Nathan T. Fried, PhD

Assistant Teaching Professor
Department of Biology
Rutgers University, Camden, NJ
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Research Aim: Introduce a computational neuroethology strategy to improve behavioral measures of pain in rodents and Drosophila for studying the cognitive, cellular, and molecular mechanisms behind the intersection of sleep and pain as a potential therapeutic alternative to opioids.

Teaching Aim: Develop a research program and curriculum that integrates problem-based learning and authentic research experiences to increase science identity, social capitol, retention, and success of students from a range of backgrounds.

Current Appointments at Rutgers University Camden

Assistant Teaching Professor 2018-
Integrating teaching into my research program using Drosophila to study sleep and pain.

Assistant Director of Undergraduate Biology Research & Education 2018-
Mentoring students and developing curricula that facilitate undergraduate research.

Assistant Director & Program Coordinator of the NIH T34 MARC U-STAR program 2019-
Developing research training program to increase diversity in the biomedical sciences.

Education and Training

Postdoctoral Fellow, NIH K12 Penn-PORT IRACDA Fellow, University of Pennsylvania 2015-2018
Developed new molecular, behavioral, and machine learning platform to assess pain in mice.
Mentor: Wenqin Luo, Associate Professor

Ph.D. in Neuroscience, NIH T32 Fellow, Thomas Jefferson University 2010-2015
Identified mitochondrial dysfunction & altered adenosine signaling in rat model of migraine.
Mentors: Michael Oshinsky (NIH Program Director), Melanie Elliott (Assistant Professor)

B.S. in Biological Sciences (minor in mathematics), Drexel University Honors College 2003-2008
Identified involvement of HDACs in APP metabolism in Alzheimer's cell culture model.
Mentor: Aleister Saunders (Professor, Senior Vice Provost for Research)

Specialized Education and Training

Rutgers Camden Lifelong Learning in Inclusive & Equitable Teaching Program 2021
Center for the Improvement of Mentored Experiences in Research: Entering Mentoring Training 2020
R25 NIH BRAIN Initiative in Computational Neuroscience Summer Course for undergraduate research/teaching, "Models and Neurobiology", University of Missouri 2019
Problem-Based Learning for Undergraduate Science Education, University of Delaware 2019
CrawFly neurophys course for invertebrate undergraduate research/teaching, Cornell University 2018
Improving STEM Education through Research, Drexel University 2018
Overcoming barriers to utilize Drosophila at PUIs, Drosophila Research Conference 2018
College and University Teaching (3cr course), University of Pennsylvania 2017

HHMI-BioInteractive Teaching Workshop, University of Pennsylvania 2016

Research Funding ([†] indicates mentored undergraduate student)

ASCB PALM-FRONDS Fellowship ($2,000) (Role: Mentor) 2021
Mentee: Kadine Powell[†]
"Exploring the Impact of Science Identity on Self-Advocacy in the STEM classroom."

Rutgers Population Health Faculty Professional Development Grant ($2,000) (Role: co-PI) 2019-2020
Co-PI: Jamie Dunaev, PhD
"Exploring the social context of stigma on chronic pain catastrophizing."

Rutgers Experiential Learning Infusion Grant ($2,000) (Role: PI) 2019
"Bite-Sized Authentic Research Experiences in Drosophila Sleep & Pain"

Rutgers Provost Fund for Research Catalyst Grant ($4,965) (Role: PI) 2018-2019
"Characterizing pain in Drosophila to identify novel non-opioid pain therapeutic targets."

NIH IRACDA K12 PENN-PORT Postdoc Fellowship (K12 GM081259)($190,488)(Role:trainee) 2016-2018
PI: Janis Burkhardt, PhD
"Exploring central/peripheral neural circuit modifications in chronic pain."

Thomas Jefferson Headache Center Miles for Migraine Grant ($15,000) (Role: co-PI) 2015-2016
Co-PIs: Wenqin Luo, PhD; Melanie Elliott, PhD
"Investigating the role of non-peptidergic C-fiber nociceptors in post-traumatic headache."

NIH Junior Investigators in Alcohol Research (T32 AA007463) ($105,300) (Role: trainee) 2012-2015
PI: Jan Hoek, PhD
"Studying mitochondrial dysfunction & adenosine signaling in the hangover headache."

