

Curriculum Vitae

Ishmail Abdus-Saboore

Jerome L. Greene Center, 3227 Broadway, Quad 6C
New York, NY 10027

Positions

- 2021– **Zuckerman Mind Brain Behavior Institute at Columbia University**
Assistant Professor of Biological Sciences
- 2018–2021 **University of Pennsylvania**
Mitchell J. and Margo Krody Blutt Presidential Assistant Professor of Biology

Education

- 2014–2018 **University of Pennsylvania**
Postdoctoral Fellow, Department of Neuroscience. Advisor: Wenqin Luo, M.D., Ph.D.
- 2012–2014 **Weill Cornell Medicine**
Postdoctoral Fellow, Neuroscience. Advisor: Benjamin Shykind, Ph.D.
- 2012 **University of Pennsylvania**
Ph.D. in Cell and Molecular Biology
Thesis: EGF-Ras-Erk pathway and HMX homeodomain protein MLS-2 promote tube development in the C.elegans excretory system. Advisor: Meera Sundaram, Ph.D.
- 2006 **North Carolina A&T State University**
B.S. in Animal Science, *summa cum laude*. Research Advisor: Mulumebet Worku, Ph.D.
- 2005 **University of Pennsylvania**
Summer Undergraduate Internship Program (SUIP). Research Advisor: Glen Radice, Ph.D.

Honors, Prizes, and Fellowships

- 2021 Kavli Fellow, National Academy of Sciences
- 2021 Alfred P. Sloan Foundation Research Fellowship
- 2020 Rita Allen Foundation Scholar (Award in Pain)
- 2018 Named to Mitchell and Margo Blutt Presidential Endowed Chair (UPenn)
- 2018 NIH Mitchell Max Award for Excellence in Pain Research
- 2017 NIH K99/R00 Pathway to Independence Award
- 2017 BRAINS Fellowship, University of Washington
- 2017 Rising Stars in Biomedical Science, MIT
- 2015 Burroughs Wellcome Fund Postdoctoral Enrichment Program
- 2014 NIH IRACDA Postdoctoral Fellowship
- 2012 Tom Kadesch Prize in Genetic Research
- 2009 NIH Predoctoral Training Grant in Genetics
- 2006 Gloria Twine Chisum Graduate Fellowship

Grant Support

Active

- 4/2022–3/2026 NIH R25. “The short course on the application of machine learning for automated quantification of behavior.” \$82,784 total costs. Lead PI: Vivek Kumar (Jackson Labs), Role: MPI
- 9/2021–8/2023 Alfred P. Sloan Research Fellowship. \$75,000 direct costs. Role: PI
- 9/2020–8/2023 Rita Allen Foundation Scholar in Pain Award. “Discovering behavioral signatures of pain at millisecond timescales.” \$150,000 direct costs. Role: PI

Pending

- 6/2022–6/2023 Brain Research Foundation Seed Grant (Columbia nominee). “Investigating a skin-brain neuronal pathway for rewarding social touch.” \$80,000 direct costs. Role: PI
- 6/2022–6/2025 McKnight Scholar Award. “Skin-brain axis for rewarding touch.” \$225,000 direct costs. Role: PI
- 6/2022–6/2025 Klingenstein-Simons Fellowship Award in Neuroscience. “Imaging and modulating neural circuits in a skin-brain pathway for rewarding touch.” \$225,000 direct costs. Role: PI
- 8/2022–7/2025 NIH/BRAIN Initiative R01. “Translational regulation of neuronal identity and connectivity.” \$4,787,175 total costs. PIs: Stavros Lomvardas, Charles Zuker. Role: Co-I
- 9/2022–8/2026 Pew Biomedical Scholar Award (nominee). “Elucidating pain sensation and emotion from circuits to cells to genes.” \$300,000 direct costs. Role: PI
- 9/2022–8/2026 Beckman Young Investigator (full proposal invited). “How do neurons in the skin trigger pleasurable touch?” \$600,000 direct costs. Role: PI
- 9/2022–8/2027 NIH/NINDS R01. “Equal pain for different work: Sex differences in microglial signaling pathways.” PIs: Michael Burton, Ted Price, Victoria Abraira. Role: Co-I. \$740,470 sub-award total costs.

