

Ishmail Abdus-Saboer, 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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 New York, NY 10027
<http://www.abdus-saboerlab.com>

Personal

Born: Philadelphia, Pennsylvania USA. May 19, 1984; married, two children.

Faculty Positions

	Howard Hughes Medical Institute
2023 – present	Freeman Hrabowski Scholar
	Columbia University
2023 – present	Associate Professor of Biological Sciences (without tenure)
2021 – 2023	Assistant Professor of Biological Sciences
	University of Pennsylvania
2018 – 2021	Mitchell and Margo Blutt Presidential Assistant Professor of Biology

Postdoctoral Training

	University of Pennsylvania
2014 – 2018	Postdoctoral Fellow, Advisor: Wenqin Luo
	Weill Cornell Medicine
2012 – 2014	Postdoctoral Fellow, Advisor: Benjamin Shykind

Education

	University of Pennsylvania
2006 – 2012	Ph.D. Cell and Molecular Biology, Advisor: Meera Sundaram
	North Carolina A&T State University
2002 – 2006	B.S. Animal Science, <i>summa cum laude</i>
	Central High School of Philadelphia
1998 – 2002	B.A. 261 st graduating class

Honors and Awards

2023	Young Investigator Award, Society for Neuroscience
2023	HHMI Freeman Hrabowski Scholar
2023	McKnight Scholar Award
2022	NIH New Innovator Award
2022	Chan Zuckerberg Science Diversity Leadership Award
2022	Pew Biomedical Scholar
2022	Brain Research Foundation Award
2021	Alfred P. Sloan Research Fellow
2021	Kavli Fellow, National Academy of Sciences
2020	Rita Allen Foundation Scholar
2018	Mitchell Max Award for Research Excellence
2017	NIH Pathway to Independence Award
2015	Burroughs Wellcome Fund PDEP Postdoc Fellowship
2014	NIH IRACDA Postdoc Fellowship

2012 Tom Kadesch Prize in Genetics
 2009 NIH Predoctoral Training Grant in Genetics
 2006 Gloria Chisum Graduate Fellowship

Awards to Trainees

Briana Nixon (postdoctoral fellow)	Life Sciences Research Foundation (LSRF) 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)	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 BWF 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

Peer-reviewed Publications [Abdus-Saboor lab members in bold]

Principal Investigator:

- 1) **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 including some listed here:

- [Nature](#) 614, 10. “How sexual touch triggers pleasant sensations in mice.”
 - [Washington Post](#). “The power of social touch: How a loving caress really can ease anxiety.”
 - [Current Biology](#). “Socio-sexual touch: On the hunt for pleasure signal in the mouse brain.”
 - [NPR](#). “You don't need words to calm a grumpy kid. Parents around the world use magic touch.” [print and radio]
- 2) 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, 1-20 (2023) * joint senior authorship
 - Research highlight in *Neuron* 111, 18. “Painspotting.”
 - 3) 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)
 - 4) **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**. Chronic paternal morphine exposure increases sensitivity to morphine-derived pain relief in male progeny. *Science Advances* eabk2425 (2022).
 - 5) **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.
 - 6) **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).
 - 7) **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).

- 8) **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).

[Research papers submitted, under review, or in revision](#)

- 9) **Schwark R**, **Ogundare S** Weinreb C, **Sheng P**, **Foster W**, **Toussaint A**, **Chang P**, **Tsai W**, **Comfere M**, **Arnold A**, Guadagnino A, McCloskey D, Schaffer E, Rajan K, Datta SR, **Abdus-Saboor, I**. Behavioral fingerprinting of the naked mole-rat uncovers signatures of eusociality and social touch. (under review)
- 10) Inclan-Rico JM, Napuri C, Lin C, Hung LY, Ferguson A, Wu Q, Pastore CF, Stephenson A, Femoe U, **Rossi HL**, Reed D, Luo W, **Abdus-Saboor I**, Herbert DR. MrgprA3 neurons selectively control myeloid-derived IL-33 for IL-17 dependent cutaneous immunity. (in revision)
- 11) 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. (in revision)
- 12) 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)
- 13) Sgourdou P, **Schaffler M**, Choi K, McCall N, **Burdge J**, Williams J, Corder G, Fuccillo M, **Abdus-Saboor I**, Epstein D. Impaired acute pain response in mice lacking first order posterior medial thalamic neurons. (in revision)
- 14) **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)

