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EDUCATION

2007-2013 Ph.D. Neuroscience, University of California, San Francisco, San Francisco, CA
2000-2004 B.S. Neural Science, With Honors, New York University, New York, NY

CURRENT POSITIONS HELD AT BOSTON UNIVERSITY

2022-present Assistant Professor, Department of Biology
2022-present Affiliated Assistant Professor, Biomedical Engineering
2022-present Faculty Member, Center for Systems Neuroscience
2022-present Faculty Member, Neurophotonics Center

FORMER POSITIONS HELD

2014-2021 Postdoctoral Fellow, The Rockefeller University, New York, NY (Lab of Leslie Vosshall)
2014 Grass Fellow in Neuroscience, The Marine Biological Laboratory, Woods Hole, MA
2007-2013 PhD Student, University of California, San Francisco, San Francisco, CA (Lab of Graeme Davis)
2004-2005 Research Assistant, New York University, New York, NY (Lab of Justin Blau)
2001-2004 Undergraduate Researcher, New York University, New York, NY (Lab of Justin Blau)
2001 Undergraduate Researcher, Albert Einstein College of Medicine, New York, NY (Lab of David Spray)

HONORS AND AWARDS

2026 Frontiers of Science Fellow, National Academy of Sciences
2025 NIH Director's New Innovator Award, NIH
2024 Pew Biomedical Scholar, Pew Charitable Trusts
2024 Sloan Research Fellow, Alfred P. Sloan Foundation
2023 Smith Family Award for Excellence in Biomedical Research, Richard and Susan Smith Family Foundation
2022 Klingenstein-Simons Fellowship Award in Neuroscience, The Klingenstein Philanthropies and the Simons Foundation
2022 Searle Scholar, The Kinship Foundation
2018 Kavli Neural Systems Institute Postdoctoral Fellowship, The Kavli Foundation
2016 Kavli Neural Systems Institute Pilot Grant, The Kavli Foundation
2016 Jane Coffin Childs Postdoctoral Fellow, The Jane Coffin Childs Memorial Fund for Medical Research
2015 Leon Levy Neuroscience Fellowship, The Leon Levy Foundation
2014 Grass Fellowship, The Grass Foundation
2014 Krevans Distinguished Dissertation Award Nominee, University of California, San Francisco
2012 Gordon Research Conference Poster Prize, Synaptic Transmission Gordon Research Conference, Waterville Valley, NH
2009 Genentech Fellowship, University of California, San Francisco
2004 Sherrington Award for Undergraduate Neural Science Research, New York University
2004 Charles Barbieri Research Scholar, New York University
2004 Phi Beta Kappa Research Prize, New York University

PUBLICATIONS AND PREPRINTS

#Indicates corresponding author; *Indicates equal contribution

Hill TJ*, Kohli G*, **Younger MA**# (2026) "Advances in mosquito olfaction: Genetic, genomic, and behavioral approaches in *Aedes aegypti*." *Curr Opin Neurobiol* 99: 103214. <https://doi.org/10.1016/j.conb.2026.103214>.

Bao J*, Alford W*, Khandelwal A, Walsh L, Lantz G, Poncio S, Capdevila L, Azatian Y, Hildebrand D, **Younger MA**#, Lee WC# "Connectivity supporting carbon dioxide sensitivity in the *Aedes aegypti* mosquito". Preprint *bioRxiv* (2025): <https://doi.org/10.1101/2025.07.29.667487>

Shruti Gupta*, Rohit Sharma*, Adeline E. Williams, Irma Sanchez-Vargas, Noah H. Rose, Chao Zhang, Alexander Crosbie-Villaseca, Zheng Zhu, Gargi Dayama, Andrea Gloria-Soria, Doug E. Brackney, Jessica Manning, Sarah S. Wheeler, Angela Caranci, Trinidad Reyes, Massamba Sylla, Athanase Badolo, Jewelna Akorli, Ogechukwu B. Aribodor, Diego Ayala, Wei-Liang Liu, Chun-Hong Chen, Chalmers Vasquez, Cassandra Gonzalez Acosta, Alongkot Ponlawat, Tereza Magalhaes, Brendan Carter, Dawn Wesson, Darred Surin, **Meg A. Younger**, Andre Luis Costa-da-Silva, Matthew DeGennaro, Alexander Bergman, Louis Lambrechts, Carolyn S. McBride, Ken E. Olson, Eric Calvo, and Nelson C. Lau (2026) "Global genomics of *Aedes aegypti* unveils widespread and novel infectious viruses capable of triggering a small RNA response" *Nat Commun* 17: 3658.

