

JESSICA M. JONES

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Graduate Student Researcher
Department of Physiology and Biophysics
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EDUCATION

Ph.D. , Dept. of Physiology and Biophysics, University of Washington, Washington	2020 – Present
Post-Baccalaureate , Dept. of Biology, University of Pennsylvania, Pennsylvania	2018 – 2020
B.S. , Molecular, Cell, Developmental (MCD) Biology, UC Santa Cruz, California	2014 – 2018

RESEARCH EXPERIENCE

Department of Physiology and Biophysics, University of Washington, Seattle, WA Graduate Student Researcher Project: “Discovering neural mechanisms of nociception and affective pain in adult <i>Drosophila</i> ” –Funded through JSPTPN T32 <i>Advisor: Dr. John C. Tuthill</i> <ul style="list-style-type: none">- Propose to pioneer the study of neural circuits that underlie behavioral avoidance of mechanical stimuli in adult <i>Drosophila</i>- Aiming to separate nociceptive and pain processing based on a combination of behavioral kinematic analysis and circuit tracing.	2020 –Present
Department of Biology, University of Pennsylvania, Philadelphia, PA Research Specialist Project: “A machine-vision approach for automated pain measurement at millisecond timescales” –Funded through NIH NIDCR Research Supplement to Promote Diversity in Health-Related Research <i>Advisor: Dr. Ishmail Abdus-Saboor</i> <ul style="list-style-type: none">- Created a marker-less tracking platform to score pain behavior automatically and objectively in acute and chronic pain rodent models- Revealed quantifiable features associated with reflexive and affective behavioral states	2018 – 2020
Department of MCD Biology, University of California Santa Cruz, Santa Cruz, CA Research Assistant Senior Thesis Project: “Studying the effects of blue light exposure on behavioral state in neonatal mice” –Funded through NIH Initiative for Maximizing Student Diversity (IMSD) Program (R25) <i>Advisor: Dr. James Ackman</i> <ul style="list-style-type: none">- 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	2017 – 2018

<p>Department of MCD Biology, University of California Santa Cruz, Santa Cruz, CA IMSD Research Assistant Project: “Engineering a reporter gene to select for splicing mutations in <i>S. cerevisiae</i>” – Funded through STEM Diversity Summer Research Institute (SRI) Advisor: Dr. Melissa Jurica</p> <ul style="list-style-type: none"> - Studied alternative splicing in yeast protein and developed skillset in DNA manipulation in vivo and through bioinformatics software. 	Summer 2017
<p>Environmental Studies Department, University of California Santa Cruz, Santa Cruz, CA Research Intern Project: Actively monitored the diet and habit of arthropods on understory plants to develop a coastal Redwood Forest food web Advisor: Dr. Deborah Letourneau</p>	Winter 2016

FUNDING

NIH Predoctoral Training Program in the Neurosciences (T32) – Ph.D. \$38,000/yr.	2020 – 21
R00 Diversity Supplemental Award – Post-Bacc. \$36,000/yr	2018 – 20
Initiative for Maximizing Student Development (IMSD) NIH Program (R25) – B.S. \$6,000/yr.	2017 – 18
Microsoft Tuition Scholarship – B.S. \$3,000	2016

PUBLICATIONS

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

Toussaint, A.*, 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., Abdus-Saboor, I. (2021). Chronic paternal morphine exposure increases sensitivity to morphine-derived pain relief in male progeny. *In Review, Science Advances*

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.

PRESENTATIONS

Orals

49th Annual Society for Neuroscience (SFN) Meeting, Chicago, IL. **Nano-symposium:** Automated pain assessment with millisecond resolution marker less tracking (2019), **Jessica Jones***, William Foster*, Colin Twomey, Justin Burdge, Joshua Plotkin, Ishmail Abdus-Saboor

Department of Biomolecular Engineering, University of California, Santa Cruz, Santa Cruz, CA:
Quantifying the effects of photobleaching in calcium imaging (2018), **Jessica Jones***, Tyler Berkness*, James Ackman.

Posters

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

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

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

Related Conferences

- 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

PROFESSIONAL AFFILIATIONS

Memberships

<i>Member, Society for Neuroscience</i>	2018–2020
<i>Member, Society for Advancement of Chicanos/Hispanics, and Native Americans in Science</i>	2017–2020
<i>Santa Cruz Chapter Officer and Member, National Society of Black Engineers, Region 6</i>	2014–2018

Teaching

Graduate Teaching Assistant, University of Washington, Seattle	Fall 2021
<i>Course:</i> Introduction To Systems And Behavioral Neuroscience	
<i>Responsibilities:</i> 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	

Mentor and Community Engagement

<i>Graduate Student Reviewer, Grey Matters Journal</i>	2020–
<i>Mentor, Seattle Girl's School Virtual Mentor Program</i>	2020–2021
<i>Summer Research Mentor, SUIP Diversity Action Plan for PENN Genomics (DAPPG)</i>	2019
<i>Facilitative Group Leader, SOAR/Student Media/Cultural Arts and Diversity (SOMeCA)</i>	2015–2018
<i>Mentor and Chair, Black Womxms Alliance, University of California, Santa Cruz</i>	2014–2017