Last updated: 10-25-26

Ishmail Abdus-Saboor, PhD
Associate Professor, Department of Biological Sciences
Principal Investigator, Zuckerman Mind Brain Behavior Institute
Columbia University, New York, USA

Appointments

2023–present Freeman Hrabowski Scholar, Howard Hughes Medical Institute
2023–present Associate Professor, Department of Biological Sciences, Columbia University (*tenured in 2025*)
2021–2023 Assistant Professor, Department of Biological Sciences, Columbia University
2018–2021 Mitchell & Margo Blutt Presidential Assistant Professor of Biology, University of Pennsylvania

Education

2014–2018 Postdoctoral Fellow, Wenqin Luo Lab, University of Pennsylvania
2012–2014 Postdoctoral Fellow, Ben Shykind Lab, Weill Cornell Medicine
2006–2012 Ph.D. in Cell and Molecular Biology, University of Pennsylvania (Advisor: Meera Sundaram)
2002–2006 B.S. in Animal Science, North Carolina A&T State University (*summa cum laude*)

Honors and Awards

- Lenfest Distinguished Faculty Award, Columbia University (2026)
- NIH Director's Pioneer Award (2025)
- Kavli-Grossman Scholar (2025)
- One Mind Rising Star Award (2024)
- Cell *50 Scientists That Inspire* (2024)
- Young Investigator Award, Society for Neuroscience (2023)
- HHMI Freeman Hrabowski Scholar (2023)
- McKnight Scholar Award (2023)
- NIH New Innovator Award (2022)
- Pew Biomedical Scholar (2022)
- Chan Zuckerberg Initiative SDL Award (2022)
- Brain Research Foundation Seed Grant (2022)
- Alfred P. Sloan Fellow (2021)
- Kavli Fellow, National Academy of Sciences (2021)
- NIH Mitchell Max Award in Pain Research (2018)
- Rita Allen Foundation Scholar (2020)
- NIH Pathway to Independence Award (2017)
- Burroughs Wellcome Fund PDEP Fellowship (2015)
- NIH IRACDA Postdoc Fellowship (2014)
- Tom Kadesch Prize in Genetics (2012)
- Gloria Chisum Graduate Fellowship (2006)

Distinguished & Named Lectureships

- Martinez-Townsel Endowed Lecture, Marine Biological Laboratories (2026)
- Wayne E. Crill Lecture, University of Washington (2025)
- Presidential Lecture, Simons Foundation (2024)
- SFNova Lecture, Society for Neuroscience Annual Meeting (2023)

Keynote Lectures

- Keynote Lecture, Friedman Brain Institute at Mount Sinai, Neuroscience Retreat (2026)
- Keynote Lecture, Young Memorial Symposium, Emory University (2025)
- Keynote Lecture, UAB School of Medicine, Neuroscience Center Retreat (2025)
- Plenary Lecture, American Society for Cell Biology Annual Meeting (2023)
- Keynote Lecture, University of Pennsylvania, Cell & Molecular Biology Grad Group Symposium (2022)

Publications

Research papers:

1. Lawen A, Succi I, Lichtman D, Peterka D, **Abdus-Saboor I**, Kahn I. (2026). Dopamine release-associated striatal blood oxygenation and whole-brain dynamics during associative learning. Science Advances, eaed0935.

2. Haba Y, Schwark R, Weinreb C, Ogundare S, Foster W, Tsai YY, Lyu J, Mohamed M, Chang P, Arnold A, Schaffer E, Rajan K, Datta SR, **Abdus-Saboor I**. (2026). Spontaneous behavior predicts colony, individual identity, and rank in naked mole-rat societies. bioRxiv

3. Shuster AS, Xiao J, Gegenhuber B, Bhuiyan S, Dai M, Chen Y, DeLisle M, Sheng P, Howell E, Brecht M, Gracheva E, Hoekstra H, Hrvatin S, Moss C, Paul D, **Abdus-Saboor I**, Fishell G, Renthal W, Greenberg M, Ginty D. (2026). The functional diversification of somatosensory neuron repertoires across Mammalia. bioRxiv (Science, under review)

4. Bohic M, Salamone PC, Zuo W, Negm A, Fulton SL, Du S, Jayakumar S, Keating J, Soubeyre V, Gradwell MA, Upadhyay A, Duvernoy B, Inoue-Ueno Y, Mensch B, Peirs C, Gaetan Poulen G, Lonjon N, Vachiery-Lahaye F, Bauchet L, Bourinet E, Olausson H, **Abdus-Saboor I**, Tao Y, Boehme R, Abraira VE. (2026). Oxytocin modulation of spinal circuits drives therapeutic benefits of massage. bioRxiv

5. Burdge J, Jhumka A, Khan A, Ogundare S, Baer N, Fulton S, Kaplan A, Bistis B, Foster W, Thackray J, Toussaint A, Li M, Morizawa YM, Nazarian J, Yadessa L, George AJ, Delinois A, Mayiseni W, Loran N, Yang G, Margolis DJ, Abraira VE, **Abdus-Saboor I**. (2025). Remote automated delivery of mechanical stimuli coupled to brain recordings in behaving mice. eLife, 13:RP99614.

