# Leslie B. Vosshall, PhD

Robin Chemers Neustein Professor
Head of Laboratory of Neurogenetics and Behavior
Investigator, Howard Hughes Medical Institute
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Executive Assistant (Merissa Johnson): johnsonm4@hhmi.org

- Born: July 5, 1965 in Lausanne, Switzerland
- Citizenship: USA and German, dual citizen at birth
- Married – Kevin J. Lee PhD, one daughter (Ophelia Vosshall Lee)

# BIOGRAPHY

Leslie Vosshall is a molecular neurobiologist who studies how behaviors emerge from the integration of sensory input with internal physiological states. She is the Robin Chemers Neustein Professor, Head of the Laboratory of Neurogenetics and Behavior, and has been an investigator of the Howard Hughes Medical Institute since 2008. In 2022, Vosshall became the Vice President and Chief Scientific Officer of HHMI, while retaining her laboratory at The Rockefeller University. Her group is known for foundational work on the genetic basis of chemosensory behavior in both insects and humans. Vosshall's notable contributions to science include the discovery of the insect odorant receptors, and the elucidation of general principles of their function, expression, and the connectivity of the sensory neurons that express them to primary processing centers in the brain. Her research program in human olfactory perception has led to discoveries of the genetic basis of smell disorders, and how odor stimuli are converted to olfactory percepts. Vosshall and colleagues are translating this work to produce a novel clinical test for smell dysfunction, SMELL-RS. The current research of the Vosshall Lab is aimed at understanding the molecular neurobiology of host-seeking and blood-feeding in mosquitoes that spread dangerous viral pathogens. Beginning in 2008, Vosshall established the *Aedes aegypti* mosquito as a genetic model organism for neurobiology. Her group was the first to use CRISPR-Cas9 genome-editing in this species and she led the effort to resequence, reassemble, and reannotate the genome of this deadly vector mosquito. This work has shed light on how these mosquitoes integrate sensory cues to hunt humans and led to the development of small molecules that block mosquito biting behavior.

Vosshall is a member of the board of openRxiv, and a vocal proponent of pre-prints and open science, as well as a strong supporter of inclusion in STEM. In 2020, she directed her entire $50,000 National Academy of Sciences Pradel Research Award to grants to early career women scientists struggling with childcare expenses during the COVID-19 pandemic.

As Vice President and Chief Scientific Officer at the Howard Hughes Medical Institute since 2022, Vosshall directs an annual $650 million scientific research portfolio that comprises the HHMI Investigator, Freeman Hrabowski Scholars, Hanna H. Gray Fellows, and Gilliam Fellows Programs. The $1.5 Billion Freeman Hrabowski Scholars Program was ideated and launched under her leadership in 2022. The program selects and supports outstanding early career faculty scientists who have strong potential to become leaders in their fields. Scholars prioritize scientific excellence in their own research while creating an inclusive lab climate that serves as a model within their own institutions and beyond. In 2023, Vosshall led the effort to increase postdoctoral salaries to a minimum of $70,000 per year for starting postdocs at the >60 host institutions where HHMI operates, driving change to increase postdoc salaries nationally. Her ongoing initiatives aim to enhance the culture and climate in HHMI laboratories by fostering inclusive mentoring and professional development of HHMI lab heads.

Vosshall received an A.B. in Biochemistry from Columbia University in 1987 and a Ph.D. from The Rockefeller University in 1993 working with Michael Young. Following postdoctoral work at Columbia University in the laboratory of Richard Axel, she joined the Rockefeller faculty in 2000 and has risen through the ranks to tenured full professor. She is the recipient of the 2008 Lawrence C. Katz Prize from Duke University, the 2010 DART/NYU Biotechnology Award, the 2011 Gill Young Investigator Award, the 2020 National Academy of Sciences Pradel Research Award, the 2020 Alden W. Spencer Award (shared with Kristin Scott), the 2024 Perl-UNC Neuroscience Prize, the 2024 Dickson Prize in Medicine from the University of Pittsburgh School of Medicine, and the 2025 Scolnick Prize in Neuroscience. Vosshall is an elected fellow of the American Association for the Advancement of Science and was elected to the National Academy of Sciences in 2015, the National Academy of Medicine in 2021, and the American Philosophical Society in 2022.

# EDUCATION

- A.B., Biochemistry, 1983-1987

Columbia College, Columbia University in the City of New York
John Jay Scholar

- Ph.D., Molecular Genetics, 1987-1993

The Rockefeller University, Mentor: Michael W. Young
Thesis Title: “Regulated Nuclear Localization of the *Period* Protein of *Drosophila melanogaster* and its Role in Controlling Circadian Rhythms”

- Postdoctoral Associate, Molecular Neurobiology, 1993-2000

HHMI-Columbia University, Mentor: Richard Axel
Project: “Identification of *Drosophila* Odorant Receptor Genes”

# RESEARCH AND PROFESSIONAL EXPERIENCE

| | |
|---|---|
| 1982-1984 | Summer research, Marine Biological Laboratory<br>Mentors: Philip Dunham and Gerald Weissmann |
| 1984 | Undergraduate research, Columbia University<br>Mentor: Eric Holtzman |
| 1985 | Undergraduate research, Columbia University<br>Mentor: Martin Chalfie |
| 1985-1987 | Undergraduate research, New York University School of Medicine<br>Mentor: Gerald Weissmann |
| 1987-1993 | Graduate research, The Rockefeller University<br>Mentor: Michael W. Young |

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|---|---|
| 1993-1997 | Postdoctoral Research, HHMI-Columbia University<br>Mentor: Richard Axel |
| 1997-2000 | Associate Research Scientist, HHMI-Columbia University<br>Mentor: Richard Axel |
| 1999 | Participant, *Drosophila* Genome Annotation Jamboree, Celera Genomics |
| 2000-2006 | Annenberg Assistant Professor and Head of Laboratory, The Rockefeller University |
| 2006-2010 | Chemers Family Associate Professor and Head of Laboratory, The Rockefeller University |
| 2005-2007 | Faculty, Neural Systems and Behavior Course, Marine Biological Laboratory |
| 2008-Present | Howard Hughes Medical Institute Investigator |
| 2010-Present | Robin Chemers Neustein Professor and Head of Laboratory, The Rockefeller University |
| 2015-2016 | Associate Director, Kavli Neural Systems Institute |
| 2016-2021 | Director, Kavli Neural Systems Institute |
| 2022-Present | Vice President and Chief Scientific Officer, HHMI |

# HONORS AND AWARDS

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|---|---|
| 2025 | 2025 Scolnick Prize in Neuroscience |
| 2024 | 2024 Dickson Prize in Medicine - University of Pittsburgh School of Medicine |
| 2024 | 22nd Perl-UNC Neuroscience Prize |
| 2022 | 41st Annual W. Alden Spencer Award, Columbia University (shared with Kristin Scott, UC Berkeley) |
| 2022 | Election to the American Philosophical Society |
| 2021 | Election to the National Academy of Medicine |
| 2020 | National Academy of Sciences Pradel Research Award |
| 2015 | Election to the National Academy of Sciences |
| 2014 | Elected Fellow, American Association for the Advancement of Science |
| 2013 | Forbes Lecturer, Grass Laboratory, Marine Biological Laboratory |
| 2012 | Joshua Lederberg Lecturer, Marine Biological Laboratory |
| 2011 | Gill Young Investigator Award |
| 2010 | Dart/NYU Biotechnology Alumnae Achievement Award |
| 2009 | Lawrence C. Katz Memorial Prize Lecture, Duke University |
| 2008 | The International Society of Chemical Ecology Silverstein-Simeone Lecture Award |
| 2007 | Winner, New York Academy of Sciences Blavatnik Awards for Young Scientists |
| 2005 | NYC Mayor's Young Investigator Award for Excellence in Science and Technology |
| 2005 | Rockefeller University Teaching Award |
| 2002 | Presidential Early Career Award for Scientists and Engineers |
| 2002 | John Merck Fund Award |
| 2001 | Beckman Young Investigator Award |
| 2001 | National Science Foundation CAREER Award |
| 2001 | McKnight Scholar Award |
| 1987 | John Jay Scholar, Columbia College of Columbia University |

