

Ishmail Abdus-Saboor, PhD

Associate Professor of Biological Sciences
Principal Investigator at Zuckerman Mind Brain Behavior Institute
Freeman Hrabowski Scholar at Howard Hughes Medical Institute
Columbia University
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Current Position

Howard Hughes Medical Institute

- Freeman Hrabowski Scholar, 2023 – present

Columbia University

- Associate Professor of Biological Sciences (pre-tenure), 2023 – present
- Assistant Professor of Biological Sciences, 2021 –2023

Previous Positions

University of Pennsylvania

- Mitchell and Margo Blutt Presidential Assistant Professor of Biology, 2018 – 2021
- Postdoctoral Fellow, Department of Neuroscience, Mentor: Wenqin Luo, 2014 – 2018

Weill Cornell Medicine

- Postdoctoral Fellow, Department of Neuroscience, Mentor: Benjamin Shykind, 2012 – 2014

Education

University of Pennsylvania

- Ph.D. in Cell and Molecular Biology, 2012
- Advisor: Meera Sundaram

North Carolina A&T State University

- B.S. in Animal Science, *summa cum laude*, 2006

Central High School of Philadelphia

- B.A. 261st graduating class, 2002

Honors and Awards

- 50 Scientists that Inspire, 50th Year Anniversary Issue of Cell, 2024
- Young Investigator Award, Society for Neuroscience, 2023
- HHMI Freeman Hrabowski Scholar, 2023
- McKnight Scholar Award, 2023
- NIH New Innovator Award, 2022
- Chan Zuckerberg Science Diversity Leadership Award, 2022
- Pew Biomedical Scholar, 2022
- Alfred P. Sloan Research Fellow, 2022
- Brain Research Foundation Seed Grant, 2022
- Kavli Fellow, National Academy of Sciences, 2021
- Rita Allen Foundation Scholar, 2020
- NIH Mitchell Max Award for Excellence in Pain Research, 2018
- NIH Pathway to Independence Award, 2017
- Burroughs Wellcome Fund PDEP Postdoc Fellowship, 2015
- NIH IRACDA Postdoc Fellowship, 2014
- Tom Kadesch Prize in Genetics, 2012
- NIH Predoctoral Training Grant in Genetics, 2009
- Gloria Chisum Graduate Fellowship, 2006

Awards to Trainees

Briana Nixon (postdoctoral fellow)	Life Sciences Research Foundation Fellowship, 2024–2027
Anastasia Zavitsanou (postdoctoral fellow)	Junior Fellow of the Simons Society of Fellows, 2024–2027
Justin Burdge (graduate student)	NIH NRSA Predoctoral Fellowship, 2024–2026
Sasha Fulton (postdoctoral fellow)	Burroughs Wellcome Fund PDEP Fellowship, 2024–2027
	NIH DSPAN Postdoctoral Fellowship, 2023–2027
	EE Just Postdoctoral Fellowship, 2023–2026
Andre Toussaint (postdoctoral fellow)	Junior Fellow of the Simons Society of Fellows, 2022–2025
	Burroughs Wellcome Fund PDEP Fellowship, 2022–2025
Rachel Frazer (graduate student)	NSF Graduate Research Fellowship, 2020–2023
Melanie Schaffler (graduate student)	NIH NRSA Predoctoral Fellowship, 2021–2022
Leah Elias (graduate student)	NIH NRSA Predoctoral Fellowship, 2020–2022