6. Fulton S, Bendl J, DiSalvo G, Fullard J, Al-Kachak A, Lepack A, Stewart A, Singh S, Poller W, Bastle R, Hauberg M, Fakira A, Patel V, Chen M, Durand-de Cuttoli R, Gameiro-Ros I, Cathomas F, Ramakrishnan A, Gleason K, Shen L, Tamminga C, Milosevic A, Russo S, Swirski F, Slesinger P, **Abdus-Saboor I**, Blitzer R, Roussos P, Maze I. (2025). Major-depressive-disorder-associated dysregulation of ZBTB7A in orbitofrontal cortex promotes astrocyte-mediated stress susceptibility. Neuron, 113, 2656-2672.

7. Upadhyay A, Gradwell M, Vajtay T, Conner J, Sayal AA, Azadegan C, Patel KR, Thackray JK, Bohic M, Imai F, Ogundare S, Yoshida Y, **Abdus-Saboor I**, Azim E, Abraira V. (2025). The dorsal column nuclei scale mechanical sensitivity in naive and neuropathic pain states. Cell Reports, 44:115556

8. Liu D, Rahman M, Johnson A, Amo R, Tsutsui-Kimura I, Sullivan Z, Pena N, Talay M, Logeman BL, Finkbeiner S, Qian L, Choi S, Capo-Battaglia A, **Abdus-Saboor I**, Ginty DD, Uchida N, Watabe-Uchida M, Dulac C. (2025). A hypothalamic circuit underlying the dynamic control of social homeostasis. Nature, 640, 1000-1010.

9. Inclan-Rico JM, Napuri C, Lin C, Hung LY, Ferguson A, Wu Q, Pastore CF, Stephenson A, Femoe U, Rossi HL, Reed D, **Abdus-Saboor I**, Luo W, Herbert DR. (2024). MrgprA3 neurons drive cutaneous immunity against helminths through selective control of myeloid-derived IL-33. Nature Immunology, 25, 2068-2084.

10. Sgourdou P, Schaffler M, Choi K, McCall N, Burdge J, Williams J, Corder G, Fuccillo M, **Abdus-Saboor I**, Epstein D. (2025). Impaired pain in mice lacking first order posterior medial thalamic neurons. Pain, 166, 130-143.

11. Schwark R, Ogundare O, Sheng P, Foster W, Chang P, Tsai YY, Arnold A, **Abdus-Saboor I**. (2024). Social touch shapes communication and animal recognition in naked mole-rats. bioRxiv

12. Bashkirova E, Klimpert N, Monahan K, Campbell CE, Osinski J, Tan L, Schieren I, Pourmorady A, Stecky B, Barnea G, Xie XS, **Abdus-Saboor I**, Shykind B, Marlin BJ, Gronostajski R, Fleischmann A, Lomvardas S. (2023). Opposing, spatially-determined epigenetic forces impose restrictions on stochastic olfactory receptor choice. eLife, 12:RP87445.

13. Bohic M, Pattison L, Jhumka A, Rossi H, Thackray J, Ricci M, Foster W, Ogundare S, Twomey C, Hilton H, Arnold J, Mossazghi N, Yttri E, Tischfield MA, Smith ESJ, **Abdus-Saboor I***, Abraira V*. (2023). Mapping the neuroethological signatures of pain, analgesia, and recovery in mice. Neuron, 111, 2811-2830.

14. Elias L, Succi I, Schaffler M, Foster W, Gradwell M, Bohic M, Fushiki A, Upadhyay A, Ejoh L, Schwark R, Frazer R, Bistis B, Burke J, Saltz V, Boyce J, Jhumka A, Costa R, Abraira V, **Abdus-Saboor, I**. (2023). Touch neurons underlying

dopaminergic pleasurable touch and sexual receptivity. Cell, 186, 577–590.

15. Toussaint A, Foster W, Jones JM, Kaufmann S, Wachira M, Hughes R, Bongiovanni AR, Famularo ST, Dunham B, Schwark R, Karbalaei R, Dressler C, Bavley CC, Fried NT, Wimmer M, **Abdus-Saboor I**. (2022). Chronic paternal morphine exposure increases sensitivity to morphine-derived pain relief in male progeny. Science Advances, eabk2425.

16. Schaffler M, Johnson M, Hing B, Kahler P, Hultman I, Srivastava S, Arnold J, Blendy J, Hultman R, Abdus-Saboor, I. (2022). A critical role for touch neurons in a skin-brain pathway for stress resilience. bioRxiv

17. Jones JM, Foster W, Twomey CR, Burdge J, Ahmed O, Pereira T, Wojick J, Corder G, Plotkin JB, **Abdus-Saboor I**. (2020). A machine-vision approach for automated pain measurement at millisecond timescales. eLife, 9:e57258.

18. Rossi HL, See LP, Foster W, Pitake S, Gibbs J, Schmidt B, Mitchell CH, **Abdus-Saboor I**. (2020). Evoked and spontaneous pain assessment in a dental pulp injury model. Scientific Reports, 17:2759.

19. Pitake S, Middleton LJ, **Abdus-Saboor I**, Mishra SK. (2019). Inflammation induced sensory nerve growth and pain hypersensitivity requires the N-type calcium channel Cav2.2. Front Neurosci, 19;13:1009.