Teaching Funding

ASCB Promoting Active Learning and Mentoring Fellowship ($1,500) (Role: Mentor) 2021
Mentee: Dr. Steven Foltz
"Developing statistics/research methods active learning workshops with backwards design."

ASCB Promoting Active Learning and Mentoring Fellowship ($1,500) (Role: Mentor) 2020
Mentee: Dr. Edward Waddell
"Developing a CURE-based lecture focused on chronic pain and the opioid epidemic."

Rutgers Open and Affordable Textbooks Award ($1,000) (Role: PI) 2019-2020
"Increasing access with problem-based learning & online materials in Neuroscience I."

Digital Teaching Fellowship ($1,500) (Role: PI) 2018-2019
"Integrating technology into the biology classroom."

Honors and Awards

HHMI Driving Change Infusion Grant ($50,000. Finalist for $2.5 million, decisions in 2022)
Co-writer & member of Core Leadership Team – PI: Kwangwon Lee 2020
Rutgers Camden Biology Dept "Featured Faculty" – student nominated 2020
Edmund Optics Educational Award Finalist ($500) 2019
R25 NIH BRAIN Initiative Comp. Neuro. Undergrad Teaching/Research Scholarship ($1500) 2019
Drexel University's 40 under 40 2019

IRACDA Annual Conference Research Poster Award	2018
Cornell CrawFly Invertebrate Neurophysiology Scholarship ($1500)	2018
Jefferson JCBS Alumni Thesis Award	2016
North American Pain School Trainee ($1500)	2016
North American Pain School Pain Research Forum Correspondent	2016
New Headache Investigator Research Tournament Winner	2015
International Headache Academy Young Investigator	2015
NIH Pain Consortium Symposium Travel Grant ($1000)	2014
CLS Capitol Hill Day Travel Grant ($1000)	2014
Fredric Rieders Renaissance Foundation Graduate Student Award	2014
TJU Travel Grant ($1000)	2012, 2014
American Headache Society Travel Grant ($1500)	2013
Seahorse Bioscience Inc Travel Grant ($1000)	2012
Leopold Schepp Foundation Graduate Grant ($20,000)	2010-2012

Original: Peer Reviewed Articles ([†] indicates mentored undergraduate student. [¥] indicates mentored postdoc.)

1. Toussaint A, Foster W, Jones JM, Kaufmann S, Wachira M[†], Hughes R[†], Bongiovanni AR, Famularo ST, Dunham BP, Schwark R, **Fried NT**, Wimmer M, Abdus-Saboor I. "Chronic paternal morphine exposure increases sensitivity to morphine-derived antinociception." In press at Science Advances. Feb 2022. Available from: https://doi.org/10.1101/2021.02.07.430143.
2. Waddell EA[¥], Ruiz-Whalen D, O'Reilly AM, **Fried NT**. "Flying in the Face of Adversity: A Drosophila-based Virtual CURE Provides Semester-long Authentic Research Opportunity to the Flipped Classroom." Journal of Microbiology & Biology Education, 2021, e00173-21.
3. **Fried NT**, Maxwell CR, Hoek JB, Elliott, MB, Oshinsky ML. "Adenosine modulates extracellular glutamate levels via adenosine A_{2A} receptors in the delayed-ethanol induced headache." BioRxiv [Preprint]. Oct 04, 2020. Available from: https://doi.org/10.1101/2020.10.02.324517.
4. Burdge J, **Fried NT**, Abdus-Saboor I. "Using High-Speed Videography to Construct a Mouse Pain Scale." STAR Protocols 2, 100322 (2021).
5. **Fried NT**, Chamessian A, Zylka M, Abdus-Saboor I. "Improving pain assessment in mice and rats with advanced videography and computational approaches." Pain, 2020 161, 1420–1424.
6. Abdus-Saboor I*, **Fried NT***, Lay M, Burdge J, Swanson K, Fischer R, Jones J, Dong P, Cai W, Guo X, Tao YX, Bethea J, Ma M, Dong X, Ding L, Luo W." Development of a Mouse Pain Scale Using Sub-second Behavioral Mapping and Statistical Modeling." Cell Reports, 2019; 28 (6): 1623 DOI: 10.1016/j.celrep.2019.07.017 **(*co-first authors)**
7. **Fried NT**, Elliot MB, Oshinsky ML. "The Role of Adenosine Signaling in Headache: a Review." Brain Sci. *The Pathogenesis and Treatment of Headache Disorders special issue* 2017, 7(3), 30.
8. **Fried NT**, Maxwell CR, Elliot MB, Oshinsky ML. "Region-specific disruption of the blood-brain barrier following repeated inflammatory dural stimulation in a rat model of chronic trigeminal allodynia." *Cephalalgia* April 2017.
9. **Fried NT**, Moffat C, Seifert EL, Oshinsky ML. "Functional Mitochondrial Analysis in Acute Brain Sections from Adult Rats Reveals Mitochondrial Dysfunction in a Rat Model of Migraine." Am J Physiol Cell Physiol 2014, 307(11):C1017-30.
10. Talati PG, Hoang DT, **Fried NT**, Magee MS, Fineberg JD. "A Perspective on PhD Career Outlook: Training, Mentoring and Utilizing a New Generation of STEM Doctoral Degrees." Technology Transfer and Entrepreneurship 2014, 1(2):138-143.
11. Hirata H, **Fried NT**, Oshinsky ML. "Quantitative characterization reveals three types of dry-sensitive corneal afferents: pattern of discharge, receptive field, thermal and chemical sensitivity." Journal of Neurophysiology 2012, 108(9):2481-93.

