNIVERSITY LEADERSHIP

2023 – present	UC San Diego Senate Committee on Diversity & Equity
2022 – present	Journal of Undergraduate Neuroscience Education, Editorial Board
2021 – present	Saltman Quarterly Faculty Advisor
2020 – present	STARTneuro Program Co-Director (startneuro.ucsd.edu)
2019 – present	Academic Internship Program Faculty Advisory Board
2019 – present	Neurobiology Major Faculty Advisor, UC San Diego
2019 – present	San Diego Science Storytelling (SASSY), Organizer
2022 – 2023	NSF AGEP Faculty Fellow

2020 – 2023	BS/MS Program Co-Director, UC San Diego
2020	Neuromatch Academy Organizer
2014 – 2016	UC San Diego Neurosciences Graduate Program Admission Committee
2014 – 2016	Pint of Science San Diego, Organizing Team Member
2011 – 2014	Neurosciences Outreach Program, Member
2011 – 2014	Neurosciences Social Committee, Coordinator
2012 – 2013	Graduate Student Association, Neurosciences Representative
2011	The Franklin Institute, Philadelphia Science Festival Intern
2008 – 2009	Lafayette College Student Government, President

OTHER GRANTS & AWARDS

2022	Faculty for Undergraduate Neuroscience Educator of the Year Award
2013	National Science Foundation Graduate Research Fellowship Program
2012	National Science Foundation GK-12 Grant, Socrates Fellowship Program
2011	William C. Rappolt '67 & Walter Oechsle '57 Neuroscience Prize
2010	Amgen Foundation Scholar, Columbia University
2009	Kathryn Wasserman Davis Projects for Peace Grant

WRITING EXPERIENCE *

2023 – present	Writer for <i>The Chronicle</i>
2020 – present	Writer for <i>Simons Foundation / The Transmitter</i>
2020 – 2022	Writer for <i>Psychology Today</i>
2018 – 2022	Writer for <i>The Spike</i> (https://medium.com/the-spike)
2017 – 2020	Assistant Editor & Writer, Massive Science
2016 – 2017	Contributor to Shmoop Online Anatomy & Physiology Course
2013 – 2016	Co-founder and Director of NeuWrite San Diego
2015	Contributor to Anatomy & Physiology Coloring Book (Quarto)
2013 – 2015	Staff writer for Proteintech Blog
2013	Staff writer for “Core Concepts” at Oxbridge Biotech Roundtable

* Writing samples available at ashleyjuavinett.com/portfolio/writing/

REVIEWING

2020 – present	<i>eLife</i>
2020 – present	<i>Science Advances</i>
2020 – present	<i>Journal for Undergraduate Neuroscience Education</i>
2021 – 2022	<i>American Biology Teacher</i>

PRIOR RESEARCH EXPERIENCE

2012 – 2016	Doctoral student, The Salk Institute for Biological Studies
2011 – 2012	Rotation student, UC San Diego Psychiatry
2012	Rotation student, UC San Diego Cognitive Sciences
2010 – 2011	Honors Thesis Student, Lafayette College
2010	Intern, Columbia University Motor Neuron Center
2008	Intern, Louisiana State University

PRIOR TEACHING EXPERIENCE

2015	Instructor, UC San Diego Psychology Department
2015	Visiting Educator, High Tech High San Marcos
2013 – 2015	UCSD Outreach Teacher Training Program
2012 – 2013	National Science Foundation GK-12 Socrates Fellow
2012	Teaching Assistant, UC San Diego, Dept. of Neuroscience
2008 – 2011	Northampton County Jail, Music Therapy Class Coordinator
2009	Santa Cruz County Jail, Kathryn W. Davis Projects for Peace Fellow