20. **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. (2019). Development of a mouse pain scale using sub-second behavioral mapping and statistical modeling. Cell Reports, 28, 1623-1634.

21. Olson W, **Abdus-Saboor I**, Cui L, Burdge J, Raabe T, Ma M, Luo W. (2017). Sparse genetic tracing reveals regionally specific functional organization of mammalian nociceptors. eLife, 12;6:e29507.

22. Cui L, Miao X, Liang L, **Abdus-Saboor I**, Olson W, Fleming MS, Ma M, Tao YX, Luo W. (2016). Identification of early RET+ deep dorsal spinal cord interneurons in gating pain. Neuron, 91, 1-17.

23. **Abdus-Saboor I**, Al Nufal MJ, Agha MV, Ruinart de Brimont M, Fleischmann A, Shykind B. (2016). An expression refinement process ensures singular odorant receptor gene choice. Current Biology, 26, 1083–90.

24. Fleischmann A, **Abdus-Saboor I**, Sayed A, Shykind B. (2013). Functional interrogation of an odorant receptor locus reveals multiple axes of transcriptional regulation. PloS Biology, 11:e1001568.

25. **Abdus-Saboor I**, Stone CE, Murray JI, Sundaram MV. (2012). The Nkx5/Hmx homeodomain protein MLS-2 is required for proper tube cell shape in the C.elegans excretory system. Developmental Biology, 366, 298–307.

26. **Abdus-Saboor I**, Mancuso VP, Murray JI, Palozola K, Norris C, Hall DH, Howell K, Huang K, Sundaram MV. (2011). Notch and Ras promote sequential steps of excretory tube development in C.elegans. Development, 138, 3545–3555.

Reviews:

1. Schaffer E*****, Zheng HW, Kempner R, Ryan Badman R, Dumas G, **Abdus-Saboor I***, Rajan K*****. (2026). Mechanistic inference in social neuroscience using artificial agent groups in virtual environments. (Neuron, in revision)

2. **Abdus-Saboor I**. (2026). Neurobiology of social touch. Annual Review of Neuroscience. 49:61–78.

3. Sur D, Zeng Y, Kobayashi H, Zhi X, Goetz MR, Müller CM, Zavitsanou AM, Picoli CC, Martel Matos AA, Pareja J, Savita BK, Lee T, Cunha-Junior JP, Amorim JH, Nikpoor AR, Dory A, Thanabalasuriar A, Galante PAF, Ma VT, James AW, Shepherd AJ, Oudin MJ, Bunimovich YL, Scheff NN, D'Silva NJ, Dixon KO, **Abdus-Saboor I**, Wang TC, Talbot S, Birbrair A. (2025). Entangled cellular and molecular relationships at the sensory neuron–cancer interface. Neuron, 113, 2760-2790.

4. Z. Anissa Jhumka, **Abdus-Saboor I**. (2022). Next generation behavioral sequencing for advancing pain quantification. Current Opinion in Neurobiology, 76:102598.

5. Elias LJ, **Abdus-Saboor I.** (2022). Bridging skin, brain, and behavior to understand pleasurable social touch. Current

Opinion in Neurobiology, 73:102527.

6. Inclan-Rico JM, Kim BS, **Abdus-Saboor I**. (2021). Beyond somatosensation: Mrgprs in mucosal tissues. Neuroscience Letters, 11;135689.

7. Fried NT, Chamessian A, Zylka MJ, **Abdus-Saboor I**. (2020). Improving pain assessment in mice and rats with advanced videography and computational approaches. Pain, 161,1420-1424.

8. Schaffler M, Elias L, **Abdus-Saboor I**. (2019). Mechanisms of tactile sensory phenotypes in autism: current understanding, and future directions for research. Current Psychiatry Reports, 5;21(12):134.

9. **Abdus-Saboor I**, Fleischmann A., Shykind B. (2014). Setting limits: maintaining order in a large gene family. Transcription, 5:e28978.

Commentaries:

1. Zavitsanou A, **Abdus-Saboor I**. (2024). Sex organs sense vibrations through specialized touch neurons. Nature, 630(8018):822-823.

2. Burdge J, Jhumka ZA, Bravo I, **Abdus-Saboor I**. (2022). Taking a deep breath: How a brainstem pathway integrates pain and breathing. Neuron, 2;110(5):739-741.

Patents:

- Abdus-Saboor, I, et al. Automated reproducible delivery of mechanical stimulation in animal experiments. **US Patent** no. 12,638,755 awarded on 5-26-2026.
- Abdus-Saboor, I, et al. Methods and compositions for treating cancer-associated visceral pain. **US Patent** no. 64/161,873 filed 9-24-2026.