[Research papers in preparation](#)

- 15) **Burdge J**, **Ogundare S**, **Jhumka A**, **Baer N**, **Toussaint A**, **Fulton S**, **Yadessa L**, **Khan A**, **Abdus-Saboor, I**. Remote and automated delivery of mechanical stimuli coupled to brain recordings in behaving mice.

[Review articles](#)

- 16) **Z. Anissa Jhumka**, **Abdus-Saboor I**. Next generation behavioral sequencing for advancing pain quantification. Curr Opin in Neurobiol. 76:102598 (2022).
- 17) **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).
- 18) **Elias LJ**, **Abdus-Saboor I**. Bridging skin, brain, and behavior to understand pleasurable social touch. Curr Opin in Neurobiol. 73:102527 (2022).
- 19) Inclan-Rico JM, Kim BS*, **Abdus-Saboor I**.* Beyond somatosensation: Mrgprs in mucosal tissues. Neuroscience Letters Feb 11;135689 (2021). * joint senior authorship
- 20) Fried NT, Chamesian 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).
- 21) **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).

[Book Chapters](#)

- 22) **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).
- 23) **Abdus-Saboor I**, Luo W. Measuring mouse somatosensory reflexive behaviors with high-speed videography, statistical modeling, and machine learning. Neuromethods (2022).

Postdoctoral Fellow:

- 24) **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).
- Research highlight in Pain Research Forum (PRF) “The mouse pain scale: a more reliable and unbiased way to assess animal behavior in pain research.”. Selected by PRF as 1 of 10 best pain research papers of 2019.
 - Research highlight in Lab Animal (Nature press) **48**, 297. “A new tool puts a number on mouse pain.”
- 25) 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).
- 26) 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).
- 27) **Abdus-Saboor I**, Al Nufal MJ, Agha MV, Ruinart de Brimont M, Fleischmann A, Shykind B. An expression refinement process ensures singular odorant receptor gene choice. Current Biology 26, 1083–90 (2016).
- 28) 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).

Graduate Student:

- 29) **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).
- 30) **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). *Research Highlight in Nature Reviews Molecular Cell Biology*.

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.” Role: PI	\$80,000 (direct)
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)
15)	2015–2018	Burroughs Wellcome Fund Postdoctoral Enrichment Program “Defining the neural mechanisms mediating crosstalk between touch and pain.” Role: PI	\$60,000 (direct)
16)	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)
17)	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