Original: Non-Peer Reviewed Articles

1. **Fried NT**. "A basic science perspective on pain research and the opioid epidemic." Expert Point of View, Neurodiem International 2020.

Invention Disclosures

1. **A mouse pain scale: method, software, and device**, co-inventor (filed in June 2018 to the University of Pennsylvania Center for Innovation)

Poster Presentations († indicates mentored undergraduate student. ¥ indicates mentored postdoc.)

1. Crespo J†, **Fried NT**. "Pilot Study Reveals Reduced Sleep Increases Sensitivity to Chemical Nociception in Drosophila melanogaster." Nov 2021 ABRCMS.
2. Suoto C†, **Fried NT**. "Characterizing Seizure Susceptibility in a Drosophila melanogaster Model of Familial Hemiplegic Migraine." Dec 2021 Rutgers Biology Day, Camden NJ.
3. Mody K†, Woods K†, **Fried NT**. "Modifying the Rat Grimace Scale for the Sub-Second Assessment of Acute Pain." Dec 2021 Rutgers Biology Day, Camden NJ.
4. ¥Waddell EA, **Fried NT**. "Flying in the Face of Adversity: A Drosophila-based Virtual CURE Provides Semester-long Authentic Research Opportunity to the Flipped Classroom." June 2021 NIH IRACDA Annual Conference.
5. Khan S†, **Fried NT**. "Investigating the Role of Sleep on Acute and Chronic Pain Responses in Drosophila melanogaster." June 2021 Rutgers Biology Day, Camden NJ.
6. Woods K†, Delva G†, D'Angelo S†, Ruiz B†, **Fried NT**. "The development of a high-speed rat pain ethogram." December 2020 Rutgers Biology Day, Camden NJ.
7. Delva G†, **Fried NT**. "Echinacea—A Potential Supplement to Treat Pain in Women with HPV-induced Cervical Cancer." December 2020 Rutgers Biology Day, Camden NJ.
8. D'Angelo S†, **Fried NT**. "Meta-Analysis of Preclinical Rodent Chronic Pain Studies: A Systematic Study Identifying Trends and Inconsistencies of Language, Methodology, Biases, and Models Utilized within the Field." November 2020 Annual Biomedical Research Conference for Minority Students (ABRCMS).
9. Ruiz B†, Alexander J, Dyson E, Ruiz-Whalen D, **Fried NT**, O'Reilly A. "Apoptosis in Ovarian Cells of RasMutant Drosophila melanogaster." November 2020 Annual Biomedical Research Conference for Minority Students (ABRCMS).
10. Hughes B†, Khasawneh O†, Mehta H†, **Fried NT**. "A High Fat Diet Increases Sensitivity to Chemical Nociception in D. melanogaster." November 2020 Annual Biomedical Research Conference for Minority Students (ABRCMS).
11. Gohar T†, Arman H†, Joy K†, Sohail R†, Rizvi Z†, **Fried NT,** Lee K. "Fish Oil Diet Supplementation Improves Learning and Memory in Drosophila melanogaster." November 2020 Annual Biomedical Research Conference for Minority Students (ABRCMS). **Gohar T won best neuro poster award.*
12. Pan J†, Khan U†, Wachira M†, Hughes R†, Khan S†, **Fried NT**. "Using artificial intelligence high speed imaging to study the effects of sleep disturbance on nociception in Drosophila melanogaster." December 2019 Rutgers Biology Day, Camden NJ.
13. Khan S†, Pan J†, Wachira M†, Hughes B†, Khan U†, **Fried NT**. "Modeling the effects of sleep disruption on pain in Drosophila melanogaster." November 2019 Annual Biomedical Research Conference for Minority Students (ABRCMS), Anaheim CA.
14. **Fried NT**. "Exploring the effectiveness of removing textbooks from a 300-Level Neuroscience I course at a Primarily Undergraduate Institution (PUI) with a high percentage of First-Generation Low-Income (FGLI) students in an effort to decrease course-associated costs." October 2019 Society for Neuroscience Annual Meeting, Chicago, IL.
15. **Fried NT**, Abdus-Saboor I, Dong P, Burdge J, Lu M, Ding L, Luo W. "A Mouse Pain Scale: Assessment of Pain Sensation in Mice Using Sub-second Behavioral Mapping and Statistical Modeling." July 2018 NIH IRACDA Annual Conference, Atlanta, GA. *Received Poster Award
16. Abdus-Saboor I, **Fried NT**, Dong P, Burdge J, Lu M, Ding L, Luo W. "High resolution mapping of sub-second behavior features of mouse paw withdrawal." November 2017 Society for Neuroscience Annual Meeting, Washington DC.