Research Articles

- Burdge J, Ogundare S, Jhumka A, Baer N, Fulton S, Bistis B, Foster W, Toussaint A, Li M, Morizawa Y, Yadessa L, Khan A, Khan A, Delinois A, Mayiseni W, Loran N, Yang G **Abdus-Saboor, I.** Remote automated delivery of mechanical stimuli coupled to brain recordings in behaving mice. *eLife* (2024) reviewed preprint forthcoming
- Sgourdou P, Schaffler M, Choi K, McCall N, Burdge J, Williams J, Corder G, Fuccillo M, **Abdus-Saboor I**, Epstein D. Impaired pain in mice lacking first order posterior medial thalamic neurons. *Pain*, in press
- Schwark R, Ogundare S, Sheng P, Foster W, Chang P, Tsai YY, Arnold A, **Abdus-Saboor, I.** Social touch shapes communication and animal recognition in naked mole-rats. *bioRxiv* (2024) (in revision at Current Biology)
- 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, Abaira V. The dorsal column nuclei scales mechanical allodynia during neuropathic pain. *bioRxiv* (2024) (under review)
- 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. MrgprA3 neurons selectively control myeloid-derived IL-33 for IL-17 dependent cutaneous immunity. *preprint* (2023) (in revision at Nature Immunology)
- Liu D, Rahman M, Johnson A, Tsutsui-Kimura I, Pena N, Talay M, Logeman BL, Finkbeiner S, Choi S, Capo-Battaglia A, **Abdus-Saboor I**, Ginty DD, Uchida N, Watabe-Uchida M, Dulac C. A hypothalamic circuit underlying the dynamic control of social homeostasis. *bioRxiv* (2023) (in revision at Nature)
- Ortiz-Carpena J, Inclan-Rico J, Pastore C, Hung L, Wilkerson W, Lin C, **Abdus-Saboor I**, Vaughan A, Rossi H, Herbert D. Neuron-dependent tuft cell expansion initiates sinonasal allergic Type 2 inflammation. (in revision)
- 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, Abaira V, **Abdus-Saboor, I.** Touch neurons underlying dopaminergic pleasurable touch and sexual receptivity. *Cell* 186, 577–590 (2023).
 - Highlighted in over 30 media outlets around the world.
 - “How sexual touch triggers pleasant sensations in mice.” *Nature* 614, 10.
 - “The power of social touch: How a loving caress really can ease anxiety.” *Washington Post*.
 - “Socio-sexual touch: On the hunt for pleasure signal in the mouse brain.” *Current Biology*. 24;33(8)
 - “You don’t need words to calm a grumpy kid. Parents around the world use magic touch.” *NPR* [print and radio]
- 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***, Abaira V*. Mapping the neuroethological signatures of pain, analgesia, and recovery in mice. *Neuron* 111(18):2811-2830 (2023) * joint senior authorship
- Bashkirova EV, Klimpert N, Monahan K, Campbell CE, Osinski J, Tan L, Schieren I, Pourmorady A, Stecky B, Barnea G, Xie XS, **Abdus-Saboor I**, Shykind BM, Marlin BJ, Gronostajski RM, Fleischmann A, Lomvardas S. Opposing, spatially-determined epigenetic forces impose restrictions on stochastic olfactory receptor choice. *eLife* 12:RP87445

(2023)

11. Toussaint A, Foster W, Jones JM, Kaufmann S, Wachira M, Hughes R, Bongiovanni AR, Famularo ST, Dunham B, Schwark R, Karbalaie R, Dressler C, Bavley CC, Fried NT, Wimmer M, **Abdus-Saboor I**. Chronic paternal morphine exposure increases sensitivity to morphine-derived pain relief in male progeny. *Science Advances* eabk2425 (2022).
12. Schaffler M, Johnson M, Hing B, Kahler P, Hultman I, Srivastava S, Arnold J, Blendy J, Hultman R, **Abdus-Saboor, I**. A critical role for touch neurons in a skin-brain pathway for stress resilience. bioRxiv; (2022)
13. Burdge J, Fried N, **Abdus-Saboor I**. Using high-speed videography for objective and reproducible pain measurement on a mouse pain scale. *Star Protocols* 2,100322 (2021). Note: a peer-reviewed protocol paper.
14. Jones JM, Foster W, Twomey CR, Burdge J, Ahmed O, Pereira T, Wojick J, Corder G, Plotkin JB, **Abdus-Saboor I**. A machine-vision approach for automated pain measurement at millisecond timescales. *eLife* 9:e57258 (2020).
15. Rossi HL, See LP, Foster W, Pitake S, Gibbs J, Schmidt B, Mitchell CH, **Abdus-Saboor I**. Evoked and spontaneous pain assessment in a dental pulp injury model. *Sci Reports* 17;10(1):2759 (2020).
16. Pitake S, Middleton LJ, **Abdus-Saboor I**, Mishra SK. Inflammation induced sensory nerve growth and pain hypersensitivity requires the N-type calcium channel Cav2.2. *Front Neurosci* 19;13:1009 (2019).
17. **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* 6;28(6):1623-1634 (2019).
18. Olson W, **Abdus-Saboor I**, Cui L, Burdge J, Raabe T, Ma M, Luo W. Sparse genetic tracing reveals regionally specific functional organization of mammalian nociceptors. *eLife* 12;6:e29507 (2017).
19. Cui L, Miao X, Liang L, **Abdus-Saboor I**, Olson W, Fleming MS, Ma M, Tao YX, Luo W. Identification of early RET+ deep dorsal spinal cord interneurons in gating pain. *Neuron* 91, 1-17 (2016).
20. **Abdus-Saboor I**, Al Nufal MJ, Agha MV, Ruinat de Brimont M, Fleischmann A, Shykind B. An expression refinement process ensures singular odorant receptor gene choice. *Current Biology* 26, 1083–90 (2016).
21. Fleischmann A, **Abdus-Saboor I**, Sayed A, Shykind B. Functional interrogation of an odorant receptor locus reveals multiple axes of transcriptional regulation. *PLoS Biology* 11 (5):e1001568 (2013).
22. **Abdus-Saboor I**, Stone CE, Murray JI, Sundaram MV. 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 (2012).
23. **Abdus-Saboor I**, Mancuso VP, Murray JI, Palozola K, Norris C, Hall DH, Howell K, Huang K, Sundaram MV. Notch and Ras promote sequential steps of excretory tube development in C.elegans. *Development* 138, 3545–3555(2011).