Completed

- 9/2017–8/2021 NIH K99/R00 Pathway to Independence Award (DE026807). “Determining the functions of molecularly defined populations of nociceptors in spinal and dental pain.” \$1,116,555 total costs. Role: PI
- 9/2015–8/2018 Burroughs Wellcome Fund Postdoctoral Enrichment Program. “Defining the neural mechanisms mediating crosstalk between touch and pain.” \$60,000 direct costs. Role: PI
- 6/2016–12/2017 Burroughs Wellcome Fund Collaborative Research Travel Grant. “Optogenetic and brain imaging investigation of pain neural circuitry.” \$8,000 direct costs. Role: PI; Co-I: Jin Lee, Stanford
- 9/2014–7/2017 NIH IRACDA Postdoc Fellowship (K12 GM081295). “Dissect neural mechanisms underlying the crosstalk between touch and pain.”
- 9/2009–8/2011 NIH Predoctoral Training Program in Genetics (T32 GM008216)

Publications

Assistant Professor

Preprints currently under review or in revision

- [1] Middleton L, Schaffler M, Succi I, Foster W, Gradwell M, Bohic M, Ejoh L, Abraira V, **Abdus-Saboor, I**. Identification of touch neurons underlying dopaminergic pleasurable touch and sexual receptivity. Cell, in revision
- [2] Bohic M, Pattison L, Jhumka A, Rossi H, Thackray J, Ricci M, Foster W, Arnold J, Mossazghi N, Yttri E, Tischfield, MA, Smith ESJ, **Abdus-Saboor I.**^{*}, Abraira V^{*}. Mapping the signatures of inflammatory pain and its relief. Neuron, under review. (^{*} joint corresponding authors)
- [3] Schaffler M, Johnson M, Arnold J, Foster W, Blendy J, Hultman R, **Abdus-Saboor, I**. A critical role for touch neurons in a skin-brain axis for stress resilience. In preparation (Journal of Neuroscience)

Peer-reviewed articles

- [1] 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-Saboer I**. Chronic paternal morphine exposure increases sensitivity to morphine-derived pain relief in male progeny. *Science Advances*, (2022).
- [2] Jones JM, Foster W, Twomey CR, Burdge J, Ahmed OM, Pereira TD, Wojick JA, Corder G, Plotkin JB, **Abdus-Saboer I**. A machine-vision approach for automated pain measurement at millisecond timescales. *eLife* 9:e57258 (2020).
- [3] Rossi HL, See LP, Foster W, Pitake S, Gibbs J, Schmidt B, Mitchell CH, **Abdus-Saboer I**. Evoked and spontaneous pain assessment in a dental pulp injury model. *Scientific Reports* 17;10(1):2759 (2020).
- [4] Pitake S, Middleton LJ, **Abdus-Saboer 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).

Postdoctoral Fellow

- [5] **Abdus-Saboer 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).
- [6] Olson W, **Abdus-Saboer 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).
- [7] Cui L, Miao X, Liang L, **Abdus-Saboer 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).
- [8] **Abdus-Saboer 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).
- [9] Fleischmann A, **Abdus-Saboer 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

- [10] **Abdus-Saboer 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).
- [11] **Abdus-Saboer 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).

Protocols

- [1] Burdge J, Fried N, **Abdus-Saboer I**. Using high-speed videography for objective and reproducible pain measurement on a mouse pain scale. *Star Protocols* 2,100322 (2021)

Commentaries

- [1] Burdge J, Anissa Jhumka, Bravo I, **Abdus-Saboer I**. Taking a deep breath: How a brainstem pathway integrates pain and breathing. *Neuron* (in press)

Book Chapters

- [1] **Abdus-Saboer I**, Luo W. Measuring mouse somatosensory reflexive behaviors with high-speed videography, statistical modeling, and machine learning. *Contemporary approaches to the study of pain: from molecules to neural networks*. Springer Nature, 2021 (in press). Edited by Rebecca Seal.