17. Green A[†], **Fried NT**, Luo W. "Using optogenetics to investigate the interactions between fibroblasts and c-fibers in the development of chronic pain." November 2017 Annual Biomedical Research Conference for Minority Students (ABRCMS), Phoenix AZ.
18. Perino J, **Fried NT**, Oshinsky ML, Daugherty B, Lederman S, Elliott MB. "The (R)-isomer of isometheptene decreases trigeminal sensitivity in a rat model of primary headache." June 2016 American Headache Society Annual Scientific Meeting, San Diego, CA.
19. Hann S, **Fried NT**, Venkatesan L, Oshinsky ML. "Effectiveness of 'Burst' Occipital Nerve Stimulation in Treating Allodynia in a Rodent Model of Migraine." December 2015 The North American Neuromodulation Society Annual Meeting, Las Vegas, NV.
20. **Fried NT,** Oshinsky ML. "The role of adenosine signaling, mitochondrial dysfunction, and glutamate signaling in delayed-ethanol-induced-headache in two rat models of migraine." June 2015 38th annual Research Society on Alcoholism Scientific Meeting, San Antonio, TX.
21. **Fried NT,** Oshinsky ML. "The (R)-isomer of isometheptene, decreases trigeminal sensitivity in a rat model of primary headache." June 2015 AHS Annual Scientific Meeting, Washington, DC.
22. **Fried NT,** Oshinsky ML. "Mitochondrial Dysfunction in the Development of Trigeminal Sensitivity in a Chronic Migraine and Spontaneous Trigeminal Allodynia Rat Model." May 2015 International Headache Congress, Valencia, Spain.
23. **Fried NT,** Oshinsky ML. "Repeated infusion of prostaglandin E2 onto the dura induces chronic trigeminal sensitivity via TRPA1 channels." June 2014 American Headache Society Scientific Meeting, Los Angeles, CA. | November 2014, Society for Neuroscience Meeting, Washington DC.
24. **Fried NT,** Oshinsky ML. "The Role of Mitochondrial Dysfunction in the Development of Chronic Migraine." May 2014, The 9th Annual NIH Pain Consortium Symposium on Advances in Pain Research, Bethesda, MD. *(INVITED POSTER PRESENTER)*
25. **Fried NT,** Oshinsky ML. "The role of adenosine and mitochondrial dysfunction in delayed-ethanol-induced-headache." June 2014, 37th Research Society on Alcoholism Scientific Meeting, Bellevue, WA.
26. **Fried NT**, Moffat C, Seifert EL, Oshinsky ML. "Reduced Spare Respiratory Capacity in a Rat Model of Migraine." June 2013 International Headache Congress, Boston, MA.
27. Hirata H, **Fried NT**, Oshinsky ML. "Short exposure to intense tear hyperosmolarity leads to functional alterations of the corneal nerves involved in tearing and/or ocular pain." March 2013 The Association for Research in Vision and Ophthalmology Annual, Meeting Seattle, WA
28. **Fried NT**, Moffat C, Seifert EL, Oshinsky ML. "Mitochondrial dysfunction in a rat model of chronic migraine." October 2012 Society for Neuroscience Annual Meeting, New Orleans, LA (*Endorsed by Seahorse Bioscience and reprinted for publication and in a press release*.)
29. Khandelwal P, Schuster J, **Fried NT**, D'Cruz T, Lee J, Saunders A. "Identification Of Regulators Of APP Metabolism On Chr 10" July 2008 International Conference on Alzheimer's Disease, Chicago, IL
30. **Fried NT**, Khandelwal P, Saunders A. "Identification of HDACs involved in APP metabolism" March 2008 Drexel's CoAS Research Day, Philadelphia, PA; April 2008 (Drexel Research Day – 1st prize)
31. Reddy M, Wong J, **Fried NT**, Prabhakar U. "Human IL-12/23 mAb inhibits Cutaneous Lymphocyte Antigen, IL-12R, and IL-2Ra expression on activated peripheral blood T lymphocytes and secretion of IFN- y, IL-17, IL-2, IL-10, and TNF-a cytokines" April 2006, Society for Investigative Dermatology, Philadelphia, PA; July 2006, Centocor Science Poster Day, Radnor, PA