# PROFESSIONAL SERVICE

**Editorial**

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|---|---|
| 2025-Present | Member of the Scientific and Medical Advisory Board, openRxiv |

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|---|---|
| 2018-2021 | Deputy Editor, AAAS Science Advances |
| 2015-2018 | Associate Editor, AAAS Science Advances |
| 2013-2025 | Member, bioRxiv advisory board |
| 2013-2017 | Member, Simons Foundation Quanta Magazine board |
| 2012-2019 | Member, PLoS Biology Editorial Board |
| 2008-2013 | Associate Editor, Frontiers in Neural Circuits |
| 2007-2020 | Member, Chemical Senses Editorial Board |
| 2010-2019 | Member, BMC Biology Editorial Board |
| 2007-2009 | Member, PLoS ONE Editorial Board |
| 2007-2012 | Associate Editor, Journal of Neuroscience |
| 2006-2010 | Reviewing Editor, HFSP Journal |
| 2005-2016 | Associate Editor, The FASEB Journal |
| 2005-2021 | Editorial Board Member, Current Biology |

**Board Service**

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|---|---|
| 2019-2021 | Board of Directors, Helen Hay Whitney Foundation |
| 2018-2021 | Board of Directors, Wenner-Gren Foundation |
| 2018-Present | Board of Directors, McKnight Endowment Fund for Neuroscience |
| 2018-2021 | Scientific Advisory Board, IGC Gulbenkian Institute |
| 2011-2019 | Scientific Advisory Board, Institute of Molecular Pathology (IMP), Vienna, Austria (Chair 2016-2019) |
| 2010-2014 | Board of Scientific Counselors, NIH NIDCR |
| 2007-2014 | Scientific Advisory Board, Max Planck Institute for Chemical Ecology |

**National Academy of Sciences**

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|---|---|
| 2018-2021 | Chair, Section 24 (Cellular and Molecular Neuroscience) |
| 2018 | Chair, Neuroscience Prize Committee |
| 2016 | Chair, Lounsbery Award Committee |

**Prize and Fellowship Selection Committees**

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|---|---|
| 2022-Present | Gairdner Momentum Award Committee |
| 2020-2021 | HHMI Hanna H. Gray Fellows Program Selection Committee |
| 2019-Present | Lasker Prize Jury |
| 2019-2021 | National Advisory Committee, Pew Biomedical Scholars |
| 2016-Present | Pearl Meister Greengard Prize Committee |
| 2016 | Group Leader Review Committee, HHMI-Janelia Research Campus |
| 2016 | Champalimaud Centre for the Unknown, Group Leader Review |
| 2014-2018 | Society for Neuroscience Gerard Prize Committee |
| 2012-2013 | Society for Neuroscience Young Investigator Award Committee |
| 2012-2021 | Reviewer for HHMI Investigator, Early Career Scientist, Faculty Scholar competitions |
| 2008-2012 | Group Leader Selection Committee, HHMI-Janelia Research Campus |
| 2008-2021 | Vilcek Prize for Creative Promise Jury |
| 2008-2015 | McKnight Scholar Award Selection Committee |
| 2008-2015 | Alfred P. Sloan Research Fellowships in Neuroscience Committee |
| 2008-2021 | External Reviewer, Radcliffe Institute Fellows Program |

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|---|---|
| 2008-2009 | NINDS Basic Module Advisory Panel |
| 2007-2008 | TMF/Patterson Trust Fellowship Program in Brain Circuitry Reviewer |
| 2007 | MRC Young Investigator Grant External Reviewer |
| 2006-2009 | Beckman Young Investigator Program Panelist |
| 2006 | HHMI International Research Scholar Program Panelist |
| 2006-2012 | Human Frontier Science Program Organization Reviewer |
| 2006 | German Volkswagen Stiftung Reviewer |
| 2002-2018 | NIH Grant Review: NIDCD ZDC1, NIDCD CDRC, CSR SCS |
| 2002-2007 | NSF Grant Review: MCB, IBN, and CAREER Award |
| 2002-2005 | External Reviewer, Norwegian Technology Foundation |

**Scientific Conference Organization**

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|---|---|
| 2019 | Co-organizer (with Michael Dickinson and Julian Dow) J. Exp. Biol. Symposium 2019: Genome Editing for Comparative Physiology |
| 2019 | Co-organizer (with David Stern and Adam Hantman) Janelia Research Campus Conference: New Genetic Tools for Non-Model Organisms |
| 2017 | Co-organizer (with Richard Benton and Detlev Arendt) EMBO \| EMBL Symposia 2017 - Neuronal Circuits |
| 2016 | Co-chair (with Kazushige Touhara and Wolfgang Meierhof), 17th Annual ISOT International Symposium on Olfaction and Taste, Yokohama, Japan |
| 2010 | Co-Organizer (with Kazushige Touhara), 2010 HHMI-Janelia Research Campus Conference: Form and Function of the Olfactory System |
| 2009 | Co-Organizer (with Peter Mombaerts), 2009 Keystone Meeting: Chemical Senses: Receptors & Circuits |
| 2007 | Co-organizer (with Peter Mombaerts), 2007 Keystone Meeting: Chemical Senses: From Receptors to Perception |
| 2006 | Association for Chemoreception Sciences (AChemS) Election Committee Member |
| 2004, 2005 | Chemosensory Receptors Symposium Session Co-Chair, AChemS |
| 2003, 2005 | Sensory Systems Session Chair, Cold Spring Harbor Neurobiology of *Drosophila* meeting |
| 2002 | Olfaction Session Chair, Society for Neuroscience meeting |
| 2001, 2006-2009 | Program Committee Member, AChemS |

**Consulting**

| | |
|---|---|
| 2011-2017 | Member, Scientific Advisory Board, International Flavors and Fragrances, Inc. |
| 2000-2004 | Member, Scientific Advisory Board, Sentigen Biosciences |

# SCIENTIFIC PRESENTATIONS

**2000**

- UCLA Joint Seminars in Neuroscience

**2001**

- Skirball Institute, NYU School of Medicine Seminar
- Free University Berlin, Division of Neurobiology Seminar
- University of Tokyo Seminar
- Ohio State University Seminar
- Bard College Seminar
- Vanderbilt University Seminar
- Harvard Medical School, Department of Neurobiology Seminar
- Banbury Conference: Molecular Biology of Chemosensory Receptors

- Göttingen Neuroscience Meeting, Germany
- Gordon Research Conference. Chemical Senses: Taste and Smell
- European Symposium on Insect Taste and Smell, Villasimius, Italy

**2002**

- Carnegie Institute of Washington Seminar
- Institute of Molecular Pathology, Vienna Seminar
- Gordon Research Conference: Floral Odors

**2003**

- NIH/NIDCD Seminar
- Johns Hopkins University Seminar
- University of Georgia Seminar
- New York University Seminar
- Brooklyn College Seminar
- Yale University Seminar
- Developmental Olfaction Meeting
- SEB Meeting, Southampton, UK
- Chemical Senses: Taste and Smell Gordon Conference

**2004**

- Mount Sinai School of Medicine Seminar
- University of Florida Seminar
- Duke University Seminar
- Columbia University Seminar
- Firmenich, S.A., Geneva Seminar
- Cold Spring Harbor Laboratory Seminar
- University of Toronto Seminar
- Stanford University Seminar
- Genetic Manipulation of Insects Keystone Meeting
- Aspen Center for Physics Symposium: Olfaction and Birdsong
- McKnight Neuroscience Meeting
- ISOT Meeting, Kyoto, Japan
- Beckman Young Investigator Symposium

**2005**

- Uppsala University Seminar
- Princeton University Seminar
- North Carolina State University Seminar
- Nobel Forum/CEDB Meeting, Stockholm, Sweden
- Plenary Lecture, East Coast Nerve Net
- Plenary Lecture, Mt. Sinai School of Medicine Graduate Program Retreat
- European Symposium on Insect Taste and Smell, Villasimius. Italy

**2006**

- University of Pennsylvania Seminar
- Emory University Seminar
- UCLA Seminar
- Vollum Institute Seminar
- Duke University Seminar
- CSHL Banbury Conference: Appetite and Feeding
- Plenary Lecture, GSA *Drosophila* Conference
- CNS-MMX Symposium on the Insect Olfactory CNS, Bäckaskog Castle, Sweden