Lienkaemper C, **Younger MA**, Ocker GC (2025) "When non-canonical olfaction is optimal." *Proc Natl Acad Sci USA* 122(41): e2508439122. <https://doi.org/10.1073/pnas.2508439122> Preprint *bioRxiv* (2025): <https://doi.org/10.1101/2025.02.27.640624>

Fernández-Chiappe F, Ocker GK, **Younger MA**# (2024) "Prospects on non-canonical olfaction in the mosquito and other organisms: why co-express?" *Curr Opin Insect Sci* 67: 101291.

Smith EJ, Vizueta J, **Younger MA**, Mullen SP and Traniello JFA (2023) "Dietary diversity, sociality, and the evolution of ant gustation." *Front Ecol Evol* 11: 1175719.

Herre MR*, Goldman OV*, Lu TC, Caballero-Vidal G, Qi Y, Gilbert ZN, Gong Z, Morita T, Rahiel S, Ghaninia M, Ignell R, Matthews BJ, Li H, Vosshall LB, **Younger MA**** (2022) "Non-canonical odor coding in the mosquito." *Cell* 185(17): 3104-23.
(Featured in "Best of 2022, *Cell*" by CellPress).

Zhao Z, Zung JL, Hinze A, Kriete AL, Iqbal A, **Younger MA**, Matthews BJ, Merhof D, Thiberge S, Ignell R, Strauch M, McBride CS (2022) "Mosquito brains encode unique features of human odour to drive host seeking." *Nature* 605: 706-12.

Matthews BJ*, **Younger MA***, Vosshall LB (2019) "The ion channel *ppk301* controls freshwater egg-laying in the mosquito *Aedes aegypti*," *eLife* 8: e43963.

Orr BO, Gorczyca D, **Younger MA**, Jan LY, Jan YN, Davis GW (2017) "Composition and control of a Deg/ENaC channel during presynaptic homeostatic plasticity," *Cell Rep* 20(8): 1855-66.

Younger MA, Mueller M, Tong A, Pym EC, Davis GW (2013) "A presynaptic ENaC channel drives homeostatic plasticity," *Neuron* 79(6): 1183-96.

Keene AC, Mazzoni EO, Zhen J, **Younger MA**, Yamaguchi S, Blau J, Desplan C, Sprecher SG (2011) "Distinct visual pathways mediate larval light avoidance and circadian clock entrainment." *J Neurosci* 31(17): 6527-34.

Cruikshank SJ, Hopperstad M, **Younger M**, Connors BW, Spray DC, Srinivas M (2004) "Potent Block of Cx36 and Cx50 gap junction channels by mefloquine," *Proc Natl Acad Sci USA* 101(33): 12364-69.

PEER-REVIEWED FULL-LENGTH CONFERENCE PROCEEDINGS:

McConachie G, Duniec E, Guerina F, **Younger MA**, DePasquale B. Low rank adaptation of chemical foundation models generates effective odorant representations. Accepted at Proceedings of International Conference of Learning Representations (ICLR) 2026. bioRxiv 2025.11.04.686628; doi: 10.1101/2025.11.04.686628 (Note: the acceptance rate for this machine learning conference is ~28%)

BOOK CHAPTERS

#Indicates corresponding author

Guerina FV, Patkar AP, and **Younger MA**# (2024) "Introduction to Techniques Used to Study Mosquito Neuroanatomy and Neural Circuitry". *Cold Spring Harb Protoc* 2024(8): pdb.top108305.

Younger MA# (2024) "Whole Mount Immunofluorescent Labelling of the Mosquito Central Nervous System". *Cold Spring Harb Protoc* 2024(8): pdb.prot108336.