2025	
132. Summer Conference on the “Changing Brain.” Beckman Center of the National Academies	8/18/25
131. Gordon Research Conference on “Modulation of Neural Circuits and Behavior.” Switzerland	5/19/25
130. Western University, Canada, Perspectives in Neuroscience Seminar Series	4/16/25
2024	
129. Massachusetts Institute of Technology (MIT), Social Brain Colloquium Series	4/24/24
128. Cold Spring Harbor Laboratory, Neuroscience Seminar Series	3/4/24
127. Columbia University, Psychiatry Grand Rounds	2/28/24
126. UC Davis, Neuroscience Seminar Series	2/22/24
125. Simons Foundation, New York City. Presidential Lecture	2/14/24
124. New York University (NYU), Interdisciplinary Pain Research Program Seminar Series	2/8/24
123. Keystone Meeting, “Mammalian Pain and Somatosensation” Meeting Organizer	1/14/24
122. Johns Hopkins University, Department of Neuroscience Seminar Series	1/4/24
2023	
121. Avant Institute Symposium, “Sensing the world through our skin symposium”	12/14/23
120. American Society for Cell Biology (ASCB) Annual Meeting, Plenary Speaker	12/6/23
119. Columbia University, Integrative Animal Behavior Seminar Series	11/6/23
118. Barnard College, Department of Biological Sciences Seminar Series	11/3/23
117. Brown University, Neuroscience Seminar Series	10/26/23
116. Columbia University, Dermatology Grand Rounds	9/15/23
115. Columbia University, HICCC Cancer-relevant Chemistry and Biology Symposium	9/7/23
114. Kallyope Inc., Seminar Series	8/23/23
113. Mount Sinai School of Medicine, “Brain and Body Lecture Series”	5/30/23
112. Oregon Health & Science University (OHSU), Neuroscience Futures Seminar Series	5/23/23
111. Stanford University, Wu Tsai Neuroscience Institute Seminar Series	4/27/23
110. Princeton University, Neuroscience Institute Seminar Series	3/2/23
109. Caltech, Chen Institute Neuroscience Symposium	1/28/23
2022	
108. Yale University, Neuroscience Seminar Series	12/12/22
107. American College of Neuropsychopharmacology Annual Meeting	12/4/22
106. New York University (NYU), Department of Biology Seminar Series	11/21/22
105. UC Berkeley, Brain Imaging in the Bay Symposium	11/5/22
104. Rockefeller University, Symposium on the Social Brain	10/25/22
103. University of Penn, Cell & Molecular Biology Grad Group Symposium, Keynote Speaker	10/7/22
102. Albert Einstein College of Medicine, Neuroscience Seminar Series	9/28/22
101. Gordon Conference, Optogenetic Approaches to Neural Circuits and Behavior, Maine	7/19/22
100. Columbia University, Neurosurgery Grand Rounds	7/7/22
99. Washington University in St. Louis, Anesthesiology Research Seminar Series	6/30/22
98. Northwestern University, Department of Physiology and Pain Center Seminar Series	6/24/22
97. Karger J.B. Johnston Club Symposium, Evolving Intersecting Neural Circuits	5/12/22
96. Columbia University, Stavros Niarchos Foundation Lecture	4/27/22
95. Brandeis University, M. R. Bauer Foundation Colloquium Seminar Series	3/29/22
94. Columbia U, Frontiers in Engineering and Medicine, Symposium on Neuromodulation (panelist)	3/4/22
93. UNC Chapel Hill, Society for Black Biomedical Scientists Black History Month, Keynote Speaker	2/28/22
92. University of Washington, Department of Biological Structure Seminar Series	1/27/22
2021	
91. Penn State College of Medicine, Neural and Behavioral Sciences Department Seminar Series	11/18/21
90. Harvard University, Brain Science Initiative, Neurobiology of Pain Event	11/16/21
89. Johns Hopkins University, Dpt of Molecular and Comparative Pathobiology Seminar Series	11/12/21

88. Harvard Medical School, Department of Neurobiology Seminar Series	10/4/21
87. Johns Hopkins University, Blaustein Pain Grand Rounds	9/24/21
86. University of California San Francisco (UCSF), Neuroscience Seminar Series	9/2/21
85. Brown University, Samuel M. Nabrit Conference for Early Career Scholars	8/2/21
84. Newcastle University (UK), Centre for Behaviour and Evolution Seminar Series	7/6/21
83. Brain Initiative Investigator's Meeting, Social Brain Symposium	6/17/21
82. Columbia University, Department of Biological Sciences Seminar Series	5/17/21
81. Salk Institute, Thursday Seminar Series	4/8/21
80. Williams College, Class of 1960 Scholar Speaker Series	3/31/21
79. University of Southern California (USC), Neurobiology Seminar Series	3/22/21
78. Texas Pain Research Consortium, Seminar Series	3/15/21
77. George Washington University, IBS Neuroscience Seminar Series	3/11/21
76. University College London, Gatsby Computational Neuroscience Series	3/5/21
75. University of Chicago, Neuroscience Seminar Series	2/23/21
74. New York University School of Medicine, Marie Daly Speaker Series	2/19/21
73. Duke University, Department of Neurobiology Seminar Series	2/16/21
72. Allen Institute for Brain Science, Inaugural Black History Month Seminar Series	2/9/21
71. Middlebury College, Neuroscience Seminar Series	2/5/21
70. University of California San Diego (UCSD), Neuroscience Seminar Series	1/12/21