**2007**

- Princeton University Seminar
- SUNY-Stony Brook Seminar
- Weill-Cornell Medical College Seminar
- University of Oregon Seminar
- NIH Neuroscience Seminar Series
- Keystone Chemical Senses, Snowbird
- HHMI-Janelia Research Campus Conference: “Neuroanatomy and Stereotypy of the Adult *Drosophila* Nervous System”
- Gates Foundation Grand Challenges in Global Health Annual Meeting, Capetown, South Africa

**2008**

- Yale University Seminar
- Cold Spring Harbor Laboratory Seminar
- Bauer Lecture at Brandeis University Seminar
- Caltech Seminar
- New York University CNS Seminar Series
- New England Biolabs Seminar
- University of California, Berkeley Neuroscience Seminar Series
- Columbia University Neurobiology Department Seminar
- UMDNJ/Rutgers University Seminar
- Georgia State University, Brains and Behavior Distinguished Lecture
- New York University Honors Lecture
- IPSEN-Nature-Salk Symposium on Biological Complexity: Genes, Circuits, and Behavior, Salk Institute
- Gordon Research Conference: Genes and Behavior, Lucca. Italy
- Wenner-Gren Foundation Symposium: Building complex brains, Fiskebäckskil, Sweden
- Asilomar Transgenic Insect Workshop
- Columbia University Integrated PhD Program Retreat-Plenary Lecture
- Sloan-Salk Conference Keynote Lecture, Princeton University
- Industry Symposium, ISOT meeting
- SDB meeting
- ISCE meeting: Silverstein-Simeone Lecture
- Gates Foundation Grand Challenges in Global Health Annual Meeting, Bangkok, Thailand
- HHMI Scientific Meeting: Computational and Systems Biology
- ASCB meeting: “Cell Biology of the Senses” symposium lecture

**2009**

- University of California, San Diego Biology Department Seminar
- UTSW Medical Center Seminar
- Duke University, Lawrence C. Katz Memorial Prize Lecture
- Brown University Seminar
- University of Chicago Committee on Neurobiology Seminar Series
- Albert Einstein College of Medicine, Serafin Fernandez Memorial Lecture, Department of Genetics
- University of Kansas Seminar
- University of California, San Francisco Seminar
- Harvard University Seminar
- Keystone Chemical Senses
- Firmenich Symposium, Geneva, Switzerland

- International Symposium on Ecological Volatiles, Tokyo, Japan
- SDB Meeting
- International Society of Nephrology Meeting, Florence. Italy
- European Symposium on Insect Taste and Smell, Villasimius, Italy
- EMBO Conference: The assembly and function of neuronal circuits, Ascona, Switzerland
- Gates Foundation Grand Challenges in Global Health Annual Meeting, Arusha, Tanzania

**2010**

- Cincinnati Children's Hospital Seminar
- Johns Hopkins School of Public Health Seminar
- Washington University Seminar
- Salk Institute/Nature/Fondation Ipsen Annual Symposium on Biological Complexity: Sensory Systems: Smell, Taste, Touch, Hearing, and Vision
- University of Southern California Symposium: Molecules, Cells, & Circuits
- AChemS Human Olfaction Symposium
- McKnight Conference on Neuroscience Special Lecture
- University of Lausanne CIG Symposium: Sensing the Environment
- Neurofly Meeting, Plenary Lecture, Manchester, UK
- UNC Neuroscience Symposium
- Society for Neuroscience, Special Lecture
- HHMI-Janelia Research Campus Conference, Neurons, Systems, and Neural Disease

**2011**

- Stanford University Seminar
- University of Manchester Astra-Zeneca Lecture
- University College London Seminar
- Imperial College, London Seminar
- National Center for Biological Sciences, Bangalore Seminar
- Mt. Sinai School of Medicine, Rudin-Kase Dean's Lecture
- IRCM, Montreal Seminar
- Johns Hopkins University Neuroscience Seminar Series
- Max-Planck Institute for Neurobiology Distinguished Speakers Seminar
- University of Freiburg, Germany Seminar
- State University of New York, Albany Seminar
- Keystone Symposium on Mechanisms of Transmembrane Signaling
- International Society for Olfaction and Chemical Sensors Plenary Lecture
- Champalimaud Neuroscience Symposium, Lisbon, Portugal
- Gill Prize Symposium
- University of Cincinnati Graduate Student Research Symposium

**2012**

- Princeton University, Department of Molecular Biology Seminar
- Oberlin College, Benzer Lecture
- Department of Pharmacology, Yale University Seminar
- Scripps Florida Seminar
- Marine Biological Laboratory, Lederberg Lecture
- Columbia University, Genetics Department Seminar
- University of Utah Brain Institute Neuroscience Symposium
- 14th International Neuroscience Winter Conference, Sölden, Austria
- ISOT Meeting, Stockholm, Sweden
- Oregon Health Sciences University Retreat Keynote Speaker

- FOMS-3 Meeting, Max Planck Institute of Biochemistry, Frankfurt, Germany
- Neuro-Workshop FP7 MBG-BRIDGE Project, Istanbul, Turkey
- Skin Microbiota Workshop
- University of Colorado Neuroscience Retreat Invited Speaker

**2013**

- College de France, Paris Seminar
- Barnard College, Distinguished Women in Science Lecture
- Wesleyan University Seminar
- Duke University Program in Genetics & Genomics Distinguished Lecture Series
- Marine Biological Laboratory, Forbes Lecturer, Grass Foundation
- Marine Biological Laboratory, Special Lecturer, Neural Systems & Behavior
- Georgia State University Brains & Behavior Distinguished Lecture series
- Max Planck Institute of Brain Research Colloquium, Frankfurt, Germany
- NIAID Vectorbase Workshop
- UCLA Neurogenetics Symposium
- HHMI-Janelia Research Campus Conference: Insect Genome Modification Workshop,
- HHMI-Janelia Research Campus Conference: Sensory Signaling in Model Organisms
- UTSW Neuroscience Retreat Plenary Speaker
- Arthropod Genomics Symposium, Notre Dame University
- ECRO Meeting, Leuven, Belgium
- Stanford Genetics Retreat Plenary Speaker
- ESITO Meeting, Villasimius, Italy
- FNIH/NIAID Population Replacement Strategies for Malaria Vectors Workshop

**2014**

- Brandeis University Life Sciences Lecture
- Harvard Medical School, Kuffler Lecture, Department of Neurobiology
- Salk Institute Seminar
- EPFL, Lausanne Seminar
- National Institutes of Health, Wednesday Afternoon Lecture Series
- CSHL Meeting: Neuronal Circuits from Structure to Function
- AChemS Symposium: Chemoreception in mosquitoes: evolution, genomics and control strategies
- Spitsbergen 2014: Neural Networks in the Artic, Svalbard
- European Congress of Entomology, York, UK
- Max Planck Institute for Brain Research Opening Symposium, Frankfurt, Germany
- EMBO Workshop: Decoding neural circuit structure and function, Istanbul, Turkey
- Stony Brook University Neuroscience Graduate Symposium plenary lecture
- HHMI-Janelia Research Campus conference: Life in the aggregate: mechanisms and features of social dynamics

**2015**

- Queens College, Queens, NY, Battersby Lecture
- Stanford University, Frontiers in Biochemistry Lecture
- Columbia University Neuroscience Seminar
- Albert Einstein College of Medicine, Distinguished Lecture
- New York University, Honors Lecture
- University of Pittsburgh, Laureate Lecture
- Harvard School of Public Health Seminar
- Massachusetts Institute of Technology, Teuber Lecture

- Johns Hopkins University Neuroscience Retreat
- University of Colorado, Boulder Seminar
- Cornell University, Biology without Borders Seminar
- The Hebrew University, Brainy Days in Jerusalem, Jerusalem, Israel
- Plenary lecture, International Society for Neurochemistry, Cairns, Australia
- Plenary lecture, RECOMB ISCB Regulatory and Systems Genomics Conference with DREAM Challenges