Reviews, Book Chapters, Commentaries

1. Zavitsanou A, **Abdus-Saboor I**. Sex organs sense vibrations through specialized touch neurons. *Nature* (2024). PMID: 38898250
2. **Abdus-Saboor I**. Synchronized neuronal activity in peripheral sensory ganglia may drive chronic pain. *Principles of Neural Science Online Updates*, McGraw Hill, Access Neurology (2023).
3. Z. Anissa Jhumka, **Abdus-Saboor I**. Next generation behavioral sequencing for advancing pain quantification. *Curr Opin in Neurobiol.* 76:102598 (2022).
4. Burdge J, Jhumka ZA, Bravo I, **Abdus-Saboor I**. Taking a deep breath: How a brainstem pathway integrates pain

and breathing. Neuron 2;110(5):739-741 (2022).

5. **Abdus-Saboor I**, Luo W. Measuring mouse somatosensory reflexive behaviors with high-speed videography, statistical modeling, and machine learning. Neuromethods (2022).
6. Elias LJ, **Abdus-Saboor I**. Bridging skin, brain, and behavior to understand pleasurable social touch. Curr Opin in Neurobiol. 73:102527 (2022).
7. Inclan-Rico JM, Kim BS*, **Abdus-Saboor I**.* Beyond somatosensation: Mrgprs in mucosal tissues. Neuroscience Letters Feb 11;135689 (2021). *joint senior authorship
8. Fried NT, Chameessian A, Zylka MJ, **Abdus-Saboor I**. Improving pain assessment in mice and rats with advanced videography and computational approaches. Pain 161(7):1420-1424 (2020).
9. Schaffler M, Elias L, **Abdus-Saboor I**. Mechanisms of tactile sensory phenotypes in autism: current understanding, and future directions for research. Curr Psychiatry Rep. 5;21(12):134 (2019).
10. **Abdus-Saboor I**, Fleischmann A., Shykind B. Setting limits: maintaining order in a large gene family. Transcription 5:e28978(2014).

Patents

Abdus-Saboor I. Burdge J, Jhumka ZA, Nazarian J, Tabachnik T. "Automated reproducible mechanical stimulation for animal experiments." Patent no. 63/521,444 filed on 6-16-2023.

Grant Support

- | | | |
|--------------|---|----------------------|
| 1) 2024–2025 | Columbia University
Herbert Irving Comprehensive Cancer Center & Faculty of Arts and Sciences Joint Pilot Award
"Do sensory neurons in the skin drive wound memory to promote squamous cell carcinoma?"
Role: PI; Co-PI: Yvon Woappi (CUIMC) | \$100,000 (direct) |
| 2) 2023–2033 | Freeman Hrabowski Scholar, Howard Hughes Medical Institute
"Neural circuits for somatosensation from mice to naked mole-rats."
Role: PI | \$8,600,000 (direct) |
| 3) 2023–2026 | McKnight Scholar Award. "Skin-brain axis for rewarding touch behaviors."
Role: PI | \$225,000 (direct) |
| 4) 2023–2026 | Ernest E. Just Faculty Mentor Award. Awarded to IAS to fund a postdoc. | \$465,783 (total) |
| 5) 2022–2027 | NIH/NINDS DP2 New Innovator Award (DP2NS130454)
"Using mouse pain scales to discover unusual pain sensitivity & new pain targets."
Role: PI | \$2,467,500 (total) |
| 6) 2022–2027 | Chan Zuckerberg Initiative Science Diversity Leadership Award
"Uncovering peripheral and central neural circuits for inflammatory pain."
Role: PI | \$1,150,000 (total) |
| 7) 2022–2026 | Pew Scholar in the Biomedical Sciences
"Elucidating pain sensation and emotion from circuits to cells to genes."
Role: PI | \$300,000 (direct) |
| 8) 2022–2023 | Brain Research Foundation Seed Grant
"Investigating a skin-brain neuronal pathway for rewarding social touch." | \$80,000 (direct) |

Role: PI

9) 2022–2023	Columbia University Provost Grant for Junior Faculty “Does brain activity in the naked mole-rat govern cooperative social life?” Role: PI	\$30,000 (direct)
10) 2022–2023	NIH/NIMH R25 “The short course on the application of machine learning for automated quantification of behavior.” Role: MPI; Lead PI: Vivek Kumar, Jackson Labs	\$55,188 (sub-award)
11) 2021–2023	Alfred P. Sloan Research Fellowship in Neuroscience. Role: PI	\$75,000 (direct)
12) 2020–2023	Rita Allen Foundation Scholar in Pain Award “Discovering behavioral signatures of pain at millisecond timescales.” Role: PI	\$150,000 (direct)
13) 2017–2021	NIH/NIDCR K99/R00 Pathway to Independence Award (DE026807) “Determining the functions of molecularly defined populations of nociceptors in spinal and dental pain.” Role: PI	\$1,116,555 (total)
14) 2015–2018	Burroughs Wellcome Fund Postdoctoral Enrichment Program “Defining the neural mechanisms mediating crosstalk between touch and pain.” Role: PI	\$60,000 (direct)
15) 2016–2017	Burroughs Wellcome Fund Collaborative Travel Grant “Optogenetic and brain imaging investigation of pain neural circuitry.” Role: PI; Co-I: Jin Lee, Stanford	\$8,000 (direct)
16) 2014–2017	NIH IRACDA Postdoc Fellowship (K12 GM081295) “Dissect neural mechanisms underlying the crosstalk between touch and pain.” Role: PI for career development award; award to institution	\$190,488 (total)