2020

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

2019

45. University of Pennsylvania, Neuroscience Graduate Group Public Lecture on Pain	12/5/19
44. University of Pennsylvania, Psychology Department Colloquium Series	12/2/19
43. Annual Biomedical Conference for Minority Students (ABRCMS), California	11/16/19
42. University of Texas at Dallas, School of Behavioral and Brain Sciences	11/7/19
41. LaSalle University, Department of Biology	10/1/19
40. University of Illinois at Chicago, Integrative Neuroscience Seminar Series	9/26/19
39. Fox Chase Cancer Center, Molecular Therapeutics Department	6/20/19
38. University of Pennsylvania, SUIP Faculty Research Seminar	6/12/19
37. University of Maryland Baltimore County, Dpts. of Biology; Chemistry/Biochemistry	5/8/19

36. University of Washington, Neuroscience Seminar Series 3/14/19
 35. North Carolina A&T State University, Department of Biology 1/23/19
 34. University of California Santa Cruz, Dpt. Molecular, Cell, Developmental Biology 1/14/19

2018

33. St. Joseph's University, Department of Biology 11/14/18
 32. University of Pennsylvania, Undergraduate Neuroscience Honors Society 12/4/18
 31. University of Pennsylvania, Center for Neurobiology and Behavior Seminar 10/26/18
 30. Mid-Atlantic Pharmacology Society Meeting, Philadelphia, PA 9/27/18
 29. University of Pennsylvania, mindCORE Seminar Series 9/4/18
 28. Gordon Conference, Molecular and Cellular Neurobiology, Hong Kong 7/3/18
 27. National Institutes of Health, Pain Consortium Symposium 5/31/18
 26. Rockefeller University, Sense to Synapse Conference 5/12/18
 25. Vanderbilt University School of Medicine, **Emerging Scholars Lecture** 5/3/18
 24. Meharry Medical College, Department of Biochemistry and Cancer Biology 5/2/18
 23. Bryn Mawr College, Chemistry Colloquia Series 4/16/18
 22. Duke University, Department of Pharmacology 2/20/18
 21. New York University, Department of Oral Surgery 2/7/18
 20. University of Pennsylvania, Department of Biology 1/11/18

2017

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

2016

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

2011 – 2013

5. 2nd International Symposium on Olfaction, Paris 9/19/13
 4. University of Pennsylvania, Genetics Symposium 11/28/12
 3. University of Pennsylvania, Cell and Molecular Biology Annual Symposium 10/11/11
 2. International *C.elegans* Meeting, Los Angeles, CA 6/26/11
 1. Society for Developmental Biology Meeting, Phila., PA, *award for best graduate student talk* 6/3/11

Media

- 1) Feature interview. "Lab mice go wild: making experiments more natural to decode the brain." **Nature** (2023).
- 2) Feature interview. "An end to chronic pain? Future treatment could look very different" **USA Today** (2022).
- 3) "Trailblazing neurobiologist studies the science of pleasure and pain" **Columbia University** (2022). Interview and lab visit on **YouTube**.
- 4) Q&A feature interview. **Neuron** (2021) <https://doi.org/10.1016/j.neuron.2021.09.026>
- 5) Penn's MindCORE, "Beyond the CV: Stories from Faculty." 2021. Interview on **YouTube**
- 6) Feature interview. "The Science of Sensations" **Penn Today** (2019)
- 7) TV Feature and lab visit, **CBS News** (2018). <https://www.cbsnews.com/philadelphia/news/central-high-school-graduate-penn-medicine/>

- 8) Feature interview “How early STEM program and mentors paved the way for a career in science.” **Burroughs Wellcome Fund** (2018)
- 9) “PennPORT (al) into a Thriving Science Career.” **Penn Medicine News** (2018)

Professional Service

Meeting Organization

- Co-Organizer (w/ Diana Bautista & Becky Seal), Keystone Meeting: Mammalian Somatosensation (2024)
- Co-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

