

JESSICA M. JONES

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EDUCATION

University of Washington, Seattle, WA 2020–
Ph.D. Candidate, Department of Physiology and Biophysics, Neurosciences

UC Santa Cruz, Santa Cruz, CA 2014–2018
Bachelor of Sciences
Major: Molecular, Cell, Developmental (MCD) Biology

RESEARCH EXPERIENCE

Ph.D. Candidate, John C. Tuthill Lab, University of Washington, Seattle, WA 2021–
Project: “Discovering neural mechanisms of nociception and affective pain in adult Drosophila melanogaster”
I propose to pioneer the study of neural circuits that underlie behavioral avoidance of mechanical stimuli in adult Drosophila. In my project, I plan to separate nociceptive and pain processing based on a combination of behavioral kinematic analysis and EM circuit tracing.

Rotation Student, Ajay Dhaka Lab, University of Washington, Seattle, WA 2021
Project: “Investigating thermal preference plasticity in larval Danio rerio”
Acutely altered rearing conditions to shift temperature preference and discovered specific brain regions that contribute to valence assignment via phosphoERK

Rotation Student, Garret Stuber Lab, University of Washington, Seattle, WA 2020
Project: “Improvements in taste reactivity quantification/classification in mouse models”
Built a machine learning classifier to accurately distinguish taste reactivity behavioral markers from one another in shifted internal states

Research Specialist, Ishmail Abdus-Saboor Lab, University of Pennsylvania, PA 2018–2020
Project: “A machine-vision approach for automated pain measurement at millisecond timescales”
Created a marker-less tracking platform to score pain behavior automatically and objectively in acute and chronic pain rodent models. This revealed quantifiable features associated with reflexive and affective behavioral states

Research Assistant, James Ackman Lab, University of California, Santa Cruz, CA 2017–2018
Project: “Studying the effects of blue light exposure on behavioral state in neonatal mice”
Wrote code in Python to quantify sleep disturbance behavior in response to blue-light stimuli during mouse development. Captured novel movements during the onset of light stimuli, while writing Python code from scratch to quantify body movements upon exposure

Summer Fellow (NIH IMSD), Melissa Jurica Lab, University of California, Santa Cruz, CA 2017
Project: “Engineering a reporter gene to select for splicing mutations in S. cerevisiae”
Studied alternative splicing in yeast protein and developed skillset in DNA manipulation in vivo and through bioinformatics software.

Research Intern, Deborah Letourneau Lab, University of California, Santa Cruz, CA 2016
Project: Actively monitored the diet and habit of arthropods on understory plants to develop a coastal Redwood Forest food web

FELLOWSHIPS AND AWARDS

<i>Funding Organization/Name – Career Stage</i>	<i>(year awarded)</i>
HHMI, James Gilliam Fellowship for Advanced Study – Ph.D.	2022
NSF, Graduate Research Fellowship Program, Honorable Mention – Ph.D.	2022
NIH, Predoctoral Training Program in the Neurosciences (T32) – Ph.D.	2020
NIH, R00 Diversity Supplemental Award – Post-Bacc.	2018
NIH. Initiative for Maximizing Student Development (R25) – B.S.	2017
Microsoft Corporation, Tuition Scholarship – B.S.	2016

PUBLICATIONS

Toussaint, A. B., Foster, W., **Jones, J. M.**, Kaufmann, S., Wachira, M., Hughes, R., Bongiovanni, A. R., Famularo, S. T., Dunham, B. P., Schwark, R., Karbalaei, R., Dressler, C., Bavley, C. C., Fried, N. T., Wimmer, M. E., & Abdus-Saboor, I. (2022). Chronic paternal morphine exposure increases sensitivity to morphine-derived pain relief in male progeny. **Science advances**, 8(7), eabk2425.