**2016**

- Davidson College, Smith Lecture
- Harvard Medical School, Department of Biological Chemistry and Molecular Pharmacology Seminar
- Marian Koshland Lecture, University of California, Berkeley
- UCSF Neuroscience Seminar
- Institute of Genetics and Development of Rennes (IGDR) Frontiers in Biology lecture, Rennes
- Accelerating Science and Publication in Biology (ASAPbio) conference
- COSYNE16 Computational and Systems Neuroscience
- AChemS Symposium
- American Philosophical Society Annual Meeting
- ISOT2016, Yokohama, Japan
- UCL Neuroscience Symposium, London, UK
- Kavli Prize Symposium, Trondheim, Norway
- International Congress of Entomology
- Society for Neuroscience Special Lecture
- Kavli Salon, Havana, Cuba
- EMBO | EMBL Symposia 2017 - Neuronal Circuits, Heidelberg. Germany
- Yale Kavli Symposium
- ICTP Frontiers in Olfaction Workshop
- UC Berkeley Symposium on Genome Editing
- IMP Opening Symposium
- Wallenberg Centennial Symposium: “Molecular Life Science,” Stockholm, Sweden
- Delwart Symposium: “Molecular and Cellular Mechanisms Underlying Mood: From Well Being to Disorders”, Brussels, Belgium

**2017**

- UTSW University Lecture
- UCSD Joint CMM/Biology Seminar
- Cold Spring Harbor Laboratory McClintock Lecture
- The Scripps Research Dorris Neuroscience Lecture
- UC Davis Storer Lecture
- Yale Nahum Lecture

**2018**

- Institut du Cerveau et de la Moelle Epinière (ICM), Paris Seminar
- UCLA Distinguished Lecture Series
- University of Colorado Denver Anshutz Dean's Distinguished Seminar
- Harvard University Symposium: “Metabolism and Life”
- Carnegie Institute of Washington Symposium "Molecular Mechanisms of Adaptation"
- 11th FENS Forum of Neuroscience, Plenary Lecture, Berlin, Germany
- Cornell NeuroNex: 2018 NeuroNex Technology Conference
- NIH 12th Comparative Medicine Resource Director’s Meeting, Keynote Speaker

- Gairdner Foundation Symposium: “Let There Be Light: Optogenetics in Neuroscience and Beyond”
- University of Michigan Inaugural Sensory Science Symposium

**2019**

- University of Illinois 2019 Distinguished Public Lecture in Genomics
- University of Washington Crill Lecture
- Janelia Conference: New Genetic Tools for Non-Model Organisms
- Journal of Experimental Biology Symposium 2019: Genome editing for comparative physiology
- University of Michigan, Department of Molecular and Integrative Physiology Annual Research Forum, Keynote speaker
- New York University Neuroscience Retreat, Keynote speaker
- Association for Chemoreception Sciences (ACHEMS) Presidential Symposium
- Mortimer B. Zuckerman Mind Brain Behavior Institute of Columbia University Inaugural Symposium
- Gordon Research Conference. Neuroethology: Behavior, Evolution and Neurobiology
- New York University Langone School of Medicine: Symposium in Memory of Gerald Weissmann MD

**2020**

- MBL Friday Evening Lecture (virtual)
- Columbia Department of Biochemistry and Molecular Biophysics seminar (virtual)
- Wu Tsai Neurosciences Institute Seminar, Stanford University (virtual)
- Gill Symposium, Indiana University (virtual)
- University of California Berkeley, Helen Wills Neuroscience Retreat, Keynote speaker (virtual)

**2021**

- Max Planck Florida Seminar (virtual)
- Case Western Reserve Frontiers in Biomedical Science seminar (virtual)
- Cold Spring Harbor Neurobiology of *Drosophila*, Benzer Lecture (virtual)

**2022**

- AFAR/Glenn Foundation for Medical Research Workshop and Meeting
- NIH Director's Wednesday Afternoon Lecture Series
- 2022 EPFL School of Life Sciences Symposium, Lausanne, Switzerland
- UTSW 50 Year Anniversary Symposium of Brown and Goldstein

**2023**

- MSKCC Kravis WiSE Symposium
- Afrisnet Webinar (virtual)
- Baylor University Oshman Lectureship
- Karolinska Institutet Nicholson Lecture

**2024**

- Janelia Conference: Bridging Diverse Perspectives on the Mechanistic Basis of Foraging
- The Allied Genetics Conference (TAGC), Keynote speaker
- Perl/UNC Neuroscience Prize Lecture
- ISOT (International Symposium on Olfaction and Taste) Keynote speaker
- University of Pittsburgh Dickson Prize in Medicine Lecture
- Columbia University 2024 Andrew Mark Lippard Memorial Lecture

**2025**

- Whitehead Institute Women’s History Month Seminar Series
- Robert Wood Johnson Medical School of Rutgers University 2025 Morris-Inouye Lecture
- 2025 Skolnick Prize in Neuroscience Lecture
- UCSF Women in Discovery Lectureship

# TRAINEES

**Current Postdoctoral Fellows (n=3)**

1. **Takeshi Morita, PhD** (2016-Present)

Harvey L. Karp Discovery Award
Japan Society for the Promotion of Science Postdoctoral Fellow

2. **Leah Houri-Zeevi, PhD** (2019-Present)

Women & Science Postdoctoral Fellow
Helen Hay Whitney Fellow (declined)
EMBO Long Term Postdoctoral Fellow (declined)
HFSP Postdoctoral Fellowship (declined)
Junior Fellow of the Simons Society of Fellows

3. **Yoonji Kim, PhD** (2024-Present)

Life Sciences Research Foundation (LSRF) Postdoctoral Fellow

**Current PhD Students (n=6)**

1. **Adriana Rosas** (2020-Present)

The David Rockefeller PhD Program

2. **Yael Tsitohay** (2020-Present)

The David Rockefeller PhD Program

3. **Priyanka Lakhiani** (2020-Present)

The David Rockefeller PhD Program

4. **Lauren Neal** (2021-Present)

HHMI Gilliam Fellow
2023 David Rockefeller Fellowship

5. **Mackenzie Yedlin** (2022-Present)

The David Rockefeller PhD Program
Kavli Neural Systems Institute Graduate Fellow

6. **Jacopo Razzauti** (2022-Present)

Boehringer Ingelheim Fonds PhD Fellowship
Price Family Center for the Social Brain Fellow

**Former Postdoctoral Fellows (n=23)**

1. **Mattias Larsson, PhD** (2002-2004)

Swedish Foundation International Cooperation in Research and Higher Education
Sweden-America Foundation Fellow
Current Position: Senior Lecturer at the Department of Plant Protection Biology, Swedish University of Agricultural Sciences

2. **Silke Sachse, PhD** (2002-2005)

Presidential Postdoctoral Fellow
Current Position: Research Group Leader, Department of Evolutionary Neuroethology, Max Planck Institute for Chemical Ecology

**3. Andreas Keller, PhD** (2002-2016)
Marco S. Stoffel Fellow in Mind Brain and Behavior
Branco Weiss Society in Science Fellow
NARSAD Young Investigator Award
Current Position: Scientific Consultant, Founder and Director of Olfactory Art Keller, an art gallery in lower Manhattan

**4. Richard Benton, PhD FRS** (2003-2007)
EMBO Long-Term Postdoctoral Fellow
Helen Hay Whitney Foundation Postdoctoral Fellow
Current Position: Professor, Center for Integrative Genomics, University of Lausanne; Fellow of the Royal Society of London

**5. Matthieu Louis, PhD** (2003-2007)
Belgian American Educational Foundation Fellow
Revson Senior Fellow in Biomedical Sciences
Current Position: Associate Professor (tenured), University of California, Santa Barbara

**6. Jennifer Mehren, PhD** (2005-2007)
Marco S. Stoffel Fellow in Mind Brain and Behavior
Current Position: Senior Scientific Advisor to the Scientific Director of the Intramural Research Program of the National Institute of Mental Health at the National Institutes of Health

**7. Mathias Ditzen, PhD** (2005-2008)
Henry and Marie-Josée Kravis Postdoctoral Fellow
Current Position: Executive Director of Business Development, Parexel International GmbH

**8. Takao Nakagawa, PhD** (2005-2011)
Japan Society for the Promotion of Science Postdoctoral Fellow
Current Position: Research Scientist, Biological Laboratory, KAO Corporation