Invited Research-focused Talks

Dept. Psychology's Seminar Series, Rutgers Camden
"The Misinterpretations of Animal Behavior may be the Greatest Barrier for Neuroscience." 2021
Dept. of Natural Sciences Seminar Series, Coppin State University
"From Paw Withdrawal to Paw Pain Scale." 2021
Dept. Psychology's Seminar Series, William's College
"Introducing Computational Neuroethology to Pain Research." 2021
Rowan School of Medicine Seminar Series, Rowan University
"High-speed imaging of drosophila and rodent nociception behavior." 2020
Dept. of Biology's Seminar Series, Drexel University

"Moving from rodents to flies to study pain." 2020
Neuroscience Seminar, Medical College of Wisconsin
"Integrating undergraduates into the study of chronic pain." 2019
Center for Computational and Integrative Biology Annual Conference, Rutgers Camden
"Computational Approaches to Studying Pain in Rodents." 2019
Dept. of Psychology's Cognition and Neuroscience Seminar Series, Temple University
"Enhancing vertebrate & invertebrate models of pain." 2019
NIH IRACDA Annual Teaching & Research Conference, Ann Arbor
"Barriers to Research for First-Generation Low-income Commuter Students." 2019
Thomas Jefferson University Headache Clinicians Meeting, TJU
"Rats, Mice, and Flies: Vertebrates & Invertebrates in Pain Research." 2019
Center for Computational and Integrative Biology, Rutgers Camden
"Creating Bite-Sized Authentic Research Experiences in Pain." 2019
Dept. of Biology's Seminar Series, Drexel University
"Refining our Measurement of Pain in Mice." 2019
Chancellor's New Faculty Research Symposium, Rutgers Camden
"Bringing Pain Research to Undergraduates." 2018
Coriell Institute Seminar Series, Coriell
"Increasing the predictive validity of pre-clinical animal pain models." 2018
NIH IRACDA Annual Teaching & Research Conference, Emory
"How do you Know a Mouse is in Pain?" 2018
Thomas Jefferson University Headache Clinicians Meeting, TJU
"CGRP and high-speed imaging of rodent headaches " 2018
Postdoctoral Research Highlights Seminar, Drexel University
"High-speed imaging of mouse pain behavior " 2018
Tonix Pharmaceuticals Key Opinion Leader Meeting
"Isometheptene isomer effects on rat model of primary headache." 2015
American Headache Society Annual Meeting
"Isometheptene: It works, but for the wrong reason." 2015
University of Texas at Austin Seminar, UofT
"Unraveling basic migraine physiology by defining how alcohol affects trigeminal pain." 2015