Invited Research Talks (138 total)**Named Lectures and Keynote Talks**

Keynote Speaker, University of Alabama Birmingham Neuroscience Retreat	2024
Presidential Lecture, Simons Foundation	2024
Plenary Speaker, American Society for Cell Biology Annual Meeting	2023
SFNova Lecture, Society for Neuroscience Annual Meeting	2023
Keynote Speaker, University of Pennsylvania, Cell & Molecular Biology Grad Group Symposium	2022
Keynote Speaker, UNC Chapel Hill, Society for Black Biomedical Scientists Black History Month	2022
Keynote Speaker, Neuromatch Meeting	2020
Emerging Scholars Lecture, Vanderbilt University School of Medicine	2018

Department Seminars and Conference Talks

2025	
Emory University, Neuroscience Frontier’s Seminar Series	10/25
Summer Conference on the Changing Brain. Beckman Center of the National Academies	8/18/25
Gordon Research Conference on Modulation of Neural Circuits and Behavior. Les Diablerets, Switzerland	5/19/25
University of Lausanne, Switzerland. Department of Neuroscience Seminar Series	5/9/25
Lake Conference on Circuits Neuroscience: Sensation and Action. Lake Thun, Switzerland	5/4/25
Western University, Canada, Perspectives in Neuroscience Seminar Series	4/16/25

UC Berkeley, Neuroscience Seminar Series	1/16/25
2024	
International Associate for the Study of Pain (IASP) World Congress on Pain, Netherlands	8/5/24
North American Pain School, Quebec, Canada	6/26/24
Gatsby Tri-Center Meeting for Theoretical Neuroscience, Zuckerman Institute at Columbia University	6/3/24
88 th Cold Spring Harbor Laboratory Symposium on Quantitative Biology: Brain Body Physiology	5/30/24
Cold Spring Harbor Laboratory, Neuroscience Seminar Series	3/4/24
Columbia University, Psychiatry Grand Rounds	2/28/24
UC Davis, Neuroscience Seminar Series	2/22/24
New York University (NYU), Interdisciplinary Pain Research Program Seminar Series	2/8/24
Keystone Meeting, "Mammalian Pain and Somatosensation"	1/14/24
Johns Hopkins University, Department of Neuroscience Seminar Series	1/4/24
2023	
Avant Institute Symposium, "Sensing the world through our skin symposium"	12/14/23
Columbia University, Integrative Animal Behavior Seminar Series	11/6/23
Barnard College, Department of Biological Sciences Seminar Series	11/3/23
Brown University, Neuroscience Seminar Series	10/26/23
Columbia University, Dermatology Grand Rounds	9/15/23
Columbia University, HICCC Cancer-relevant Chemistry and Biology Symposium	9/7/23
Kallyope Inc., Seminar Series	8/23/23
Mount Sinai School of Medicine, "Brain and Body Lecture Series"	5/30/23
Oregon Health & Science University (OHSU), Neuroscience Futures Seminar Series	5/23/23
Stanford University, Wu Tsai Neuroscience Institute Seminar Series	4/27/23
Princeton University, Neuroscience Institute Seminar Series	3/2/23
Caltech, Chen Institute Neuroscience Symposium	1/28/23
2022	
Yale University, Neuroscience Seminar Series	12/12/22
American College of Neuropsychopharmacology Annual Meeting	12/4/22
New York University (NYU), Department of Biology Seminar Series	11/21/22
UC Berkeley, Brain Imaging in the Bay Symposium	11/5/22
Rockefeller University, Symposium on the Social Brain	10/25/22
Albert Einstein College of Medicine, Neuroscience Seminar Series	9/28/22
Gordon Conference, Optogenetic Approaches to Neural Circuits and Behavior, Maine	7/19/22
Columbia University, Neurosurgery Grand Rounds	7/7/22
Washington University in St. Louis, Anesthesiology Research Seminar Series	6/30/22
Northwestern University, Department of Physiology and Pain Center Seminar Series	6/24/22
Karger J.B. Johnston Club Symposium, Evolving Intersecting Neural Circuits	5/12/22
Columbia University, Stavros Niarchos Foundation Lecture	4/27/22
Brandeis University, M. R. Bauer Foundation Colloquium Seminar Series	3/29/22
Columbia U, Frontiers in Engineering and Medicine, Symposium on Neuromodulation	3/4/22
University of Washington, Department of Biological Structure Seminar Series	1/27/22
2021	
Penn State College of Medicine, Neural and Behavioral Sciences Department Seminar Series	11/18/21
Harvard University, Brain Science Initiative, Neurobiology of Pain Event	11/16/21
Johns Hopkins University, Dpt of Molecular and Comparative Pathobiology Seminar Series	11/12/21
Harvard Medical School, Department of Neurobiology Seminar Series	10/4/21
Johns Hopkins University, Blaustein Pain Grand Rounds	9/24/21
University of California San Francisco (UCSF), Neuroscience Seminar Series	9/2/21
Brown University, Samuel M. Nabrit Conference for Early Career Scholars	8/2/21
Newcastle University (UK), Centre for Behaviour and Evolution Seminar Series	7/6/21
Brain Initiative Investigator's Meeting, Social Brain Symposium	6/17/21
Columbia University, Department of Biological Sciences Seminar Series	5/17/21