**9. Eléonore Réal, PhD** (2008-2009)
Women & Science Postdoctoral Fellow
Current Position: Lecturer, UNISTRA, University of Strasbourg

**10. Gabriel Gasque, PhD** (2007-2013)
Funding: Pew Latin American Scholars Award Postdoctoral Fellow
Current Position: Head of Outreach, protocols.io

**11. Michael Crickmore, PhD** (2007-2013)
Funding: Marco S. Stoffel Fellow in Mind Brain and Behavior (The Rockefeller University); Helen Hay Whitney Foundation Postdoctoral Fellow
Current Position: Assistant Professor, Boston Children's Hospital

**12. Carolyn McBride, PhD** (2008-2014)
Funding: HHMI Research Associate; K99/R00 NIH Pathway to Independence Award
Current Position: Associate Professor, Princeton University

**13. Matthew DeGennaro, PhD** (2009-2014)
HHMI Research Associate
Current Position: Associate Professor (tenured), Florida International University

**14. Conor McMeniman, PhD** (2009-2015)
Henry and Marie-Josée Kravis Postdoctoral Fellow
Human Frontier Science Program Postdoctoral Fellowship
Current Position: Assistant Professor, Johns Hopkins University, Bloomberg School of Public Health

**15. Nilay Yapici, PhD** (2009-2016)
Human Frontier Science Program Postdoctoral Fellow
Current Position: Associate Professor (tenured), Cornell University

**16. Julien Hsieh, MD** (2014-2016)
Clinical Scholar Award
Current Position: Medical Resident, Otorhinolaryngology Department, Université de Genève Hospital, Switzerland

**17. Ben Matthews, PhD** (2010-2019)
Henry and Marie-Josée Kravis Postdoctoral Fellow
Jane Coffin Childs Memorial Fund Postdoctoral Fellow
Current Position: Assistant Professor, Department of Zoology, University of British Columbia

**18. Laura Duvall, PhD** (2013-2019)
Women & Science Postdoctoral Fellow
American Philosophical Society Postdoctoral Fellow
Current Position: Assistant Professor, Columbia University

**19. Meg Younger, PhD** (2014-2021)
Grass Fellow
Leon Levy Fellow
Jane Coffin Childs Memorial Fund Postdoctoral Fellow
Kavli Neural Systems Institute Postdoctoral Fellow
Current Position: Assistant Professor, Boston University

**20. Trevor Sorrells, PhD** (2016-2022)
Jane Coffin Childs Memorial Fund Postdoctoral Fellow
Kavli Neural Systems Institute Postdoctoral Fellow
Current Position: Assistant Professor, HHMI Freeman Hrabowski Scholar, Yale University

**21. Maria Elena De Obaldia, PhD** (2014-2021)
Helen Hay Whitney Postdoctoral Fellow
Current Position: Research Program Management, Manager, Genetic Medicines, Regeneron

**22. Nadav Shai, PhD** (2018-2024)
EMBO Long-Term Postdoctoral Fellow
Current Position: Senior Scientist, Vosshall Laboratory

**23. Umberto Palatini, PhD** (2022-2025)
EMBO Long-Term Postdoctoral Fellow
Human Frontier Science Foundation Postdoctoral Fellow
Current Position: Assegnista di Ricerca (Research Fellow), Laboratory of Insects Genetics and Biotechnology, Department of Biology and Biotechnology, University of Pavia

**Former Graduate Students (n=17)**

1. **Ana Domingos, PhD** (2000-2006)
Gulbenkian PhD Programme in Biology and Medicine (PDGM)
Current Position: Professor of Neuroscience, University of Oxford

2. **Elane Fishilevich, PhD** (2001-2007)
F31 NIH/NIDCD Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship
Current Position: Director, Discovery and Translational Research, Alnylam Pharmaceuticals

3. **Walton Jones, PhD** (2003-2006)
Tri-Institutional MD-PhD Program
Current Position: Assistant Professor, Department of Biological Sciences, Korea Advanced Institute of Science and Technology (KAIST)

4. **Kenta Asahina, PhD** (2003-2008)
The David Rockefeller PhD Program
Current Position: Associate Professor, The Salk Institute

5. **Maurizio Pellegrino, PhD** (2005-2010)
The David Rockefeller PhD Program
David Rockefeller Graduate Fellow
Current Position: Lead, Dry Lab Operations, Invitae

6. **Shelli Farhadian, MD, PhD** (2006-2010)
Tri-Institutional MD-PhD Program
Paul and Daisy Soros Fellowship for New Americans
F30 NIH/NIDCD Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship
Current Position: Assistant Professor of Medicine (Infectious Diseases) and Neurology, Yale University School of Medicine

7. **Jeff Liesch, PhD** (2008-2013)
F31 NIH/NIDCD Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship
Current Position: Principal, Blue Matter Consulting

8. **Jennifer Bussell, PhD** (2008-2014)
The David Rockefeller PhD Program
Current Position: Simons Foundation Junior Fellow, Laboratory of Richard Axel, Department of Neuroscience, HHMI-Columbia University

9. **Lindsay Bellani, PhD** (2010-2015)
NSF Graduate Research Fellowship
Current Position: Stay at home parent

10. **Roman Corfas, PhD** (2010-2016)
The David Rockefeller PhD Program
Current Position: Assistant Professor of Instruction and Neuroscience Education Fellow, University of Texas, Austin

11. **Emily Dennis, PhD** (2011-2018)
F31 NIH/NIDCD Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship
Current Position: HHMI Hanna Gray Fellow; Group Leader, HHMI-Janelia Research Campus

**12. Moli Liu, PhD** (2014-2019)
The David Rockefeller PhD Program
Current Position: Volunteer, Boneshaker Books

**13. Veronica Jové, PhD** (2015-2020)
NSF Graduate Research Fellowship
HHMI Gilliam Fellowship
David Rockefeller Graduate Fellow
Current Position: Senior Scientist, SpringWorks Therapeutics

**14. Margaret Herre, PhD** (2016-2021)
Tri-Institutional MD-PhD Program
F30 NIH/NIDCD Ruth L. Kirschstein Individual Predoctoral NRSA Fellowship
Kavli Neural Systems Institute Graduate Fellow
Current Position: Postdoctoral Fellow, Regeneron

**15. Nipun Basrur** (2016-2021)
The David Rockefeller PhD Program
Current Position: HHMI Helen Hay Whitney Postdoctoral Fellow, Laboratories of Steve Liberles (Harvard) and Ruslan Medzhitov (Yale)

**16. Krithika Venkataraman** (2016-2022)
David Rockefeller Graduate Fellow
Boehringer Ingelheim Fonds PhD Fellowship
Current Position: Scientist, Neuroscience Collaborations, Simons Foundation

**17. Olivia Goldman** (2018-2023)
NSF Graduate Research Fellowship
Kavli Neural Systems Institute Graduate Fellow
Current Position: Schmidt Science Fellow and Postdoctoral Fellow, Laboratory of Diana Bautista, HHMI-University of California Berkeley

# PUBLICATIONS

NCBI: https://www.ncbi.nlm.nih.gov/myncbi/leslie.vosshall.2/bibliography/public/
Google Scholar: https://scholar.google.com/citations?hl=en&user=DaB4TAEAAAAJ

*Consistent with HHMI policy to focus only on the science and not on journal placement, this bibliography does not list journal names, and instead lists PMID or DOI for all publications.*

**Peer-Reviewed Publications**

**High School/Undergraduate: Cell Aggregation and Neutrophil Signaling (1982-1988)**

[1] Dunham P, L Nelson, **L Vosshall**, G Weissmann. (1982) Effects of enzymatic and nonenzymatic proteins on *Arbacia* spermatozoa: reactivation of aged sperm and the induction of polyspermy. DOI: 10.2307/1541453

[2] Rich AM, G Weissmann, C Anderson, **L Vosshall**, KA Haines, T Humphreys, P Dunham. (1984) Calcium dependent aggregation of marine sponge cells is provoked by leukotriene B4 and inhibited by inhibitors of arachidonic acid oxidation. PMID: 6331432

[3] Dunham PB, **L Vosshall**, CA Bayer, AM Rich, G Weissmann. (1985) From Beaumont to poison ivy: marine sponge cell aggregation and the secretory basis of inflammation. PMID: 3932096