Invited Education-focused Talks

Thomas Jefferson DEIJ Seminar Series, Rutgers Camden
"Institutional strategies to overcome obstacles of first-gen low-incomes students in research." 2021
Center for Computational and Integrative Biology Annual Conference, Rutgers Camden
"Using Science Communication Tools to excel in an Academic Career." 2020
National Institute on Aging, National Institutes of Health
"Pursuing a Research Career with a Focus on Undergraduate Trainees." 2020
University of Pennsylvania's IRACDA Program
"Development of a postdoc-undergrad mentorship program: bridging MARC & IRACDA" 2020
University of Pennsylvania's Summer Internship Program Virtual Session
"How to be professional in a scientific setting" 2020
Society for Scholarly Publishing Conference, Wistar Institute
"Harnessing the 'ah-ha' moment in teaching and research. 2019
Leveraging Data for Population Health: Academic Partnerships Symposium, Rutgers Camden
"Using Social Media to Bridge Academia and Community." 2019
Problem-Based Learning Symposium, Rutgers Camden
"Infusing Problem-Based Learning into a Biology Curriculum." 2019
PYPELINES Research & Education Conference, Fox Chase Cancer Institute
"Promoting Experiential Learning and Diversity w/ a Research Program in Pain." 2019
SACNAS Annual Meeting, San Antonio

"Being a First-Generation Low-Income Faculty Member." 2018
NIH IRACDA Annual Teaching & Research Conference, Emory
"Obstacles for First-Generation Low-Income Students in STEM." 2018
Communicating Your Science Conference, Drexel University
"Sharing your science on social media " 2017

Research Experience

Assistant Teaching Professor, Dept. of Biology, Rutgers University Camden 2018-
Developing undergraduate-driven research program in Drosophila sleep & pain.

NIH Penn-PORT IRACDA Postdoctoral Fellow, Dept. of Neuroscience, Univ. of Pennsylvania 2015-2018
Utilized mouse genetics, optogenetics, and behavior to study neural circuits of pain.

PhD Candidate, Dept. of Neuroscience, Thomas Jefferson University 2010-2015
Studied mitochondrial dysfunction and adenosine signaling in rat model of migraine.

Research Lab Manager, Dept. of Biology, Drexel University 2008-2010
Managed cell imaging, flow cytometry, and RNAi resource centers.

Student Research Assistant, Dept. of Biology, Drexel University 2005-2008
Performed a chromosome-wide screen for genes affecting Alzheimer's disease.

Co-op/Assistant Scientist, Centocor 2005-2007
Used cell-based assays to study efficacy of multiple sclerosis therapeutics.

Teaching Experience

Positions

Assistant Teaching Professor, Dept. of Biology, Rutgers University Camden 2018-
Adjunct Faculty, Dept. of Biology, Rutgers University Camden 2017-2018
Adjunct Faculty, Dept. of Biology, Delaware County Community College 2017
Mathematics Instructor & Physics Teaching Assistant, Thomas Jefferson University 2013-2018

Courses Developed & Taught

Honors Neuroscience of the Opioid Epidemic (100-level)
2020 Fall Teaching Effectiveness Evaluation (virtual due to COVID): 4.6/5.0
Neurobiology II (300-level & graduate)
2020 Spring Teaching Effectiveness Evaluation: 4.9/5.0
Neuroscience I (300-level & graduate)
2021 Fall Teaching Effectiveness Evaluation: 4.8/5.0
2020 Fall Teaching Effectiveness Evaluation (virtual due to COVID): 4.3/5.0
2019 Fall Teaching Effectiveness Evaluation: 4.9/5.0
2019 Spring Teaching Effectiveness Evaluation: 4.8/5.0
Neurobiology of Behavior (300-level)
2019 Fall Teaching Effectiveness Evaluation: 5.0/5.0
Communicating Biomedical Science (300-level & graduate)
2021 Spring Teaching Effectiveness Evaluation (virtual due to COVID): 4.8/5.0
2019 Fall Teaching Effectiveness Evaluation: 4.8/5.0
Neuroscience of the Opioid Epidemic (300-level & graduate)
2018 Fall Teaching Effectiveness Evaluation: 5.0/5.0
2018 Spring Teaching Effectiveness Evaluation: 5.0/5.0

Courses Adopted & Taught

Current Topics (400-level)
- 2020 Spring Teaching Effectiveness Evaluation: 4.8/5.0