Grant Support

2026 Role: PI	NIH U24 Pilot Award (Co-PI: Victoria Abraira) "Force-parameterized affective touch: real-time oxytocin dynamics and neural circuit mechanisms of affective touch."	$80,000 (total)
2025–2030 Role: PI	NIH Director's Pioneer Award (DP1AT013723) "Role of social touch and social memory in organizing naked mole-rat colonies"	$5,757,500 (total)
2025–2028 Role: PI	Kavli-Grossman Scholar Award	$225,000 (direct)
2024–2027 Role: PI	One Mind Rising Star Award "Activating neurons in the skin to relieve symptoms of chronic stress"	$300,000 (direct)
2023–2033	Freeman Hrabowski Scholar, Howard Hughes Medical Institute	~$10,000,000 (direct)
2022–2027 Role: PI	Chan Zuckerberg Initiative SDL Award "Uncovering Peripheral and Central Neural Circuits for Inflammatory Pain"	$1,150,000 (total)
2022–2026 Role: PI	Pew Scholar in the Biomedical Sciences "Elucidating Pain Sensation and Emotion from Circuits to Cells to Genes"	$300,000 (direct)
2023–2026 Role: PI	McKnight Scholar Award "Skin-brain axis for rewarding touch behaviors"	$225,000 (direct)
2023–2026 Role: PI	Ernest E. Just Faculty Mentor Award Awarded to IAS to fund a postdoc	$465,783 (total)

2025–2026	Incite Institute at Columbia University Hard Questions Grant	$75,000 (direct)
Role: PI	"How does the brain control social recognition and social memory?"	
2022–2025	NIH/NINDS DP2 New Innovator Award (DP2NS130454)	$2,467,500 (total)
Role: PI	"Using mouse pain scales to discover unusual pain sensitivity and new pain targets."	
2024–2025	Columbia University Cancer Center & Arts and Science (Co-PI: Yvon Woappi)	$100,000 (direct)
Role: PI	"Do sensory neurons in the skin drive wound memory to promote squamous cell carcinoma?"	
2022–2024	Brain Research Foundation Seed Grant	$80,000 (direct)
Role: PI	"Investigating a skin-brain neuronal pathway for rewarding social touch."	
2022–2023	Columbia University Provost Grant for Junior Faculty	$30,000 (direct)
Role: PI	"Does brain activity in the naked mole-rat govern cooperative social life?"	
2021–2023	Alfred P. Sloan Research Fellowship in Neuroscience.	$75,000 (direct)
Role: PI		
2020–2023	Rita Allen Foundation Scholar in Pain Award	$150,000 (direct)
Role: PI	"Discovering behavioral signatures of pain at millisecond timescales."	
2017–2021	NIH K99/R00 Pathway to Independence Award (DE026807)	$1,116,555 (total)
Role: PI	"Functions of molecularly defined nociceptors in spinal and dental pain."	
2015–2018	Burroughs Wellcome Fund Postdoctoral Enrichment Program	$60,000 (direct)
Role: PI	"Defining the neural mechanisms mediating crosstalk between touch and pain."	
2016–2017	Burroughs Wellcome Fund Collaborative Travel Grant	$8,000 (direct)
Role: PI	"Optogenetic and brain imaging investigation of pain neural circuitry."	
	Co-I: Jin Lee, Stanford	
2014–2017	NIH IRACDA Postdoc Fellowship (K12 GM081295)	$190,488 (total)
Role: PI	"Dissect neural mechanisms underlying the crosstalk	

Department Seminars and Conference Talks (136)

2027
Max Planck Neuroscience Seminar Series, Bonn, Germany
57th Naito Conference: Glia–Neuron Networks Orchestrating Brain and Systemic Function, Japan
50th Annual Meeting of the Japan Neuroscience Society
Fujita Health University Seminar Series, Toyoake, Japan
Keystone Meeting on Sensory Systems: Interoception and Exteroception, Colorado
Arc Institute (affiliated with Stanford, Berkeley, UCSF) Science Seminar Series
University of Utah, Neuroscience Seminar Series

2026
MIT Whitehead Institute Seminar
MIT Biology Department Colloquium
HHMI Janelia Conference: Functional Mapping of the Peripheral Nervous System
New York University, Department of Molecular Pathology, Pain Research Center Seminar Series
Howard University, Department of Biology Seminar Series
NIH NeuronS_MATTR U24 Network Seminar Series
Gulf Coast Consortium, Pain Seminar Series
University of Pennsylvania, Distinguished Seminar Series, Cell & Developmental Biology Department

2025
UC Berkeley, Neuroscience Seminar Series

Samsung Global Research Symposium: Brain-Body Interactions, Sweden
King Abdullah University of Science and Technology, Neuroscience Day, Saudi Arabia
Beckman Center of the National Academies at UC Irvine, Summer Conference on the Changing Brain
Columbia University Medical Center, Neuroscience Seminar Series
Lake Conference on Circuits Neuroscience: Sensation and Action. Lake Thun, Switzerland
University of Lausanne, Department of Neuroscience Seminar Series, Switzerland

2024
Johns Hopkins University, Department of Neuroscience Seminar Series
88th Cold Spring Harbor Laboratory Symposium on Quantitative Biology: Brain Body Physiology
International Associate for the Study of Pain World Congress on Pain, Netherlands
Cold Spring Harbor Laboratory, Neuroscience Seminar Series
Columbia University, Psychiatry Grand Rounds
UC Davis, Neuroscience Seminar Series
New York University, Interdisciplinary Pain Research Program Seminar Series
Keystone Meeting: Mammalian Pain and Somatosensation, Colorado