Jones, J. M., Foster, W., Twomey, C. R., Burdge, J., Ahmed, O. M., Pereira, T. D., Wojick, J. A., Corder, G., Plotkin, J. B., & Abdus-Saboor, I. (2020). A machine-vision approach for automated pain measurement at millisecond timescales. **eLife**, 9, e57258

Abdus-Saboor, I., Fried, N. T., Lay, M., Burdge, J., Swanson, K., Fischer, R., **Jones, J.M.**, Dong, P., Cai, W., Guo, X., Tao, Y. X., Bethea, J., Ma, M., Dong, X., Ding, L., & Luo, W. (2019). Development of a Mouse Pain Scale Using Sub-Second Behavioral Mapping and Statistical Modeling. **Cell reports**, 28(6), 1623–1634.e4.

SCIENTIFIC PRESENTATIONS AND MEMBERSHIPS

Orals

Jones, J.M., Capelle, M., *An Agent Based Model to explain nociceptive congregation in Drosophila melanogaster* (2022), Quantitative Approaches to Behavior Cajal Course, Lisboa, Portugal

Jones, J. M., Foster, W., Twomey, C. R., Plotkin, J. B., & Abdus-Saboor, I., *Automated pain assessment with millisecond resolution marker less tracking* (2019), 49th Annual Society for Neuroscience (SFN) Meeting, Chicago, IL. **Nano-symposium**

Jones, J.M., Berkness, T., Ackman, J., *Quantifying the effects of photobleaching in calcium imaging* (2018), Department of Biomolecular Engineering, University of California, Santa Cruz, Santa Cruz, CA

Posters

Jessica Jones*, William Foster*, Colin Twomey, Justin Burdge, Joshua Plotkin, Ishmail Abdus-Saboor, *Automated pain assessment with millisecond resolution marker less tracking* (2019), Pain in Animals Workshop 2019, Bethesda, MA

Jessica Jones*, Brian Mullen, Sydney Weiser, James Ackman, *Studying the effects of blue light exposure on the behavioral state in neonatal mice* (2018), 21st Annual Undergraduate Research Poster Symposium, University of California, Santa Cruz, Santa Cruz, CA

Jessica Jones*, Joanna Tran*, Beckett Whittier*, and Melissa Jurica. *Engineering a reporter gene to select for splicing mutations in S. cerevisiae* (2017), 8th Annual Physical and Biological Sciences Summer Research Symposium, University of California, Santa Cruz, Santa Cruz, CA:

Conferences and Courses

Quantitative Approaches to Behavior Cajal Course, Lisbon, PT.	2022
49 th Annual Society for Neuroscience (SFN) Meeting, Chicago, IL.	2019
Pain in Animals Workshop, Bethesda, MA.	2019
NSBE's 44th Annual National Convention, Pittsburgh, PA.	2018
Genentech Campus Engagement Day, San Francisco, CA.	2017
Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix, AZ.	2017
Stanford and UC Berkeley Graduate Pathways Symposium, Stanford, CA.	2017
NSBE's 42nd Annual National Convention, Boston, MA.	2016

Affiliations: Society for Neuroscience, SACNAS, NSBE – Region 6

TEACHING AND MENTORSHIP

Summer Research Mentor , University of Washington, Seattle, WA Program: Center for Neurotechnology's Research Experience for Undergraduates (REU) Trainee: Simone Pico Rodriguez	2022
Graduate Teaching Assistant , University of Washington, Seattle Course: Introduction To Systems And Behavioral Neuroscience (NEUSCI 302) Responsibilities: Design laboratory lecture content focused on introducing neurobiological concepts, facilitate hands-on research projects, mentor students in writing lab reports, and provide guidance to those that might be on the fence about pursuing neuroscience. 28 students	2021
Summer Research Mentor , University of Pennsylvania, Philadelphia, PA Program: SUIP Diversity Action Plan for PENN Genomics (DAPPG) Trainees: Racquel Amadi, Syphane Gibbs (co-mentored, PhD student at University of Virginia)	2019
Outreach Graduate Student Reviewer, Grey Matters Journal	2020–
Mentor, Seattle Girl's School Virtual Mentor Program	2020–2021
Facilitative Group Leader, SOAR/Student Media/Cultural Arts and Diversity (SOMeCA)	2015–2018
Mentor and Chair, Black Womxms Alliance, University of California, Santa Cruz	2014–2017