Salk Institute, Thursday Seminar Series	4/8/21
Williams College, Class of 1960 Scholar Speaker Series	3/31/21
University of Southern California (USC), Neurobiology Seminar Series	3/22/21
Texas Pain Research Consortium, Seminar Series	3/15/21
George Washington University, IBS Neuroscience Seminar Series	3/11/21
University College London, Gatsby Computational Neuroscience Series	3/5/21
University of Chicago, Neuroscience Seminar Series	2/23/21
New York University School of Medicine, Marie Daly Speaker Series	2/19/21
Duke University, Department of Neurobiology Seminar Series	2/16/21
Allen Institute for Brain Science, Inaugural Black History Month Seminar Series	2/9/21
Middlebury College, Neuroscience Seminar Series	2/5/21
University of California San Diego (UCSD), Neuroscience Seminar Series	1/12/21

2020

Northeastern University, Biology Colloquium	12/7/20
Washington University in St. Louis, Anesthesiology Research Seminar Series	12/1/20
Weill Cornell Medicine, Frontiers in Neuropsychiatry Seminar Series	11/24/20
University of Pittsburgh & Carnegie Mellon University, CNBC ERC Series	11/18/20
UT Health San Antonio, Department of Pharmacology & Center for Biomedical Neuroscience	11/11/20
Johns Hopkins University, Department of Biology Seminar Series	11/5/20
University of Iowa, Neuroscience Institute Seminar Series	10/30/20
University of Michigan, Department of Molecular, Cell, Developmental Biology	10/16/20
Johns Hopkins University, Department of Biochemistry and Molecular Biology	10/12/20
Columbia University, Zuckerman Institute, Breakthroughs in Neuroscience Series	9/29/20
National Institutes of Health, Animal Genetics Consortium	9/24/20
Drexel University, Department of Neurobiology and Anatomy Seminar Series	9/23/20
Georgetown University, Department of Pharmacology and Physiology	9/10/20
National Institutes of Health, Early Career Investigators in Addiction Neuro Series	8/12/20
University of Pennsylvania, Diversity Action Plan in Genomics summer program	8/3/20
Johns Hopkins University, Department of Pharmacology & Molecular Sciences	7/22/20
Stanford University & Chinese Academy of Sciences; Neuro Zoom	7/6/20
University of Virginia, Neuroscience Department, Inaugural Juneteenth Lecture	6/15/20
Pain Research Forum; moderated by Cheryl Stucky, Wisconsin	3/24/20
Rowan University, Molecular and Cellular Biosciences Seminar Series	2/28/20
Temple University, Neuroscience Seminar Series	2/12/20
Keystone Symposium, "Pain: Aligning the Target", Colorado	2/3/20
University of Pennsylvania, Dermatology Research Seminar Series	1/14/20

2019

University of Pennsylvania, Neuroscience Graduate Group Public Lecture on Pain	12/5/19
University of Pennsylvania, Psychology Department Colloquium Series	12/2/19
Annual Biomedical Conference for Minority Students (ABRCMS), California	11/16/19
University of Texas at Dallas, School of Behavioral and Brain Sciences	11/7/19
Lasalle University, Department of Biology	10/1/19
University of Illinois at Chicago, Integrative Neuroscience Seminar Series	9/26/19
Fox Chase Cancer Center, Molecular Therapeutics Department	6/20/19
University of Pennsylvania, SUIP Faculty Research Seminar	6/12/19
University of Maryland Baltimore County, Dpts. of Biology; Chemistry/Biochemistry	5/8/19
University of Washington, Neuroscience Seminar Series	3/14/19
North Carolina A&T State University, Department of Biology	1/23/19
University of California Santa Cruz, Dpt. Molecular, Cell, Developmental Biology	1/14/19

2018

St. Joseph's University, Department of Biology	11/14/18
University of Pennsylvania, Undergraduate Neuroscience Honors Society	12/4/18
University of Pennsylvania, Center for Neurobiology and Behavior Seminar	10/26/18

Mid-Atlantic Pharmacology Society Meeting, Philadelphia, PA	9/27/18
University of Pennsylvania, mindCORE Seminar Series	9/4/18
Gordon Conference, Molecular and Cellular Neurobiology, Hong Kong	7/3/18
National Institutes of Health, Pain Consortium Symposium	5/31/18
Rockefeller University, Sense to Synapse Conference	5/12/18
Meharry Medical College, Department of Biochemistry and Cancer Biology	5/2/18
Bryn Mawr College, Chemistry Colloquia Series	4/16/18
Duke University, Department of Pharmacology	2/20/18
New York University, Department of Oral Surgery	2/7/18
University of Pennsylvania, Department of Biology	1/11/18