2023
Stanford University, Neuroscience Institute Seminar Series
Brown University, Neuroscience Seminar Series
Barnard College, Department of Biological Sciences Seminar Series
Columbia University, Dermatology Grand Rounds
Columbia University, HICCC Cancer-relevant Chemistry and Biology Symposium
Mount Sinai School of Medicine: Brain and Body Lecture Series
Oregon Health & Science University, Neuroscience Futures Seminar Series
Princeton University, Neuroscience Institute Seminar Series
Caltech, Chen Institute Neuroscience Symposium

2022
Rockefeller University, Symposium on the Social Brain
Yale University, Neuroscience Seminar Series
American College of Neuropsychopharmacology Annual Meeting
New York University, Department of Biology Seminar Series
UC Berkeley, Brain Imaging in the Bay Symposium
Albert Einstein College of Medicine, Neuroscience Seminar Series
Gordon Conference, Optogenetic Approaches to Neural Circuits and Behavior, Maine
Columbia University, Neurosurgery Grand Rounds
Washington University in St. Louis, Anesthesiology Research Seminar Series
Northwestern University, Department of Physiology and Pain Center Seminar Series
Brandeis University, M. R. Bauer Foundation Colloquium Seminar Series
University of Washington, Department of Biological Structure Seminar Series

2021
Harvard Medical School, Department of Neurobiology Seminar Series
Harvard University, Brain Science Initiative, Neurobiology of Pain Event
Johns Hopkins University, Department of Molecular and Comparative Pathobiology Seminar Series
Johns Hopkins University, Blaustein Pain Grand Rounds
University of California San Francisco, Neuroscience Seminar Series
Penn State College of Medicine, Neural and Behavioral Sciences Department Seminar Series
Brown University, Samuel M. Nabrit Conference for Early Career Scholars
Newcastle University (UK), Centre for Behaviour and Evolution Seminar Series
Brain Initiative Investigator's Meeting, Social Brain Symposium
Columbia University, Department of Biological Sciences Seminar Series
Salk Institute, Thursday Seminar Series
Williams College, Class of 1960 Scholar Speaker Series
University of Southern California, Neurobiology Seminar Series
Texas Pain Research Consortium, Seminar Series
George Washington University, IBS Neuroscience Seminar Series

University College London, Gatsby Computational Neuroscience Series
University of Chicago, Neuroscience Seminar Series
New York University School of Medicine, Marie Daly Speaker Series
Duke University, Department of Neurobiology Seminar Series
Allen Institute for Brain Science, Inaugural Black History Month Seminar Series
Middlebury College, Neuroscience Seminar Series
University of California San Diego, Neuroscience Seminar Series

2020
University of Michigan, Department of Molecular, Cell, Developmental Biology
Northeastern University, Biology Colloquium
Washington University in St. Louis, Anesthesiology Research Seminar Series
Weill Cornell Medicine, Frontiers in Neuropsychiatry Seminar Series
University of Pittsburgh & Carnegie Mellon University, CNBC ERC Series
UT Health San Antonio, Department of Pharmacology & Center for Biomedical Neuroscience
University of Iowa, Neuroscience Institute Seminar Series
Johns Hopkins University, Department of Biochemistry and Molecular Biology
Columbia University, Zuckerman Institute, Breakthroughs in Neuroscience Series
National Institutes of Health, Animal Genetics Consortium
Drexel University, Department of Neurobiology and Anatomy Seminar Series
Georgetown University, Department of Pharmacology and Physiology
National Institutes of Health, Early Career Investigators in Addiction Neuro Series
Johns Hopkins University, Department of Pharmacology & Molecular Sciences
Stanford University & Chinese Academy of Sciences; Neuro Zoom
University of Virginia, Neuroscience Department, Inaugural Juneteenth Lecture
Rowan University, Molecular and Cellular Biosciences Seminar Series
Temple University, Neuroscience Seminar Series
Keystone Symposium: Pain: Aligning the Target, Colorado
University of Pennsylvania, Dermatology Research Seminar Series
Johns Hopkins University, Department of Biology Seminar Series

2019
University of Washington, Neuroscience Seminar Series
University of Pennsylvania, Neuroscience Graduate Group Public Lecture on Pain
University of Pennsylvania, Psychology Department Colloquium Series
University of Texas at Dallas, School of Behavioral and Brain Sciences
Lasalle University, Department of Biology
University of Illinois at Chicago, Integrative Neuroscience Seminar Series
Fox Chase Cancer Center, Molecular Therapeutics Department
University of Pennsylvania, SUIP Faculty Research Seminar
University of Maryland Baltimore County, Departments of Biology; Chemistry/Biochemistry
North Carolina A&T State University, Department of Biology
University of California Santa Cruz, Department of Molecular, Cell, Developmental Biology

2018
Rockefeller University, Sense to Synapse Conference
Gordon Conference, Molecular and Cellular Neurobiology, Hong Kong
St. Joseph's University, Department of Biology
University of Pennsylvania, Center for Neurobiology and Behavior Seminar
Mid-Atlantic Pharmacology Society Meeting, Philadelphia, PA
University of Pennsylvania, mindCORE Seminar Series
National Institutes of Health, Pain Consortium Symposium
Meharry Medical College, Department of Biochemistry and Cancer Biology
Bryn Mawr College, Chemistry Colloquia Series
Duke University, Department of Pharmacology
New York University, Department of Oral Surgery
University of Pennsylvania, Department of Biology