Principles and Practices of Biological Research CURE lab (300-level)
- 2021 Fall Teaching Effectiveness Evaluation: 5.0/5.0
- 2021 Spring Teaching Effectiveness Evaluation (virtual due to COVID): 4.8/5.0
- 2020 Fall Teaching Effectiveness Evaluation: 5.0/5.0
- 2020 Spring Teaching Effectiveness Evaluation: 5.0/5.0
- 2019 Spring Teaching Effectiveness Evaluation: 4.8/5.0

Statistics in Biological Science (200-level)
- 2021 Fall Teaching Effectiveness Evaluation: 4.7/5.0
- 2021 Spring Teaching Effectiveness Evaluation (virtual due to COVID): 4.4/5.0
- 2020 Fall Teaching Effectiveness Evaluation (virtual due to COVID): 4.8/5.0
- 2019 Spring Teaching Effectiveness Evaluation: 4.9/5.0

Exploring Careers in Biology (100-level)
- 2019 Fall Teaching Effectiveness Evaluation: 4.9/5.0
- 2018 Fall Teaching Effectiveness Evaluation: 4.8/5.0

Pathophysiology (300-level)
- 2018 Fall Teaching Effectiveness Evaluation: 4.7/5.0

Anatomy and Physiology I (200-level)
- 2017 Fall Teaching Effectiveness Evaluation: 4.9/5.0

Science Writing Experience

Freelance Science Journalist, International Association for the Study of Pain (IASP)	2016-2018
Freelance Science Copy Editor, Cactus Communications	2016-2017
Freelance Science Writer, American Association for Cancer Research	2014-2015
Columnist, Integrative Academic Solutions	2013-2014
Content Editor, National Institute of Neurological Disorders and Stroke	2011-2012

Service

Activities

Teaching Mentor for NIH IRACDA postdoc fellow	2020-
Biology Departmental Seminar Organizer	2020
Assistant Editor for the Rutgers Camden Journal of Biological Science	2019-
Ad hoc academic reviewer at ACS Pharmacology & Translational Science, PLOS ONE, Cell STAR Protocols, Cephalalgia, Journal of the Neurological Sciences, Cellular Physiology and Biochemistry, and Experimental Brain Research.	2016-
Tutored mathematics, physics, neuroscience, biology, and genetics	2008-2016
Mapped primate populations w/ Bioko Biodiversity Protection Program, Equatorial Guinea	2010
Mapped sea turtle populations w/ Archelon: Sea Turtle Protection Society of Greece, Greece	2008
Mapped lanternfish populations w/ SEA sailing research vessel, Sargasso Sea	2008

Science & Education Public Outreach

Invited speaker for Scarlet Scholars Lecture Series	2021
Invited speaker at Omicron Delta Kappa Rutgers-Camden	2021
Invited panelist at Rutgers Student Success Coach Office	2020
Invited speaker at Rutgers Camden Psychology Club	2020
Invited speaker at Philadelphia Science Center Venture Café	2020
Rutgers Camden Ethics Bowl Judge	2020
Invited speaker at Washington Township High School	2020
Rutgers Camden Biology Club Poster Primer Day	2019

Rutgers Camden Biology Club Neuroscience Seminar	2019
Rutgers Neuroscience Table at Philadelphia Science Festival Carnival & La Colombe	2019
Invited curator of the @RealScientists Twitter outreach account w/ 78K followers	2018
Invited speaker at Cafe Scientifique in Woking, United Kingdom at the LightBox art gallery	2018
Invited monologist at "Without Order" performance	2018
Invited speaker at Taste of Science Festival	2018
Invited speaker at University of Pennsylvania's Biological Basis of Behavior Society	2018
Invited speaker at TimeCamp001 science fiction conference hosted by Afrofuturist Affair	2017
Invited speaker at Washington Township High School	2017
Invited speaker at Philadelphia Science Festival's Sensory Overload at Yard's Brewery	2017
Philadelphia Brain Health Fair	2014
Coalition for the Life Sciences Capitol Hill Day	2014
SFN Brain Week activities	2011-2014

DEIJ Outreach

Host for "How to Write a Diversity Statement" Workshop, Rutgers Camden	2020
Invited speaker at UPenn's SUIP, "Being a good lab citizen"	2020
Invited speaker at Design Thinking Academy Charter School	2019
High School Writers Conference Guest Speaker	2019
Poster judge for Penn's Office of Research & Diversity Training Symposium	2018
Invited speaker at Lincoln University (HBCU)	2016
Poster judge for Penn Honors Diversity Symposium	2016