2017

University of Pennsylvania, Department of Oral Surgery & Pharmacology	12/14/17
Johns Hopkins University, Department of Pharmacology & Molecular Sciences	12/12/17
Temple University, Center for Substance Abuse Research	12/7/17
Society for Neuroscience Meeting, Washington D.C.	11/11/17
Haverford College, Department of Biology	4/3/17
Syracuse University, Department of Biology	3/10/17
University of Pennsylvania, SACNAS Chapter Science Café Seminar Series	2/16/17
Rutgers University Camden, Department of Biology	1/19/17

2016

Swarthmore College, Department of Biology	11/30/16
Mount Holyoke College, Department of Biological Sciences	11/8/16
University of Pennsylvania Dental School, Levy Series	10/27/16
Bucknell University, Department of Biology	10/3/16
Rutgers University Camden, Department of Biology	3/10/16
Virginia Tech University, Department of Biochemistry	1/13/16

2011 – 2013

2 nd International Symposium on Olfaction, Paris	9/19/13
University of Pennsylvania, Genetics Symposium	11/28/12
University of Pennsylvania, Cell and Molecular Biology Annual Symposium	10/11/11
International <i>C.elegans</i> Meeting, Los Angeles, CA	6/26/11
Society for Developmental Biology Meeting, Phila., PA, <i>award for best graduate student talk</i>	6/3/11

Media

- 1) Q & A Feature interview. "Pleasure or pain? He maps the neural circuits that decide." **Quanta Magazine** (2024).
- 2) Feature interview. "Lab mice go wild: making experiments more natural to decode the brain." **Nature** (2023).
- 3) Feature interview. "An end to chronic pain? Future treatment could look very different" **USA Today** (2022).
- 4) "Trailblazing neurobiologist studies the science of pleasure and pain" **Columbia University** (2022). [YouTube](#)
- 5) Q & A Feature interview. **Neuron** (2021) <https://doi.org/10.1016/j.neuron.2021.09.026>
- 6) "Beyond the CV: Stories from Faculty." **University of Pennsylvania MindCORE**, 2021. [YouTube](#)
- 7) Feature interview. "The Science of Sensations" **Penn Today** (2019)
- 8) TV Feature and lab visit, **CBS News** (2018). <https://www.cbsnews.com/philadelphia/news/central-high-school-graduate-penn-medicine/>
- 9) "How early STEM program and mentors paved the way for a career in science." **Burroughs Wellcome Fund** (2018)
- 10) "PennPORT (al) into a Thriving Science Career." **Penn Medicine News** (2018)

Professional Service**Meeting Organization**

- Organizer (w/ Diana Bautista & Becky Seal), Keystone Meeting: Mammalian Somatosensation (2024)
- Organizer (w/ Vanna Zachariou and Victoria Abaira), Northeast Pain Meeting (2023)

Scientific or Other Advisory Boards

2022–present Scientific Advisory Board, Doloromics Inc.,
 2022–present Advisory Board, Burroughs Wellcome Fund PDEP Postdoctoral Fellowship
 2021–present Editorial Board, Neurobiology of Pain
 2020–present Editorial Board, Cell Reports
 2020–2023 Board of Reviewing Editors, eLife

Company Co-founder and consultant positions

2023–present Co-Founder and Scientific Consultant, Tactorum Inc.

Grant Review Panels

- Ad hoc reviewer, HHMI Hannah Gray Fellowship (2024)
- Ad hoc reviewer, NIH Neurobiology of Pain and Itch study section R01 review panel (2024)
- Ad hoc reviewer, NIH HEAL Initiative R01 review panel on “Discovery of Novel Pain Targets” (2023)
- Ad hoc reviewer, NIH/NIDDK R01 review panel on “Mechanisms and Management of Pain” (2023)
- Ad hoc reviewer, Simons Foundation Autism Research Initiative (SFARI) “Cross-Species Studies of ASD” (2023)
- Standing member, Burroughs Wellcome Fund PDEP Postdoctoral Fellowship (2023-2026)
- Ad hoc reviewer, NIH BRAIN Initiative R01 review panel (2022)
- Ad hoc reviewer Chan Zuckerberg Biohub Investigators (Stanford/Berkeley/UCSF) review panel (2021)
- Ad hoc reviewer, NIH/NINDS F99/K00 Blueprint D-SPAN Award review panel (2020)
- Ad hoc reviewer, Burroughs Wellcome Fund Graduate Diversity Enrichment Program review panel (2019)

Journal Reviewer:

- Nature	- Science	- Cell	- eLife	- Neuron	- Pain
- Cell Reports	- Nat. Comm.	- Nat. Neurosci.	- Neuropsych.	- Aging Cell	- Mol. Pain
- J.Neurosci.	- Star Protocols	- Pain Reports	- Neurosci.	- Neurosci. Let.	- Meth. Cell Bio.
- PloS Biology	- Annals of NYAS	- Sci. Advances	- PloS One	- Nature Protocols	- Sci. Signalling