Reviews

- [1] Z. Anissa Jhumka, **Abdus-Saboar I.** Next generation behavioral sequencing for advancing pain quantification. Current Opinion in Neurobiology (under review)
- [2] Middleton LJ, **Abdus-Saboar I.** Bridging skin, brain, and behavior to understand pleasurable social touch. Current Opinion in Neurobiology (in revision)
- [3] Inclan-Rico JM, Kim BS*, **Abdus-Saboar I.*** Beyond somatosensation: Mrgprs in mucosal tissues. Neuroscience Letters Feb 11;135689 (2021)
- [4] Fried NT, Chamesian A, Zylka MJ, **Abdus-Saboar I.** Improving pain assessment in mice and rats with advanced videography and computational approaches. Pain 161(7):1420-1424 (2020).
- [5] Schaffler M.D., Middleton L.J., **Abdus-Saboar I.** Mechanisms of tactile sensory phenotypes in autism: current understanding, and future directions for research. Current Psychiatry Rep. 5;21(12):134 (2019).
- [6] **Abdus-Saboar I.**, Fleischmann A., Shykind B. "Setting limits: maintaining order in a large gene family." Transcription 5:e28978 (2014).

Other articles

- [1] Ishmail Abdus-Saboar feature interview, Neuron (2021). <https://doi.org/10.1016/j.neuron.2021.09.026>

Courses Taught

Columbia University

BIOL UN3004 Neurobiology I: Cellular and Molecular Neurobiology

- Teach 50% of course with Stuart Firestein (Fall 2022)

G4340: Survey of Neuroscience, Spring 2022 (guest lecture)

BIOL GR9301: Pre-research seminar, Fall 2021 (guest lecture)

The Jackson Laboratory

Short Course on the Application of Machine Learning for Automated Quantification of Behavior

- Course Co-Director with Vivek Kumar, Ann Kennedy, and Gordon Berman (Fall 2022)

University of Pennsylvania

BIOL 221: Molecular Biology and Genetics

- Taught 50% of course with Mia Levine. 150 students. (Spring 2019, 2020, 2021)

NGG 588: Topics in Translational Neuroscience, Spring 2020 (guest lecture)

CAMB 550: Genetic Principles, 2015 (guest lecture)

BIOL 221: Molecular Biology and Genetics, 2010 (Teaching Assistant)

Rutgers University-Camden

BIO 50:120:110 Biology of Disease: History of Biological Discoveries

- Taught 100% of course (Spring & Fall 2016)

Lincoln University

BIO 313: History of Biology

- Taught 100% of course (Fall 2015)

Research Advising: (*denotes underrepresented minority)

Postdoctoral Fellows (3)

1. ***Andre Toussaint** (PhD., Temple University) (incoming spring 2022)
Junior Fellow of the Simons Society of Fellows

2. **Z. Anissa Jhumka.** (PhD., Aix-Marseille University, France) (2021–present)

3. **Heather Rossi** (PhD., University of Florida) (2018–2021)
Current Position: Research Associate, University of Pennsylvania

Graduate Fellows (5)

1. ***Rachel Frazer** (B.A., Wellesley College) (2021–present)
Columbia Neurobiology and Behavior PhD Program
NSF Graduate Research Fellowship

2. **Ryan Schwark** (B.A., Elizabethtown College) (2020–present)
Columbia Biological Sciences PhD Program (transferred from University of Pennsylvania)

3. **Justin Burdge** (B.S., University of Pennsylvania) (2020–present)
Columbia Biological Sciences PhD Program (transferred from University of Pennsylvania)
NIH T32 Training Program in Genetics (University of Pennsylvania)