Leadership Positions in Scientific Organizations

Co-Director/Co-Founder of the Rutgers Science Building High School Internship	2019-
Web developer for the Philadelphia Chapter of SFN	2011-
Standing member on the Publications committee in the Research Society on Alcoholism	2013-2015
Founding member of the Thomas Jefferson University Business and Biotech Group (BizBio)	2012-2014
VP of Career Development, Graduate Student Association	2012-2014
Graduate Student Liaison for TJU Neuroscience Dept	2011-2013

Trainees Mentored

Postdoctoral Fellows (Teaching focus):

Steven Foltz, NIH UPenn PennPORT IRACDA fellow, Rutgers Camden	2021-2022
Joseph Zinski, NIH UPenn PennPORT IRACDA fellow, Rutgers Camden	2020-2021
Edward Waddell, NIH UPenn PennPORT IRACDA fellow, Rutgers Camden	2020
Launched into faculty position at Holy Family University	

Graduate student (Mentored Paper-Based Track):

Cindy Garcia, MS Bio, Rutgers Camden	2020-2022
Daniel Fricker, MS Bio, Rutgers Camden	2020
Lakeshia Gary, MS Bio, Rutgers Camden	2020

Graduate student (Thesis Committee):

Lea Marano, MS Bio, course-based track, Rutgers Camden	2021
Ourania Nikolaidis, MS Bio, research-based track, Rutgers Camden	2021
Christina Curran-Alfaro, MS Bio, research-based track, Rutgers Camden	2019-2020
Launched into PhD program in Neuroscience at Drexel University	

Undergraduates (Mentored Research):

Kadine Powell, BS in Biology, Rutgers Camden	2022-
Christina Suoto, BS in Biology, Rutgers Camden	2021-

Kinjal Mody, BS in Biology, Rutgers Camden 2021-
John Crespo, BS in Biology (MARC fellow), Rutgers Camden 2020-
Kiyoshi Woods, BS in Biology, Rutgers Camden 2020-
Akshay Shah, BS in Biochemistry, Rutgers Camden 2021
Ajay Shah, BS in Health Sciences, Rutgers Camden 2021
Gilharia Delva, BS in Health Sciences, Rutgers Camden 2020
Sara D'Angelo, BS in Biology, Rutgers Camden 2020-2021
Launched into lab tech at Children's Hospital of Philadelphia
Brittany Ruiz, BS in Biology, Rutgers Camden 2020
Launched into PhD program at Thomas Jefferson University
Shariq Khan, BS in Biology (MARC fellow), Rutgers Camden 2019-2021
Launched into lab tech at University of Pennsylvania
Jenny Pan, BS in Biology, Rutgers University Camden 2019-2020
Launched into pharmacy tech at University of Pennsylvania
Robert Hughes, BS in Health Sciences, Rutgers University Camden 2019-2021
Launched into lab tech at Thomas Jefferson University
Ubaidah Khan, BS in Biology, Rutgers University Camden 2019-2020
Launched into MS in Biology at Rutgers New Brunswick
Meghan Wachira, BS in Biology, Rutgers University Camden 2019-2020
Launched into Research Postbac in NIH funded UPenn Genomics Program
Azikiwea Green, BS in Neuroscience, Swarthmore College 2017-2018
Launched into tech at University of Pennsylvania
Dragan Vujovic, BS in Chemistry, Williams College 2016
Launched into Clinical Research Coordinator at University of Pennsylvania
Purnika Selvan, BS in Biology, University of California, Irvine 2015
Launched into Junior Research Specialist at UC Irvine

Undergraduates (Thesis Committee):

Harjit Khaira, BS in Biology (honors thesis committee), Rutgers Camden 2020-2021
Transitioned to PhD student at Johns Hopkins University
Anna Liang, BS in Biology (honors thesis committee), Rutgers Camden 2020-2021
Transitioned to lab tech at Children's Hospital of Philadelphia

References

Janis Burkhardt, PhD (Postdoctoral IRACDA Advisor)
Professor, Children's Hospital of Philadelphia Research Institute, Pathology and Laboratory Medicine
jburkhar@pennmedicine.upenn.edu

Wenqin Luo, PhD (Postdoctoral Research Advisor)
Associate Professor, University of Pennsylvania, Dept of Neuro
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