2017
Society for Neuroscience Meeting, Washington D.C.
University of Pennsylvania, Department of Oral Surgery & Pharmacology
Johns Hopkins University, Department of Pharmacology & Molecular Sciences
Temple University, Center for Substance Abuse Research
Haverford College, Department of Biology
Syracuse University, Department of Biology
Rutgers University Camden, Department of Biology

2016
Swarthmore College, Department of Biology
Mount Holyoke College, Department of Biological Sciences
University of Pennsylvania Dental School, Levy Series
Bucknell University, Department of Biology
Rutgers University Camden, Department of Biology
Virginia Tech University, Department of Biochemistry

2011 – 2013
International *C.elegans* Meeting, Los Angeles, CA
2nd International Symposium on Olfaction, Paris
University of Pennsylvania, Genetics Symposium
University of Pennsylvania, Cell and Molecular Biology Annual Symposium
Society for Developmental Biology Meeting, Phila., PA, *award for best graduate student talk*

Teaching

Columbia University:
Instructor (~100-150 students): BIOL UN3004 Neurobiology I: Cellular and Molecular Neurobiology (2022 – present)
Guest lecturer (undergrad course): PSYC UN1980: Zuckerman Institute Neuroscience and Cognitive Science (2026)
Guest lecturer (undergrad course): BIO UN2908: Sophomore Biology Research Seminar (2026)
Guest lecturer (graduate course): G4340: Survey of Neuroscience (2022 – 2025)
Guest lecturer (undergrad course): BIO UN1908: First-Year Seminar in Biology (2023)
Guest lecturer (undergrad course): BIO UN3041: Cell Biology (2023)
Guest lecturer (graduate course): G4100: Biology of Neurologic and Psychiatric Disorders (2023)
Guest lecturer (graduate course): BIOL GR9301: Pre-research seminar (2021)

University of Pennsylvania:
Instructor (150 students): BIOL 221: Molecular Biology and Genetics (2019 – 2021)
Guest lecturer (graduate course): NGG 588: Topics in Translational Neuroscience (Spring 2020)

Professional Service

Scientific Advisory Boards

2024–present	Co-Founder and Scientific Consultant, Tactorum Inc.
2022–2026	Advisory Board, Burroughs Wellcome Fund PDEP Postdoctoral Fellowship
2022–2025	Scientific Advisory Board, Doloromics Inc.
2020–present	Editorial Board, Cell Reports
2020–2023	Board of Reviewing Editors, eLife

Grant Review Panels
- Standing member, NIH Neurobiology of Pain and Itch Study Section (2025 – 2026)
- Standing member, Burroughs Wellcome Fund PDEP Postdoctoral Fellowship (2023 – 2026)
- Ad hoc reviewer, HHMI Hannah Gray Fellowship (2024)
- Ad hoc reviewer, Simons Foundation Autism Research Initiative (SFARI) (2023)
- Ad hoc reviewer, NIH BRAIN Initiative R01 review panel (2022)
- Ad hoc reviewer, Chan Zuckerberg Biohub Investigators San Francisco review panel (2021)

Meeting Organization
Keystone Meeting: Mammalian Somatosensation (with Diana Bautista & Becky Seal) (2024)

Northeast Pain Meeting (with Vanna Zachariou and Victoria Abraira) (2023)

Journal Reviewer
Nature, Cell, Science, Neuron, Nature Neuroscience, Nature Methods, eLife, Cell Reports, Science Advances, Nature Communications, JNeuro, PNAS, etc.

External Mentorship
2026 – 2028 Faculty mentor to junior faculty nationwide through NIH R25 Faculty Access Program
2026 – 2027 External mentor for NYC postdocs in the Leon Levy Neuroscience Fellowship

Columbia University Service
2026 – present Faculty Adviser, Undergraduate Community Initiative, School of Arts and Sciences
2026 – 2027 Member, Large Majors Proposal Committee, Department of Biological Sciences
2026 – 2027 Member, Faculty Search Committee, Department of Biological Sciences
2025 – 2027 Member, ARC Review Committee, Department of Biological Sciences
2024 – present Member, PhD Graduate Committee, Department of Biological Sciences
2024 Member, Department Chair Search Committee, Department of Neuroscience
2023 Organizer (with Laura Duvall), Department of Biological Sciences Annual Retreat
2021 – 2022 Member, Faculty Search Committee, Zuckerman Mind Brain Behavior Institute

University of Pennsylvania Service
2020 – 2021 Seminar Committee, Department of Biology
2020 Faculty Recruitment Committee, Department of Biology
2020 Recruitment Day Chair for Ph.D. admissions weekend, Department of Biology
2020 – 2021 Seminar Committee, Department of Neuroscience
2020 – 2021 Faculty Advisory Board, E.E. Just Biomedical Society for PhD students
2019 – 2020 Member, Dean's Committee for "Mapping the Mind"
2018 – 2020 Co-Director, Mentoring Circle Program