4. **Leah Middleton** (B.A., Mount Holyoke College) (2018–present)
University of Pennsylvania Neuroscience PhD Program
F31 NIH/NINDS Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship

5. ***Melanie Schaffler** (B.A., Wesleyan University) (2018–present)
University of Pennsylvania Neuroscience PhD Program
F31 NIH/NCCIH Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship

Graduate Rotation Students (10)

Jessica Burke, Neurobiology and Behavior, Spring 2022
*Amanda Anqueira-González, Neurobiology and Behavior, Spring 2022
*Isabel Marianna Bravo, Neurobiology and Behavior, Spring 2022
*Rachel Frazer, Neurobiology and Behavior, Fall 2021
*Lindsay Ejoh, Neuroscience, Fall 2020
*Erin (Evonne) Jean, Immunology, Summer 2020
Ryan Schwark, Biological Sciences, Spring 2020
Justin Burdge, Biological Sciences, Fall 2019
Leah Middleton, Neuroscience, Fall 2018
*Melanie Schaffler, Neuroscience, Fall 2018

Post-Bac Technicians (4)

1. ***Jared Boyce** (B.S., Dartmouth College) (2021–2022)

2. **Isabella Succi** (B.S., St. Joseph's University) (2020–2022)

3. **William Foster** (B.A., Haverford College) (2018–2021)

4. ***Jessica Jones** (B.S., UC Santa Cruz) (2018–2020)
Current Position: PhD student in John Tuthill's lab at University of Washington

Undergraduates (10)

Columbia University

*Alexis Marshall, *Wadzanayi Michelle Mayiseni, *Simon Ogundare, Phaelen Chang

University of Pennsylvania

*Justin Arnold, Rhoshni Bhasin, Justin Burdge (PhD student at Columbia), Samuel Kaufmann, Nayab Khan (Dental student at NYU), Emma Lu, Lucie Pham, *Migyana Thomas

Summer Interns (10)University of Pennsylvania

*Racquel Amadi, *Mercedes Davis, *Kayla Dennis, *Syphane Gibbs (PhD student at University of Virginia), *Camille Harrison, Mikayla Joffe, Minah Kwon, *Mariatu Fayia, Isabella Succi, *Meghan Wachira

Graduate Student Qualifying Exam and/or Thesis Advisory CommitteesColumbia University

Aaron Limoges (Hugo Tejada lab), Biological Sciences Graduate Group, 2021– present
Eliza Jaeger (Maria Tosches lab), Biological Sciences Graduate Group, 2021
Yasmin Ramadan (Oliver Hobert lab), Biological Sciences Graduate Group, 2021– present

University of Pennsylvania

Erin (Evonne) Jean (Debroski Herbert lab), Immunology Graduate Group. 2022– present
Brandon Bastien (Michael Hart lab), Neuroscience Graduate Group. 2020 – present
Michelle Klima (Nick Betley lab), Neuroscience Graduate Group. 2020 – present
Jessica Wojick (Greg Corder lab), Biology Graduate Group, 2020
Melina Gyparaki (Melike Lakadamyali lab), Biology Graduate Group. 2019 – 2021
Bishwas Sharma (Brian Gregory lab), Biology Graduate Group. 2019 – 2021
Luigim Cifuentes (Marc Fucillo lab), Neuroscience Graduate Group. 2019
Yongjun Li (Amita Sehgal lab), Biology Graduate Group, 2019
Linyang Ju (Shelley Berger lab), Biology Graduate Group, 2019