University and Departmental ServiceColumbia University

2024 Member, Department of Neuroscience Chair Search Committee
 2023–present Member, Executive Committee, Department of Biological Sciences
 2023–present Faculty Advisor, BUMP (Black Undergraduate Mentorship Program in the Biological Sciences)
 2023 Co-Organizer, Department of Biological Sciences Annual Retreat
 2022–present Member, Diversity, Equity, Inclusion Committee, Department of Biological Sciences
 2022–2023 Member, University Task Force on Historically Black Colleges and Universities
 2021–2022 Faculty Search Committee, Zuckerman Mind Brain Behavior Institute

University of Pennsylvania

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 Member, Dean’s Council on Diversity
 2020–2021 Seminar Committee, Department of Neuroscience
 2020–2021 Faculty Advisory Board, E.E. Just Biomedical Society for underrepresented minority PhD students
 2019–2020 Member, Dean’s Committee for “Mapping the Mind”
 2018–2020 Co-Director, Mentoring Circle Program for underrepresented minority students

Graduate Student Qualifying Exam and/or Thesis Advisory Committees (17 total)

Tamina Ramirez, 2024– present; Sherry Li, 2024– present; Valentine Andreu, 2023– present; Abby Wood, 2023– present;
 Nova Qi, 2022– present; Aaron Limoges, 2021– 2024; Eliza Jaeger, 2021– present; Yasmin Ramadan, 2021– present;
 Erin Jean, 2022– present; Brandon Bastien, 2020 – 2024; Michelle Klima, 2020 – 2022; Jessica Wojick, 2020; Melina
 Gyparaki, 2019 – 2021; Bishwas Sharma, 2019 – 2021; Luigim Cifuentes, 2019; Yongjun Li, 2019; Linyang Ju, 2019

Selected Outreach

- **Lab tour host**, Columbia Access Neuroscience day for college students interested in doctorates (2024)
- **Speaker**, Columbia Neuroscience Society's annual neuroscience conference for undergraduates (2024)
- **Speaker**, NIH Podcast: Demystifying the early career faculty stage (2023)
- **Keynote Speaker**, "Black in Neuro Week" (2023)
- **Panelist**, Interviewed by Richard Axel at Brain Series Lecture at Columbia's Zuckerman Institute (2022)
- **Panel Leader**, DEI in the machine learning and behavior community at the JAX short course (2022)
- **Keynote Speaker**, BRAINYAC Columbia University high school summer intern graduation ceremony (2022)
- **Speaker**, ASSURE Summer Scholars Program for URMs at Washington University in St. Louis (2022)
- **Speaker**, "Stories in Science", Columbia University Neuroscience Society & Black in Neuro Manhattan (2022)
- **Speaker**, UNC Chapel Hill, Society for Black Biomedical Scientists Black History Month (2022)
- **Speaker**, Black-in-Stem conversation with Rutgers Camden University MARC students (2021)
- **Inaugural Speaker**, Harvard Medical School Black Postdoctoral Association (2020)
- **Session Chair**, Inclusivity and Diversity in the Field, Keystone Meeting on Pain (2020)
- **Speaker**, Monell Chemical Senses Center, *Diversity Journal Club* (2020)
- **Speaker**, University of Pennsylvania, Neuroscience Graduate Group Public Lecture on Pain (2019)
- **Speaker**, NIH Director's Conference on "Advancing Diversity Programs" (2019)
- **Panelist**, NIH/ENDURE program for underrepresented minority trainees (2019)
- **Lab Host**, Abdus-Saboor lab Science Day for 25 elementary students in West Philly (2019)
- **Panelist**, Society for Neuroscience Meeting, NIH Blueprint Diversity F99/K00 fellows (2018)
- **Speaker**, "March for Science" Philadelphia, PA (2017)
- **Panelist**, "Diversity in STEM workshop", Penn Center for Teaching and Learning (2016)
- **Outreach Chair**, E.E. Just Biomedical Society for underrepresented minority graduate students (2007)

Teaching

Columbia University

Instructor (75-100 students): BIOL UN3004 Neurobiology I: Cellular and Molecular Neurobiology (Fall 2022, 2023, 2024)

Jackson Laboratory; Bar Harbor, Maine

Co-Organizer and Instructor (50 students): The Short Course on the Application of Machine Learning for Automated Quantification of Behavior (Fall 2022, 2023)

North American Pain School; Montebello, QC, Canada

Course Speaker (30 students): "Pain: Prevention, Treatment, or Cure?" (Summer 2024)

University of Pennsylvania

Instructor (150 students): BIOL 221: Molecular Biology and Genetics (Spring 2019, 2020, 2021)

Guest lectures

Columbia University (graduate course): G4340: Survey of Neuroscience (Spring 2022, 2023, 2024)

Columbia University (undergraduate course): BIO UN1908: First-Year Seminar in Biology (Fall 2023)