[4] Weissmann G, **Vosshall LB**, Bayer CA, Dunham PB. (1985) Marine sponge aggregation: a model for effects of NSAIDs on the calcium movements of cell activation. PMID: 4081791

[5] Reibman J, HM Korchak, **LB Vosshall**, KA Haines, AM Rich, G Weissmann. (1988) Changes in diacylglycerol labelling, cytosolic calcium, cell shape, and protein phosphorylation distinguish triggering from activation of human neutrophils. PMID: 2834374

[6] Korchak HM, **LB Vosshall**, G Zagon, P Ljubich, AM Rich, G Weissmann. (1988) Activation of the neutrophil by calcium-mobilizing ligands. I. A chemotactic peptide and the lectin concanavilin A stimulate superoxide anion generation but elicit different calcium movements and phosphoinositide remodeling. PMID: 2841318

[7] Korchak HM, **LB Vosshall**, KA Haines, C Wilkenfeld, KF Lundquist, G Weissmann. (1988) Activation of the human neutrophil by calcium-mobilizing ligands. II. Correlation of calcium, diacylglycerol, and phosphatidic acid generation with superoxide anion generation. PMID: 2841319

## PhD: Biological Clocks (1992-1995)

[8] Baylies MK, **LB Vosshall**, A Sehgal, MW Young. (1992) New short period mutations of the *Drosophila* clock gene *per*. PMID: 1524831

[9] **Vosshall LB**, JL Price, A Sehgal, L Saez, MW Young. (1994) Block in nuclear localization of *period* protein by a second clock mutation, *timeless*. PMID: 8128247

[10] **Vosshall LB**, MW Young. (1995) Circadian rhythms in *Drosophila* can be driven by *period* expression in a restricted group of central brain cells. PMID: 7646889

## Postdoctoral: Rat and Fly Olfaction (1994-2000)

[11] Vassar R, SK Chao, R Sitcheran, J Nunez, **LB Vosshall**, R Axel. (1994) Topographic organization of sensory projections to the olfactory bulb. PMID: 8001145

[12] **Vosshall LB**, H Amrein, PS Morozov, A Rzhetsky, R Axel. (1999) A spatial map of olfactory receptor expression in the *Drosophila* antenna. PMID: 10089887

[13] **Vosshall LB**, AM Wong, R Axel. (2000) An olfactory sensory map in the fly brain. PMID: 10943836

[14] Rubin GM, MD Yandell, JR Wortman, GLG Miklos, CR Nelson, IK Hariharan, ME Fortini, PW Li, R Apweiler, W Fleischmann, JM Cherry, S Henikoff, MP Skupski, S Misra, M Ashburner, E Birney, MS Boguski, T Brody, P Brokstein, SE Celniker, SA Chervitz, D Coates, A Cravchik, A Gabrielian, RF Galle, WM Gelbart, RA George, LSB Goldstein, NL Harris, B Hay, RA Hoskins, RO Hynes, SJM Jones, PM Kuehl, B Lemaitre, JT Littleton, DK Morrison, C Mungall, P O'Farrell, OK Pickeral, C Shue, **LB**

**Vosshall**, J Zhang, R Gibbs, MD Adams, JC Venter, S Lewis. (2000) Comparative genomics of the eukaryotes. PMID: 10731134

**Faculty: *Drosophila* Fly Chemosensation and Behavior (2003-2016)**

[15] Hummel T, ML Vasconcelos, JC Clemens, Y Fishilevich, **LB Vosshall**, SL Zipursky. (2003) Axonal targeting of olfactory receptor neurons in *Drosophila* is controlled by *dscam*. PMID: 12546818

[16] Wang JW, AM Wong, J Flores, **LB Vosshall**, R Axel. (2003) Two-photon calcium imaging reveals an odor-evoked map of activity in the fly brain. PMID: 12553914

[17] Keene AC, M Stratmann, A Keller, PN Perrat, **LB Vosshall**, S Waddell. (2004) Diverse odor-conditioned memories require uniquely timed dorsal paired medial neuron output. PMID: 15504331

[18] Larsson MC, AI Domingos, WD Jones, ME Chiappe, H Amrein, **LB Vosshall**. (2004) *Or83b* encodes a broadly expressed odorant receptor essential for *Drosophila* olfaction. PMID: 15339651

[19] Jones WD, TT Nguyen, B Kloss, KJ Lee, **LB Vosshall**. (2005) Functional conservation of an insect odorant receptor across 250 million years of evolution. PMID: 15723778

[20] Fishilevich E, **LB Vosshall**. (2005) Genetic and functional subdivision of the *Drosophila* antennal lobe. PMID: 16139209

[21] Fishilevich E, AI Domingos, K Asahina, F Naef, **LB Vosshall**, M Louis. (2005) Chemotaxis behavior mediated by single larval olfactory neurons in *Drosophila*. PMID: 16332533

[22] Benton R, S Sachse, SW Michnick, **LB Vosshall**. (2006) Atypical membrane topology and heteromeric function of *Drosophila* odorant receptors *in vivo*. PMID: 16402857

[23] Jones WD, P Cayirlioglu, IG Kadow, **LB Vosshall**. (2007) Two chemosensory receptors together mediate carbon dioxide detection in *Drosophila*. PMID: 17167414

[24] Benton R, KS Vannice, **LB Vosshall**. (2007) An essential role for a CD36-related receptor in pheromone detection in *Drosophila*. PMID: 17943085

[25] Sachse S, E Rueckert, A Keller, R Okada, NK Tanaka, K Ito, **LB Vosshall**. (2007) Activity-dependent plasticity in an olfactory circuit. PMID: 18054860

[26] Louis M, T Huber, R Benton, TP Sakmar, **LB Vosshall**. (2007) Bilateral olfactory sensory input enhances chemotaxis behavior. PMID: 18157126

[27] Sato K, M Pellegrino, T Nakagawa, T Nakagawa, **LB Vosshall**, K Touhara. (2008) Insect olfactory receptors are heteromeric ligand-gated ion channels. PMID: 18408712

[28] Ditzen M, M Pellegrino, **LB Vosshall**. (2008) Insect odorant receptors are molecular targets of the insect repellent DEET. PMID: 18339904

[29] Asahina K, V Pavlenkovich, **LB Vosshall**. (2008) The survival advantage of olfaction in a competitive environment. PMID: 18674910

[30] Louis M, S Piccinotti, **LB Vosshall**. (2008) High-resolution measurement of odor-driven behavior in *Drosophila* larvae. PMID: 19066557

[31] Benton R, KS Vannice, C Gomez-Diaz, **LB Vosshall**. (2009) Variant ionotropic glutamate receptors as chemosensory receptors in *Drosophila*. PMID: 19135896

[32] Asahina K, M Louis, S Piccinotti, **LB Vosshall**. (2009) A circuit supporting concentration-invariant odor perception in *Drosophila*. PMID: 19171076

[33] Pellegrino M, Nakagawa T, **LB Vosshall**. (2010) Single sensillum recordings in the insects *Drosophila melanogaster* and *Anopheles gambiae*. PMID: 20164822

[34] Pellegrino M, N Steinbach, MC Stensmyr, BS Hansson, **LB Vosshall**. (2011) A natural polymorphism alters odour and DEET sensitivity in an insect odorant receptor. PMID: 21937991

[35] Farhadian SF, M Suárez-Fariñas, CE Cho, M Pellegrino, **LB Vosshall**. (2011) Post-fasting olfactory, transcriptional, and feeding responses in *Drosophila*. PMID: 21945372

[36] Nakagawa, T, M Pellegrino, K Sato, **LB Vosshall**, K Touhara. (2012) Amino acid residues contributing to function of the heteromeric insect olfactory receptor complex. PMID: 22403649

[37] Gasque G, Conway W, Huang J, Rao Y, **LB Vosshall**. (2013) Small molecule drug screening in *Drosophila* identifies the 5HT2A receptor as a feeding modulation target. PMID: 23817146

[38] Crickmore MJ, **LB Vosshall**. (2013) Opposing dopaminergic and GABAergic neurons control the duration and persistence of copulation in *Drosophila*. PMID: 24209625