Thesis Advisory Committees:
1) 2026 Celine Chen (Rajasethupathy lab at Rockefeller University; external examiner)
2) 2026 – present Pauline Affatato (Tosces lab – Biological Sciences graduate program)
3) 2026 – present Audrey Wang (Zuker lab – Biological Sciences graduate program)
4) 2026 – present Hanye Wang (Zuker lab – Biological Sciences graduate program)
5) 2025 – present Claire Chen (Yang lab – Biological Sciences graduate program)
6) 2025 – present Aniekan Umoren (Tomer lab – Biological Sciences graduate program)
7) 2025 – present Ruihuan Yu (Zuker lab – Biological Sciences graduate program)
8) 2024 – present Sherry Li (Aronov & Paninski labs – Biological Sciences graduate program)
9) 2023 – 2026 Abby Wood (Grueber lab – Neurobiology & Behavior graduate program)
10) 2022 – 2026 Nova Qi (Grueber lab – Cell & Molecular Biomedical Studies graduate program)
11) 2021 – 2025 Eliza Jaeger (Tosces lab – Biological Sciences graduate program)
12) 2021 – 2025 Yasmin Ramadan (Hobert lab – Biological Sciences graduate program)
13) 2021– 2024 Aaron Limoges (Tejeda lab – Biological Sciences graduate program)
14) 2022– 2024 Erin Jean (Herbert lab – Immunology graduate program)
15) 2020 – 2024 Brandon Bastien (Hart lab – Neuroscience graduate program)
16) 2020 – 2022 Michelle Klima (Betley lab – Neuroscience graduate program)
17) 2019 – 2021 Melina Gyparaki (Lakadamyali lab – Biology graduate program)
18) 2019 – 2021 Bishwas Sharma (Gregory lab – Biology graduate program)

Mentorship:

Current

Postdoctoral Fellows
1) 2024 – present Anna Zhukovskaya (PhD: Ilana Witten Lab, Princeton University/HHMI)
2) 2024 – present Yuki Haba (PhD: Lindy McBride Lab, Princeton University)
3) 2023 – present Aleksander Kaplan (PhD: Hagai Bergman Lab, Hebrew University)

4) 2023 – present Briana Nixon (PhD: Ming Li Lab, Weill Cornell Medicine)
5) 2023 – present Sasha Fulton (PhD: Ian Maze Lab, Mount Sinai Medicine/HHMI)
6) 2022 – present Anastasia-maria Zavitsanou (PhD: S. Koralov & T. Papagiannakopoulos Labs, NYU)

Ph.D. Dissertation Students
1) 2026 – present Simon Ogundare (MD-PhD program)
2) 2025 – present Tate Yawitz (Neurobiology & Behavior)
3) 2024 – present Viviana Vinci (Biological Sciences)
4) 2024 – present Yu-Young Wesley Tsai (Biological Sciences)
5) 2023 – present William Foster (Neurobiology & Behavior)
6) 2023 – present Preston Sheng (Biological Sciences)
7) 2023 – present Isabella Succi (Biological Sciences)

Technicians
1) 2025 – present Simon Downes Toney
2) 2026 – present Carolina Abascal

Undergraduates
1) 2026 – present Massiel Velarde Perez, Neuroscience and Behavior
2) 2026 – present Marcus Bui, Neuroscience and Behavior
3) 2026 – present Massiel Velarde Perez, Cognitive Science
4) 2026 – present Mayssam Mohamed, Neuroscience and Behavior
5) 2025 – present Ali Jomadi, Neuroscience and Behavior
6) 2025 – present Vivian Babich, Neuroscience and Behavior
7) 2025 – present Jerry Lyu, Neuroscience and Behavior

Alumni (→ last known position)

Postdoctoral Fellows
1) 2022 – 2024 Andre Toussaint → Adjunct Instructor
2) 2021 – 2024 Anissa Jhumka → unknown
3) 2018 – 2021 Heather Rossi → Senior Research Investigator at UPenn

Ph.D. Dissertations Completed
1) 2022 – 2026 Brittany Bistis → Machine-learning specialist at Startup
2) 2020 – 2024 Ryan Schwark → Curation Scientist, Fulgent Technologies
3) 2020 – 2024 Justin Burdge → Co-Founder and CEO of Tactorum Inc.
4) 2018 – 2022 Melanie Schaffler → Regular Writer at Novo Nordisk
5) 2018 – 2022 Leah Elias → Jane Coffin Child Postdoctoral Fellow at Johns Hopkins University

Technicians
1) 2023 – 2024 Alexis Knight → Clinical research associate at Columbia University
2) 2022 – 2023 Victoria Saltz → PhD student at Columbia University
3) 2021 – 2022 Jared Boyce → MD-PhD student at Wisconsin-Madison
4) 2020 – 2022 Isabella Succi → PhD student in the Abdus-Saboor lab at Columbia University
5) 2018 – 2021 William Foster → PhD student in the Abdus-Saboor lab at Columbia University
6) 2018 – 2020 Jessica Jones → PhD at University of Washington → Senior scientist at Genentech

Undergraduates
1) 2025–2026 Erin Yoo
2) 2025–2026 Berra Köse
3) 2023–2026 Ashar Khan
4) 2025–2026 Carolina Abascal → technician in the Abdus-Saboor lab at Columbia University
5) 2025–2026 Wiam Alhumood
6) 2025–2026 Emmanuel Okeke
7) 2024–2025 Simon Toney → technician in the Abdus-Saboor lab at Columbia University
8) 2023–2025 Amanda Arnold → Fulbright Scholar
9) 2023–2025 Leah Yadessa → Intern at Pfizer