Younger MA# (2024) "Dextran Amine-Conjugated Neural Tracing in Mosquitoes". *Cold Spring Harb Protoc* 2024(8): pdb.prot108337.

RESOURCE DEVELOPMENT

2018 **mosquitobrains.org**

I generated a high-resolution atlas of the *Ae. aegypti* brain and used this to develop an online mosquito neuroanatomy resource. This includes a browser for exploring *Ae. aegypti* neuroanatomy, access to raw data, instructions to warp and register brains onto a standard reference brain, and to generate 3D reconstructions, all using free open-source software.

INVITED SEMINARS AND ORAL CONFERENCE PRESENTATIONS

2026 Vollum Institute at Oregon Health and Science University, Vollum Seminar Series, Portland, OR

2026 Harvard University, Center for Brain Science Seminar Series, Cambridge, MA

2026 Brown University, Neuroscience Seminar Series, Providence, RI

2026 University of Georgia, Entomology Seminar Series, Athens, GA

2025 European Symposium on Insect Taste and Olfaction, Villasimius, Italy

2025 Klingenstein Fellowship Awards in Neuroscience Conference, New York, NY

2025 Searle Scholars Program Annual Meeting, Chicago, IL

2025 Pew Biomedical Scholars Annual Meeting, Bermuda

2025 Gastronauts Leadership Summit, The Banbury Center, Cold Spring Harbor, NY

2025 Arizona State University, Interdisciplinary Graduate Program in Neuroscience Seminar Series, Phoenix, AZ

2024 The University of California, San Francisco, Department of Biochemistry Formal Seminar, San Francisco, CA

2024 Massachusetts Society of Medical Research and the FBI 3Is Conference, Portsmouth, NH (Keynote Talk)

2023 Congress of the Latin American Association of Chemical Ecology, Buenos Aires, Argentina (Keynote Talk)

2023 Osmocosm: Global Machine Olfaction Conference, Cambridge, MA

2023 The University of Chicago, Marine Biological Laboratory, Neural Systems & Behavior Seminar Series, Woods Hole, MA

2023 Penn State, Eberly College of Science, Biochemistry and Molecular Biology Seminar Series, University Park, PA

2023 Boston University National Emerging Infectious Diseases Laboratories, Microbiology Seminar Series, Boston, MA

2022 MIT, The Molecular and Cellular Neuroscience Seminar Series, Boston, MA
 2022 Neuro Zoom, Online Neuroscience Seminar Series
 2022 Association for Chemoreception Sciences Annual Meeting, Bonita Springs, FL
 2022 Boston University School of Medicine, Anatomy and Neurobiology Department Seminar Series, Boston, MA

INVITED WORKSHOP PARTICIPATION

2025 Gastronauts Leadership Summit, The Banbury Center, Cold Spring Harbor, NY
 2019 *Drosophila* Fly Brain Nomenclature Workshop, Janelia Research Campus, Ashburn, VA
 Small working group assembled to establish a standard nomenclature for *D. melanogaster* neurons

GRANTS AWARDED

Active

NIH Director's New Innovator Award (DP2) 2025-2030
The representation of human odor in the mosquito brain
 Role: PI

Wellcome Discovery Award, Wellcome Trust 2025-2030
A whole brain connectome of the female Aedes aegypti mosquito
 Role: Co-PI (with Gregory Jefferis, Elizabeth Marin, and Wei-Chung Allen Lee)

Dean's Catalyst Award Seed Funding (Intramural Funding) 2025-2027
The influence of wicking and evaporation on mosquito host-seeking behavior and olfactory neural responses
 Role: Co-PI (with James Bird)

Neurophotonics Collaborative Award for Neurophotonics Development 2024
 (Intramural Funding)
Connectome-constrained neural circuit modeling and calcium imaging in the mosquito brain
 Role: Co-PI (with Brian DePasquale)

Pew Biomedical Scholars Award 2024–2028
That New Baby Smell: Mosquito Attraction to Human Odor Across Life Stages
 Role: PI

Sloan Research Fellowship 2024–2026
Stop and Smell the Human: Non-Canonical Olfaction in Mosquitoes
 Role: PI