Invited Research Talks

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| 104. Society of General Physiologists Annual Symposium , Mapping the pain landscape, MBL at Woods Hole | 9/27/23 |
| 103. Gordon Conference , Amygdala Function in Emotion, Cognition and Disease, Spain | 7/11/23 |
| 102. Gordon Conference , Neurotrophic Mechanisms in Health and Disease, Rhode Island | 6/1/23 |
| 101. University of Washington , Department of Genome Sciences Seminar | 1/11/23 |
| 100. Keystone Symposium Meeting , Vertebrate Sensory Systems | 10/24/22 |
| 99. Gordon Conference , Optogenetic Approaches to Understanding Neural Circuits and Behavior, Maine | 7/19/22 |
| 98. Northwestern University , Department of Physiology and Pain Center Seminar Series | 6/24/22 |
| 97. Harvard Medical School , Mass. Gen. Hospital, Dpt. of Molecular Biology Seminar Series | 5/20/22 |
| 96. National Institutes of Health , Understanding Pain Seminar Series | 5/12/22 |
| 95. Columbia University , <u>Stavros Niarchos Foundation Lecture</u> | 4/27/22 |
| 94. Brandeis University , Biology and Neuroscience Colloquium | 3/29/22 |
| 93. UNC Chapel Hill , Society for Black Biomedical Scientists Black History Month Event, <u>Keynote Lecture</u> | 2/28/22 |
| 92. University of Washington , Department of Biological Structure Seminar Series | 1/27/22 |
| 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 , Department 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 for Biological Studies , 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
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 , <u>Keynote Lecture</u>	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
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 , SUP 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
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 , <u>Emerging Scholars Lecture</u>	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
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
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
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 <i>C.elegans</i> Meeting, Los Angeles, CA	6/26/11
1. Society for Dev. Bio. Meeting, Phila., PA, <u>award for best graduate student talk</u>	6/3/11

Media Coverage and Feature Stories

- Penn's MindCORE, "*Beyond the CV: Stories from Faculty.*" 2021. [Interview on YouTube](#)
- Nature Biotechnology, 2021. Twitter highlight during Black History Month.
- Rita Allen Foundation, 2020. "*Announcing the 2020 Rita Allen Foundation Award in Pain Scholars*"
- Cell Press, 2020. "*100 inspiring black scientists in America.*"
- Katherine Baillie, 2019. "*The Science of Sensations*" Penn Today.
- Stephanie Stahl, 2018. "*From Central High School to His Own Lab, Penn Scientist Focused on Finding Better Treatments for Pain.*" <https://philadelphia.cbslocal.com/2018/09/11/central-high-school-graduate-penn-medicine/> **CBS Philadelphia TV Special**
- Marla Vacek Broadfoot, 2018. "*How early STEM program and mentors paved the way for a career in science.*" Burroughs Wellcome Fund Feature Article.
- Gregory Richter, 2018. "*PennPORT (al) into a Thriving Science Career.*" Penn Medicine News.

Podcast Interviews

- Pain Research Forum Pain Beat Podcast: "*Measuring Pain Behavior.*" Interviewed w/ Vivianne Tawfik, Mark Zylka, Carl Saab by Tayler Sheahan and Rebecca Seal
4/2/21
- Nautilus Magazine, *Ignorance*. Interviewed by Leslie Vossahl and Stuart Firestein
2/24/21
- Carry the One Radio: "*Pain the Invisible Disease, Treatment, and Research.*" Interviewed alongside Allan Basbaum by UCSF graduate students
11/2/20
- *Penn Science Policy and Diplomacy Group Podcast*
2/18/20
- HBCU Digest Radio: "*HBCU Voices of STEM Excellence*"
7/26/18

University Service

Columbia University

2022	Reviewer, Research Initiatives in Science & Engineering (RISE) competition
2022	Reviewer, Presidential Scholars in Society and Neuroscience Postdoctoral Fellowship
2021–2022	Faculty Search Committee, Zuckerman Mind Brain Behavior Institute

University of Pennsylvania

2020–2021	Seminar Committee, Biology Department
2020	Ad hoc Faculty Recruitment Committee, Biology Department
2020	Recruitment Day Chair for Ph.D. admissions weekend, Biology Department

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

Professional Service

Editorial Board Service:

2021–	Editorial Board, <i>Neurobiology of Pain</i>
2020–	Editorial Board, <i>Cell Reports</i>
2020–	Board of Reviewing Editors, <i>eLife</i>