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 Service

Columbia University

2024	Member, Department of Neuroscience Chair Search Committee
2023–present	Member, Executive Committee, Department of Biological Sciences
2023–present	Faculty Advisor, BUMP (B lack U ndergraduate M entorship P rogram 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	Ad hoc 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 in Biomedical Graduate Studies
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 (15 total)

Valentine Andreu, 2023– present; Abby Wood, 2023– present; Nova Qi, 2022– present; Aaron Limoges, 2021– present; 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

- **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 students): BIOL UN3004 Neurobiology I: Cellular and Molecular Neurobiology (Fall 2023)

Instructor (150 students): BIOL UN3004 Neurobiology I: Cellular and Molecular Neurobiology (Fall 2022)

Jackson Laboratory; Bar Harbor, Maine

Co-Organizer (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: (*underrepresented minority)

Current

Postdoctoral Fellows

- 1) 2024 – Yuki Haba (Ph.D. Princeton University)
- 2) 2023 – present Aleksander Kaplan (Ph.D. Hebrew University, Israel)
- 3) 2023 – present Briana Nixon (Ph.D. Cornell University)
- 4) 2023 – present *Sasha Fulton (Ph.D. Mount Sinai Medicine)
- 5) 2022 – present Anastasia-maria Zavitsanou (Ph.D. NYU)
- 6) 2022 – present *Andre Toussaint (Ph.D. Temple University)
- 7) 2020 – present Z. Anissa Jhumka (Ph.D. Aix-Marseilles U. France)

Doctoral Students

- 1) 2023 – present William Foster (Neurobiology & Behavior)
- 2) 2023 – present Preston Sheng (Biological Sciences)
- 3) 2023 – present Isabella Succi (Biological Sciences), joint with Itamar Kahn
- 4) 2022 – present Brittany Bistis (Biological Sciences)
- 5) 2021 – present *Rachel Frazer (Neurobiology & Behavior)
- 6) 2020 – present Ryan Schwark (Biological Sciences)
- 7) 2020 – present Justin Burdge (Biological Sciences)

Graduate Rotation Students

- 1) Wesley Tsai, Biological Sciences, Spring 2024
- 2) Clara Liff, Neurobiology and Behavior, Spring 2024

Technician

- 1) 2024 – present Francesca Whitecross (B.S. Middlebury College)
- 2) 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 Sevilla Duran, Neuroscience and Behavior
- 4) 2023 –present Amanda Arnold (Barnard), Neuroscience
- 5) 2023 –present *Leah Yadessa, Neuroscience and Behavior
- 6) 2023 –present *Sofia Marin-Quiros, Computer Science
- 7) 2023–present *Aishat Bakare, Neuroscience and Behavior
- 8) 2023–present *Olaedo Udensi (Barnard), BUMP Biology
- 9) 2023–present Ashar Khan
- 10) 2023–present Jake Kothandaraman (NYU), Biology
- 11) 2022–present *Melody Gomez, Neuroscience and Behavior
- 12) 2022–present Sarah Ogata, Religion
- 13) 2022–present *Abednego Delinois, Neuroscience and Behavior
- 14) 2021–present *Simon Ogundare, Neuroscience and Behavior

Alumni

Postdoctoral Fellow

- 1) 2018 – 2021 Heather Rossi (Ph.D. U. Florida), now Senior Research Investigator at UPenn

Doctoral Students

- 1) 2018 – 2022 *Melanie Schaffler (Neuroscience), now Regular Affairs Associate at Teva Pharmaceuticals
- 2) 2018 – 2022 Leah Elias (Neuroscience), now Jane Coffin Child Fellow at Johns Hopkins University