Recently completed

Smith Family Awards Program for Excellence in Biomedical Research 2023-2026
Non-Canonical Odor Coding in Mosquitoes
 Role: PI

Klingenstein-Simons Fellowship Award in Neuroscience 2022-2025
Non-Canonical Olfaction in Blood-Drinking Mosquitoes
 Role: PI

Searle Scholars Award 2022-2025
Human Odor Detection in Blood-Drinking Mosquitoes
 Role: PI

TEACHING: INSTRUCTOR OF RECORD AT BOSTON UNIVERSITY

Fall 2022 Sensory Neurobiology (BI/NE520)
 Fall 2023 Sensory Neurobiology (BI/NE520)
 Fall 2024 Sensory Neurobiology (BI/NE520)
 Fall 2025 Sensory Neurobiology (BI/NE520)

PROFESSIONAL SERVICE

OUTSIDE BOSTON UNIVERSITY

2026 National Science Foundation (NSF), Grant Review Panelist for BIO Directorate, Virtual
 2026 Organizer for Mosquito Neuroethology Satellite Meeting at the International Congress of
 Neuroethology, Vancouver, Canada
 2024 Organizer for Mosquito Neuroethology Satellite Meeting at the International Congress of
 Neuroethology, Berlin, Germany
 2022 Panelist at Power Hour to Discuss Diversity in the Scientific Workplace, Gordon Research
 Conference on Molecular and Cellular Neurobiology, Ventura, CA
 2020-present *Ad hoc* Manuscript Review: *Cell Rep*, *Sci Adv*, *iScience*, *Microb Ecol*, *eLife*, *Science*, *Curr*
Biol, *Curr Opin Neurobiol*, *Curr Opin Insect Sci*
 2018-21 Kavli Neural Systems Institute Steering Committee Member, The Rockefeller University, New
 York, NY
 2018-21 Kavli Neural Systems Institute Grant Review Board, The Rockefeller University, New York, NY
 2018-21 Kavli Neural Systems Institute Mini-symposium Organizer, The Rockefeller University, New
 York, NY
 2015, 2017 Grass Foundation Grass Fellows Technical Review Board, Marine Biological Laboratory,
 Woods Hole, MA
 2015-18 Neuroscience Seminar Series Planning Committee, The Rockefeller University, New York, NY
 2015-16 NeXXT Fellow: NeXXT pairs women studying in STEM fields with female mentors, The New
 York Academy of Sciences, New York, NY

AT BOSTON UNIVERSITY

2025-present Faculty Advisor to Biology Graduate Student Committee Member
 2025 Ad Hoc Committee on Biology Chair Selection – Committee Member
 2024-25 National Emerging Infectious Diseases Laboratories (NEIDL) Faculty Search Committee
 Member
 2024-25 Organizer of the 8th Annual Neurophotonics Symposium at Boston University: Neurophotonics
 Across the Animal Kingdom
 2024-25 Molecular Biology, Cell Biology, and Biochemistry Program (MCBB) Curriculum Committee
 Member
 2024 University Advisory Board Junior Faculty Panel Member
 2024 Searle Limited Submission Opportunity Internal Review Committee Member
 2024 Neuroscience Graduate Seminar Faculty Organizer
 2023-24 Systems Neurobiology Faculty Search Committee Member
 2023 Kilachand Honors College Co-curricular “Multidisciplinary Perspectives on CRISPR” Panelist
 2023 Searle Limited Submission Opportunity Internal Review Committee Member
 2023 Research in Science and Engineering (BU RISE) Program, Guest Speaker
 2023 Achievement Awards Committee, Graduate Program for Neuroscience (GPN)
 2023 Faculty Host to Artist in Residence, Seeding the Muse, Boston University Arts Initiative
 2022-23 Cellular and Molecular Neurobiology Faculty Search Committee Member
 2022-24 Faculty Advisor to Biology Graduate Student Committee

MEMBERSHIP IN PROFESSIONAL SOCIETIES

2024-present International Society for Neuroethology Member
 2022-present Association for Chemoreception Sciences Member