10) 2023–2025 Sofia Marin-Quiros → tech startup
11) 2023–2024 Olaedo Udensi
12) 2023–2024 Maximillian Comfere
13) 2022–2024 Jake Kothandaraman
14) 2022–2024 Melody Gomez → technician at Columbia University
15) 2022–2024 Sarah Sorensen Ogata → Medical Assistant - Street Medic on Skid Row
16) 2022–2024 Abednego Delinois → technician at Yale University
17) 2023 –2024 Sevilla Duran → Master's student at Stanford University
18) 2023–2024 Aishat Bakare
19) 2021–2024 Simon Ogundare → MD-PhD student at Columbia University
20) 2022–2023 Alexis Knight → technician at Columbia University
21) 2022–2023 Jonathan Ettricks → CBO Analyst at Mount Sinai Health System
22) 2021–2023 Alexis Marshall → PhD student at University of Arizona
23) 2021–2023 Wadzanayi Michelle Mayiseni → post-bac at Yale University
24) 2021–2023 Phaelen Chang → post-bac at Memorial Sloan Kettering
25) 2019–2021 Justin Arnold → MD student at Northwestern University
26) 2019–2021 Lucie Pham → MD student at Rutgers University
27) 2019–2020 Samuel Kaufmann → Research Fellow at Silver Lining
28) 2015–2019 Justin Burdge → PhD student in IAS lab → Co-Founder and CEO of Tactorum Inc.
29) 2019 Emma Lu
30) 2018–2019 Migyana Thomas

Summer Interns

1) 2026 Massiel Velarde Perez; SPURS Intern
2) 2025 Sheldon Garrick II, Fordham University, HHMI SURP Intern
3) 2025 Lesley Iyamu, Columbia University; BUMP Intern
4) 2024 Tyla Mcaffitty, Howard University, EE Just Scholar
5) 2024 Jonathan Bryson-Harvey, Columbia University, SURF Intern
6) 2024 Joshua Samuels, St. Paul's School
7) 2024 Meley Haile, Columbia University; SPURS Intern
8) 2024 Marianna Liistro, University of Edinburgh
9) 2023 Zennetta Hinojosa, UT San Antonio, Leadership Alliance Intern
10) 2023 Noah Loran, University of Southern California, Leadership Alliance Intern
11) 2023 Misha Nair, Harvard University; SPURS Intern
12) 2023 Francesca Whitecross, Middlebury College
13) 2023 Alexa Cuvilly, high school student; BRAINYAC Scholar
14) 2023 James Reed, high school student; BRAINYAC Scholar
15) 2022 Teresa Osorio, Rutgers Camden University MARC Scholar →PhD student at Johns Hopkins
16) 2022 Adetokunboh Osineye, Morehouse College; EE Just Scholar → Technician at SUNY Downstate
17) 2022 Ralph Anderson Jr., Morehouse College; EE Just Scholar
18) 2022 Ziad Eltabakh, LaGuardia High School; BRAINYAC Scholar
19) 2020 Kayla Dennis, Penn Lens program high school student
20) 2020 Camille Harrison, North Carolina A&T University; SUIP intern → PhD student at UPenn
21) 2020 Meghan Wachira, Rutgers Camden University. → MD student at Temple University
22) 2019 Isabella Succi, St. Joseph's University →PhD student in the Abdus-Saboor lab
23) 2019 Syphane Gibbs, North Carolina A&T U, SUIP intern; → PhD at University of Virginia
24) 2019 Racquel Amadi, Xavier University in Louisiana; → Law student at Texas Southern U.
25) 2019 Mariatu Fayia, Penn Lens program high school student → Masters student at Thomas Jefferson

Fellowships Awarded to Trainees

2027–2029 BBRF Young Investigator Grant to Briana Nixon (postdoctoral fellow)
2027–2029 BBRF Young Investigator Grant to Sasha Fulton (postdoctoral fellow)
2025–2028 Leon Levy Scholar in Neuroscience to Yuki Haba (postdoctoral fellow)
2025–2033 HHMI Hannah Gray Fellowship to Sasha Fulton (postdoc to faculty fellowship)
2024–2027 HHMI-LSRF Fellowship to Briana Nixon (postdoctoral fellow)
2024–2027 Simons Junior Fellowship to Anastasia Zavitsanou (postdoctoral fellow)
2024–2027 Burroughs Wellcome Fund PDEP to Sasha Fulton (postdoctoral fellow)
2023–2024 NIH NRSA Predoctoral Fellowship to Justin Burdge (graduate student)

2023–2025 NIH D-SPAN Fellowship to Sasha Fulton (postdoctoral fellow)
2022–2024 Simons Junior Fellowship to Andre Toussaint (postdoctoral fellow)
2022–2024 Burroughs Wellcome Fund PDEP to Andre Toussaint (postdoctoral fellow)
2021–2022 NIH NRSA Predoctoral Fellowship to Melanie Schaffler (graduate student)
2020–2022 NIH NRSA Predoctoral Fellowship to Leah Elias (graduate student)