[39] Bussell JJ, N Yapici, SX Zhang, BJ Dickson and **LB Vosshall**. (2014) Abdominal-B neurons control *Drosophila* virgin female receptivity. PMID: 24998527

[40] Ito K, K Shinomiya, M Ito, JD Armstrong, G Boyan, V Hartenstein, S Harzsch, M Heisenberg, U Homberg, A Jenett, H Keshishian, LL Restifo, W Rössler, JH Simpson, NJ Strausfeld, R Strauss, **LB Vosshall**; Insect Brain Name Working Group. (2014) A systematic nomenclature for the insect brain. PMID: 24559671

[41] Yapici N, R Cohn, C Schusterreiter, V Ruta, **LB Vosshall**. (2016) A taste circuit from pharynx to brain that regulates ingestion by integrating food and hunger signals. PMID: 27040496

**Faculty: Human Olfaction (2004 – Present)**

[42] Keller A, **LB Vosshall**. (2004) A psychophysical test of the vibration theory of olfaction. PMID: 15034588

[43] Keller A, **LB Vosshall**. (2007) Influence of odorant receptor repertoire on odor perception in humans and fruit flies. PMID: 17372215

[44] Keller A*, H Zhuang*, Q Chi, **LB Vosshall**, H Matsunami *equal contribution. (2007) Genetic variation in a human odorant receptor alters odour perception. PMID: 17873857

[45] Bushdid C, MO Magnasco, **LB Vosshall**, A Keller. (2014) Humans can discriminate more than 1 trillion olfactory stimuli. PMID: 24653035

[46] Keller A, **LB Vosshall**. (2016) Olfactory perception of chemically diverse molecules. PMID: 27502425

[47] Keller A, RC Gerkin, Y Guan, A Dhurandhar, G Turu, B Szalai, JD Mainland, Y Ihara, CW Yu, R Wolfinger, C Vens, L Schietgat, K De Grave, R Norel; DREAM Olfaction Prediction Consortium, G Stolovitzky, GA Cecchi, **LB Vosshall**, P Meyer. (2017) Predicting human olfactory perception from chemical features of odor molecules. PMID: 28219971

[48] Hsieh JW, A Keller, M Wong, R-S Jiang, **LB Vosshall**. (2017) SMELL-S and SMELL-R: Olfactory tests not influenced by odor-specific insensitivity or prior olfactory experience. PMID: 29073044

[49] Trimmer C, A Keller, NR Murphy, LL Snyder, JR Willer, MH Nagai, N Katsanis, **LB Vosshall**, H Matsunami, JD Mainland. (2019) Genetic variation across the human olfactory receptor repertoire alters odor perception. PMID: 31040214

**Faculty: Mosquito Sensation and Behavior (2013 – Present)**

[50] DeGennaro M, CS McBride, L Seeholzer, T Nakagawa, EJ Dennis, C Goldman, N Jasinskiene, AA James, **LB Vosshall**. (2013) *orco* mutant mosquitoes lose strong preference for humans and are not repelled by volatile DEET. PMID: 23719379

[51] Liesch J, LL Bellani, **LB Vosshall**. (2013) Functional and genetic characterization of neuropeptide Y-like receptors in *Aedes aegypti*. PMID: 24130914

[52] McMeniman CJ, RA Corfas, BJ Matthews, Ritchie SA, **LB Vosshall**. (2014) Multimodal integration of carbon dioxide and other sensory cues drives mosquito attraction to humans. PMID: 24581501

[53] McBride CS, F Baier, AB Omondi, SA Spitzer, J Lutomiah, R Sang, R Ignell, **LB Vosshall**. (2014) Evolution of mosquito preference for humans linked to an odorant receptor. PMID: 25391959

[54] Kistler KE, **LB Vosshall**, BJ Matthews. (2015) Genome engineering with CRISPR-Cas9 in the mosquito *Aedes aegypti*. PMID: 25818303

[55] Corfas RA, **LB Vosshall**. (2015) The cation channel TRPA1 tunes mosquito thermotaxis to host temperatures. PMID: 26670734

[56] Warren AS, C Aurrecoechea, B Brunk, P Desai, S Emrich, GI Giraldo-Calderón, O Harb, D Hix, D Lawson, D Machi, C Mao, M McClelland, E Nordberg, M Shukla, **LB Vosshall**, AR Wattam, R Will, HS Yoo, B Sobral. (2015) RNA-Rocket: An RNA-seq analysis resource for infectious disease research. PMID: 25573919

[57] Matthews BJ, CS McBride, M DeGennaro, O Despo, **LB Vosshall**. (2016) The neurotranscriptome of the *Aedes aegypti* mosquito. PMID: 26738925

[58] Duvall LB, Basrur NS, Molina H, McMeniman CJ, **LB Vosshall**. (2017) A peptide signaling system that rapidly enforces paternity in the *Aedes aegypti* mosquito. PMID: 29174895

[59] Dennis EJ, Dobosiewicz M, Jin X, Duvall LB, Hartman PS, Bargmann CI, **Vosshall LB**. (2018) A natural variant and engineered mutation in a GPCR promote DEET resistance in *C. elegans*. PMID: 30258230

[60] Matthews BJ*, O Dudchenko*, S Kingan*, S Koren, I Antoshechkin, J Crawford, W Glassford, M Herre, S Redmond, N Rose, G Weedall, Y Wu, SS Batra, C Brito-Sierra, SD Buckingham, CL Campbell, S Chan, E Cox, BR Evans, T Fansiri, I Filipovic, A Fontaine, A Gloria-Soria, R Hall, V Joardar, AK Jones, R Kay, V Kodali, J Lee, G Lycett, SN Mitchell, J Muehling, M Murphy, AD Omer, F Partridge, P Peluso, AP Aiden, V Ramasamy, G Rasic, S Roy, K Saavedra-Rodriguez, S Sharan, A Sharma, M Smith, J Turner, A Weakley, Z Zhao, OS Akbari, WC Black IV, H Cao, AC Darby, CA Hill, JS Johnston, T Murphy, AS Raikhel, DB Sattelle, IV Sharakhov, B White, L Zhao, EL Aiden, RS Mann, L Lambrechts, J Powell, MV Sharakhova, Z Tu, HM Robertson, C McBride, AR Hastie, J Korlach, DE Neafsey, AM Phillippy, **LB Vosshall** *equal contribution. (2018) Improved reference genome of *Aedes aegypti* informs arbovirus vector control. PMID: 30429615

[61] Duvall LB, L Ramos-Espiritu, KE Barsoum, JF Glickman, **LB Vosshall** (2019) Novel small molecule agonists of an *Aedes aegypti* neuropeptide Y receptor block mosquito biting behavior. PMID: 30735632

[62] Dennis EJ, Goldman OV, **LB Vosshall**. (2019) *Aedes aegypti* mosquitoes use their legs to sense DEET on contact. PMID: 31031114

[63] Liu, MZ, **LB Vosshall** (2019) General visual and contingent thermal cues interact to elicit attraction in female *Aedes aegypti* mosquitoes. PMID: 31257144

[64] Matthews BJ*, Younger MA*, **LB Vosshall** *equal contribution. (2019) The ion channel *ppk301* controls freshwater egg-laying in the mosquito *Aedes aegypti*. PMID: 31112133

[65] Jové, V, Z Gong, FJH Hol, Z Zhao, TS Sorrells, TS Carroll, M Prakash, CS McBride, **LB Vosshall**. (2020) Sensory discrimination of blood and floral nectar by *Aedes aegypti* mosquitoes. PMID: 33049200

[66] Basrur NS, De Obaldia ME, Morita T, Herre M, von Heynitz RK, Tsitohay YN, **LB Vosshall**. (2020) *fruitless* mutant male mosquitoes gain attraction to human odor. PMID: 33284111

[67] Sorrells TR, Pandey A, Rosas-Villegas A, **LB Vosshall**. (2022) A persistent behavioral state enables sustained predation of humans by mosquitoes. PMID: 35550041

[68] Herre M*, Goldman OV*, Lu T-C, Caballero-Vidal G, Qi Y, Gilbert ZN, Gong Z, Morita T, Rahiel S, Ghaninia M, Ignell R, Matthews BJ, Li H, **LB Vosshall**, Younger MA. *equal contribution. (2022) Non-canonical odor coding in the mosquito. PMID: 35985288