Conference Organization: Session Chair: Keystone Symposium on Pain (2020), Session Chair: US Association for the Study of Pain Annual Meeting; 2 sessions (2020)

Study Section/Grant Reviewer: Chan Zuckerberg Biohub Investigators (2021), Burroughs Wellcome Fund Graduate Diversity Enrichment Program (2019), Department of Defense Neurophysiology of Cognition (2020), NIH/NINDS F99/K00 Blueprint D-SPAN Award (2020)

Journal Reviewer: Cell, Neuron, Nature Communications, Science Advances, Nature Reviews Neuroscience, eLife, Pain, PLoS Biology, Journal of Neuroscience, Cell Reports, Methods in Cell Biology, Molecular Pain, Neuroscience, Neuroscience Letters, Pain Reports, PLoS One, Star Protocols

Outreach

2021	Speaker, Columbia’s Zuckerman Institute, Diversity Funding Opportunities at NIH
2021	Black-in-Stem conversation with Rutgers Camden University MARC students
2020	Speaker, Harvard Medical School Black Postdoctoral Association
2020	Speaker, Monell Chemical Senses Center, <i>Diversity Journal Club</i>
2020	Feature Interview for middle school book project “ <i>Healthy NewsWorks</i> ”
2020	Panelist, Postdoc Association (BPP) event, “ <i>Pursuing an Academic Career</i> ”
2019	Speaker, NIH Conference on Advancing Diversity Programs
2019	Panelist, NIH/ENDURE program for underrepresented minority trainees, SFN Neuroscience Annual Meeting
2019	Panelist, mindCORE event, “ <i>Navigating the academic job market</i> ”
2019	Abdus-Saboor lab Science Day for 25 elementary students in West Philly
2019	Panelist, Center for Teaching and Learning “ <i>Workshop on Inclusive Teaching</i> ”
2018	Panelist, Lasalle University STEM underrepresented minority day
2018	Speaker, SMASH STEM program for high school minority students
2018	Panelist, Society for Neuroscience Meeting, NIH Blueprint Diversity F99/K00 fellows
2018	Panelist, Inaugural PennView Postdoc Diversity Initiative
2017	Invited Speaker, “ <i>March for Science</i> ” Philadelphia, PA
2017	Panelist, Alpha Kappa Alpha Sorority Ascend high school career fair
2017	Facilitator, Penn Post-bac & Summer URM Intern students, “ <i>Writing Your 1st Manuscript</i> ”
2017	Panelist, Career Panel, Penn Cell and Molecular Biology PhD Program Symposium
2017	Facilitator, Penn HHMI BioInteractive Teaching Workshop for Faculty
2017	Invited Lecturer, “ <i>Neuroscience Symposium</i> ” The Baldwin School, Bryn Mawr, PA
2016	Panelist, <i>Diversity in STEM workshop</i> , Penn Center for Teaching and Learning
2016	Program Organizer for URM interns at Penn, “ <i>Graduate School Admissions Process</i> ”
2016	Program Organizer for workshop on obtaining NSF grants as new faculty
2016	Career Development Panelist, “ <i>Penn Honors Diversity Symposium</i> ”
2016	Science Fair poster judge, Lincoln University & Penn
2016	Invited Lecture, “ <i>Optogenetics and Pain</i> ” Friends Central School, Wynnewood, PA
2016	Invited Lecture, Penn Undergraduate Neuroscience Society, “ <i>Pain in the Brain</i> ”
2012	Poster Judge at Diversity session, American Society for Cell Biology Annual Meeting
2011	Panelist, McNair Scholars forum for undergraduate seniors Penn

- 2008-2018 Volunteer, Science Education Academy (SEA) for middle-school URM students in West Philadelphia
- 2008 Panelist/Lab Tour Host, Upward Bound program for high school students
- 2007-2008 Outreach Chair, E.E. Just Biomedical Society for underrepresented minority graduate students