Columbia University (undergraduate course): BIO UN3041: Cell Biology (Fall 2023)

Columbia University (graduate course): G4100: Biology of Neurologic and Psychiatric Disorders (Spring 2023)

Columbia University (graduate course): BIOL GR9301: Pre-research seminar (Fall 2021)

University of Pennsylvania (graduate course): NGG 588: Topics in Translational Neuroscience (Spring 2020)

Rutgers University-Camden

Instructor (50 students): BIO 50:120:110 Biology of Disease: History of Biological Discoveries, (Spring & Fall 2016)

Lincoln University

Instructor (20 students): BIO 313: History of Biology (Fall 2015)

Mentorship: *under-represented minority

Current

Postdoctoral Fellows

- 1) 2024 – present Anna Zhukovskaya (Ph.D. Princeton University)
- 2) 2024 – present Yuki Haba (Ph.D. Princeton University)
- 3) 2023 – present Aleksander Kaplan (Ph.D. Hebrew University)
- 4) 2023 – present Briana Nixon (Ph.D. Cornell University)
- 5) 2023 – present *Sasha Fulton (Ph.D. Mount Sinai Medicine)
- 6) 2022 – present Anastasia-maria Zavitsanou (Ph.D. New York University)
- 7) 2022 – present *Andre Toussaint

Doctoral Students

- 1) 2023 – present Viviana Vinci (Biological Sciences)
- 2) 2023 – present Yu-Young Wesley Tsai (Biological Sciences)
- 3) 2023 – present William Foster (Neurobiology & Behavior)
- 4) 2023 – present Preston Sheng (Biological Sciences)
- 5) 2023 – present Isabella Succi (Biological Sciences), joint with Itamar Kahn
- 6) 2022 – present Brittany Bistis (Biological Sciences)
- 7) 2021 – present *Rachel Frazer (Neurobiology & Behavior)

Technician

- 1) 2023 – present *Alexis Knight (B.S. Columbia University)

Undergraduates

- 1) 2024 –present Simon Toney, Neuroscience and Behavior
- 2) 2023 –present *Maximillian Comfere, Computer Science
- 3) 2023 –present Amanda Arnold, Neuroscience
- 4) 2023 –present *Leah Yadessa, Neuroscience and Behavior
- 5) 2023 –present *Sofia Marin-Quiros, Computer Science
- 6) 2023–present *Olaedo Udensi, BUMP Biology
- 7) 2023–present Ashar Khan, Neuroscience and Behavior
- 8) 2023–present Jake Kothandaraman, Biology

Alumni (last known position)**Postdoctoral Fellows**

- 1) 2020 – 2024 Anissa Jhumka
- 2) 2018 – 2021 Heather Rossi (Senior Research Investigator at UPenn)

Doctoral Students

- 1) 2020 – 2024 Ryan Schwark
- 2) 2020 – 2024 Justin Burdge
- 3) 2018 – 2022 *Melanie Schaffler (Regular Affairs Associate at Teva Pharmaceuticals)
- 4) 2018 – 2022 Leah Elias (Jane Coffin Childs Postdoc Fellow at Johns Hopkins University)

Technicians

- 1) 2022 – 2023 Victoria Saltz (PhD student at Columbia University)
- 2) 2021 – 2022 *Jared Boyce (MD-PhD student at Wisconsin-Madison)
- 3) 2020 – 2022 Isabella Succi (PhD student in the Abdus-Saboor lab at Columbia University)
- 4) 2018 – 2021 William Foster (PhD student in the Abdus-Saboor lab at Columbia University)
- 5) 2018 – 2020 *Jessica Jones (HHMI Gilliam Fellow and PhD student at University of Washington)

Undergraduates

- 1) 2022–2024 *Melody Gomez
- 2) 2022–2024 *Sarah Sorensen Ogata
- 3) 2022–2024 *Abednego Delinois
- 4) 2023 –2024 *Sevilla Duran (Master's student at Stanford University)

- 5) 2023–2024 *Aishat Bakare
- 6) 2021–2024 *Simon Ogundare (MD-PhD student at Columbia University)
- 7) 2022–2023 *Alexis Knight (technician in the Abdus-Saboor lab at Columbia University)
- 8) 2022–2023 *Jonathan Ettricks (R & D intern at Iveric Bio)
- 9) 2021–2023 *Alexis Marshall (technician at Columbia University)
- 10) 2021–2023 *Wadzanayi Michelle Mayiseni (post-bac at Yale University)
- 11) 2021–2023 Phaelen Chang (post-bac at Memorial Sloan Kettering)
- 12) 2019–2021 *Justin Arnold (MD student at Northwestern University)
- 13) 2019–2021 Lucie Pham (MD student at Rutgers University)
- 14) 2019–2020 Samuel Kaufmann (Research Fellow at Silver Lining)
- 15) 2015–2019 Justin Burdge (PhD student in the Abdus-Saboor lab at Columbia University)
- 16) 2019 Emma Lu
- 17) 2018–2019 *Migyana Thomas

Summer Interns

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