Graduate Rotation Students

- 1) Nicholas (Nikko) Baer, MD-PhD program, Summer 2023
- 2) William Foster, Neurobiology and Behavior, Spring 2023
- 3) Isabella Succi, Biological Sciences, Spring 2023
- 4) Preston Sheng, Biological Sciences, Spring 2023
- 5) Jessica Burke, Neurobiology and Behavior, Summer 2022
- 6) Brittany Bistis, Biological Sciences, Spring 2022
- 7) *Amanda Anqueira-González, Neurobiology and Behavior, Spring 2022
- 8) *Isabel Bravo, Neurobiology and Behavior, Spring 2022
- 9) *Rachel Frazer, Neurobiology and Behavior, Fall 2021
- 10) *Lindsay Ejoh, Neuroscience, Fall 2020
- 11) *Erin (Evonne) Jean, Immunology, Summer 2020
- 12) Ryan Schwark, Biological Sciences, Spring 2020
- 13) Justin Burdge, Biological Sciences, Fall 2019
- 14) Leah Elias, Neuroscience, Fall 2018
- 15) *Melanie Schaffler, Neuroscience, Fall 2018

Technicians

- 1) 2022 – 2023 Victoria Saltz (B.A. Williams College), next: PhD student at Columbia University
- 2) 2021 – 2022 *Jared Boyce (B.S. Dartmouth College), now MD/PhD student at Wisconsin-Madison
- 3) 2020 – 2022 Isabella Succi (B.S. St. Joseph's U.), now PhD student in the Abdus-Saboor lab
- 4) 2018 – 2021 William Foster (B.A. Haverford College), now PhD student in Abdus-Saboor lab
- 5) 2018 – 2020 *Jessica Jones (B.S. UCSC), now HHMI Gilliam Fellow/PhD student at UW

Undergraduates

- 1) 2022–2023 *Alexis Knight, Neuroscience and Behavior, next technician in Abdus-Saboor lab
- 2) 2022–2023 *Jonathan Ettricks, Neuroscience and Behavior
- 3) 2021–2023 *Alexis Marshall, Neuroscience and Behavior, next technician at Columbia University
- 4) 2021–2023 *Wadzanayi Michelle Mayiseni, Neuroscience and Behavior, next post-bac at Yale U.
- 5) 2021–2023 Phaelen Chang, Neuroscience and Behavior, next post-bac at Memorial Sloan Kettering
- 6) 2019–2021 *Justin Arnold, Biological Basis of Behavior, now MD student at Northwestern U.
- 7) 2019–2021 Lucie Pham, Biology, now MD student at Rutgers University
- 8) 2019–2020 Samuel Kaufmann, Biology
- 9) 2015–2019 Justin Burdge, Health and Societies, now PhD student in Abdus-Saboor lab
- 10) 2019 Emma Lu, Biology
- 11) 2018–2019 *Migyana Thomas

Summer Interns

- 1) 2023 *Zennetta Hinojosa, UT San Antonio, Leadership Alliance Intern
- 2) 2023 Noah Loran, University of Southern California, Leadership Alliance Intern
- 3) 2023 Misha Nair, Harvard University, SPURS Intern
- 4) 2023 Francesca Whitecross, Middlebury College; next: technician in Abdus-Saboor lab
- 5) 2023 *Alexa Cuvilly, high school student; BRAINYAC Scholar
- 6) 2023 James Reed, high school student; BRAINYAC Scholar
- 7) 2022 *Teresa Osorio, Rutgers Camden University MARC Scholar; now PhD student at Hopkins
- 8) 2022 *Adetokunboh Osineye, Morehouse College; EE Just Scholar
- 9) 2022 *Ralph Anderson Jr., Morehouse College; EE Just Scholar
- 10) 2022 Ziad Eltabakh, LaGuardia High School; BRAINYAC Scholar
- 11) 2020 *Kayla Dennis, Penn Lens program high school student
- 12) 2020 *Camille Harrison, North Carolina A&T State University; SUIP intern, now tech at UPenn

- 13) 2020 *Meghan Wachira, Rutgers Camden University; post-bac at UPenn
- 14) 2019 Isabella Succi, St. Joseph's University, now PhD student at Columbia U.
- 15) 2019 *Syphane Gibbs, North Carolina A&T U, SUIP intern, now PhD student at U. Virginia
- 16) 2019 *Racquel Amadi, Xavier University in Louisiana; DAPPG intern
- 17) 2019 *Mariatu Fayia, Penn Lens program high school student