[69] De Obaldia ME, Morita T, Dedmon LC, Boehmler DJ, Jiang CS, Zeledon EV, Cross JR, **Vosshall LB**. (2022) Differential mosquito attraction to humans is associated with skin-derived carboxylic acid levels. PMID: 36261039

[70] Venkataraman K, Shai N, Lakhiani P, Zylka S, Zhao J, Herre M, Zeng J, Neal LA, Molina H, Zhao L, **Vosshall LB**. (2023) Two novel, tightly linked, and rapidly evolving genes underlie *Aedes aegypti* mosquito reproductive resilience during drought. PMID: 36744865

[71] Zeledon EV, Baxt LA, Khan TA, Michino M, Miller M, Huggins DJ, Jiang CS, **LB Vosshall**, Duvall LB. (2024) Next-generation neuropeptide Y receptor small-molecule agonists inhibit mosquito-biting behavior. PMID: 38937807

[72] Morita M, Lyn NG, von Heynitz RK, Goldman OV, Sorrells TR, DeGennaro M, Matthews BJ, Houri-Zeevi L, **LB Vosshall**. (2025) Cross-modal sensory compensation increases mosquito attraction to humans. PMID: 39742477

**bioRxiv Pre-Prints (2014 – Present)**

[1] Warren AS, Aurrecoechea C, Brunk B, Desai P, Emrich S, Giraldo-Calderón GI, Harb O, Hix D, Lawson D, Machi D, Mao CH, McClelland M, Nordberg E, Shukla M, **LB Vosshall**, Wattam AR, Will R, Yoo HS, Sobral B. (2014) RNA-Rocket: An RNA-Seq analysis resource for infectious disease research. bioRxiv doi: https://doi.org/10.1101/007963

[2] Kistler K, **LB Vosshall**, BJ Matthews. (2015) Genome-engineering with CRISPR-Cas9 in the mosquito *Aedes aegypti*. bioRxiv doi: https://doi.org/10.1101/013276

[3] Magnasco MO, A Keller, **LB Vosshall**. (2015) On the dimensionality of olfactory space. bioRxiv doi: https://doi.org/10.1101/022103

[4] Matthews BJ, CS McBride, M DeGennaro, O Despo, **LB Vosshall**. (2015) The neurotranscriptome of the *Aedes aegypti* mosquito. bioRxiv doi: https://doi.org/10.1101/026823

[5] Corfas RA, **LB Vosshall**. (2015) TRPA1 tunes mosquito thermotaxis to host temperatures. bioRxiv doi: https://doi.org/10.1101/027896

[6] Keller A, **LB Vosshall**. (2016) Olfactory perception of chemically diverse molecules bioRxiv doi: https://doi.org/10.1101/049999

[7] Keller A, Gerkin RC, Guan Y, Dhurandhar A, Turu G, Szalai B, Mainland JD, Ihara Y, Yu CW, Wolfinger R, Vens C, Schietgat L, De Grave K, Norel R; DREAM Olfaction Prediction Consortium., Stolovitzky G, Cecchi GA, **Vosshall LB**, Meyer P. (2017) Reverse-engineering human olfactory perception from chemical features of odor molecules. bioRxiv doi: https://doi.org/10.1101/082495

[8] Hsieh JW, Keller A, Wong M, Jiang R-S, **LB Vosshall**. (2017) SMELL-S and SMELL-R: Olfactory tests not influenced by odor-specific insensitivity or prior olfactory experience. bioRxiv doi: https://doi.org/10.1101/161000

[9] Duvall LB, Basrur NS, Molina H, McMeniman, CJ, **Vosshall LB**. (2017) A neuropeptide signaling system that rapidly enforces paternity in the *Aedes aegypti* mosquito. bioRxiv doi: https://doi.org/10.1101/136150

[10] Trimmer C, Keller A, Murphy NR, Snyder LL, Willer JR, Nagai M, Katsanis N, **LB Vosshall**, Matsunami H, Mainland JD. Genetic variation across the human olfactory receptor repertoire alters odor perception. (2017) bioRxiv doi: https://doi.org/10.1101/212431

[11] Dennis EJ, X Jin, M Dobosiewicz, LB Duvall, PS Hartman, CI Bargmann, **LB Vosshall**. (2017) A natural variant and an engineered mutation in a GPCR promote DEET resistance in *C. elegans*. bioRxiv doi: https://doi.org/10.1101/198705

[12] Matthews BJ, Dudchenko, O, Kingan S, Koren S, Antoshechkin I, Crawford J, Glassford W, Herre M, S. Redmond, N. Rose, G. Weedall, Y. Wu, S. S. Batra, C. Brito-Sierra, S. D. Buckingham, C. L. Campbell, S. Chan, E. Cox, B. R. Evans, T. Fansiri, I. Filipovic, A. Fontaine, A. Gloria-Soria, R. Hall, V.

Joardar, A. K. Jones, R. Kay, V. Kodali, J. Lee, G. Lycett, S. N. Mitchell, J. Muehling, M. Murphy, A. D. Omer, F. Partridge, P. Peluso, A. P. Aiden, V. Ramasamy, G. Rasic, S. Roy, K. Saavedra-Rodriguez, S. Sharan, A. Sharma, M. Smith, J. Turner, A. Weakley, Z. Zhao, O. S. Akbari, W. C. Black IV, H. Cao, A. C. Darby, C. A. Hill, J. S. Johnston, T. Murphy, A. S. Raikhel, D. B. Sattelle, I. V. Sharakhov, B. White, L. Zhao, E. L. Aiden, R. S. Mann, L. Lambrechts, J. Powell, M. V. Sharakhova, Z. Tu, H. M. Robertson, C. McBride, A. R. Hastie, J. Korlach, D. E. Neafsey, A. M. Phillippy, **LB Vosshall** (2017). Improved *Aedes aegypti* mosquito reference genome assembly enables biological discovery and vector control. bioRxiv doi: https://doi.org/10.1101/240747

[13] Dennis EJ, **LB Vosshall** (2018) DEET feet: *Aedes aegypti* mosquitoes use their tarsi to sense DEET on contact. bioRxiv doi: https://doi.org/10.1101/360222

[14] Duvall LB, L Ramos-Espiritu, KE Barsoum, JF Glickman and LB Vosshall (2018) Novel small molecule agonists of an *Aedes aegypti* neuropeptide Y receptor block mosquito biting behavior. bioRxiv doi: https://doi.org/10.1101/393793

[15] Matthews, BJ*, Younger, MA*, **LB Vosshall**. (2018) The ion channel *ppk301* controls freshwater egg-laying in the mosquito *Aedes aegypti*. bioRxiv doi: https://doi.org/10.1101/441592 *equal contribution

[16] Liu, MZ, **LB Vosshall**. (2019) General visual and contingent thermal cues interact to elicit attraction in female *Aedes aegypti* mosquitoes. bioRxiv doi: https://doi.org/10.1101/510594

[17] Jové, V, Z Gong, FJH Hol, Z Zhao, TS Sorrells, TS Carroll, M Prakash, CS McBride, **LB Vosshall**. (2020) The Taste of Blood in Mosquitoes. bioRxiv doi: https://doi.org/10.1101/2020.02.27.954206

[18] Basrur NS, De Obaldia ME, Morita T, Herre M, von Heynitz RK, Tsitohay YN, **LB Vosshall**. (2020) *fruitless* mutant male mosquitoes gain attraction to human odor. bioRxiv doi: https://doi.org/10.1101/2020.09.04.282434

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[19v2] Younger MA*, Herre M*, Goldman OV, Lu T-C, Caballero-Vidal G, Qi Y, Gilbert ZN, Gong Z, Morita T, Rahiel S, Ghaninia M, Ignell R, Matthews BJ, Li H, **Vosshall LB**. (2022) Non-canonical odor coding in the mosquito. bioRxiv doi: https://doi.org/10.1101/2020.11.07.368720 *equal contribution

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[23] Morita M, Lyn NG, von Heynitz RK, Goldman OV, Sorrells TR, DeGennaro M, Matthews BJ, Houri-Zeevi L, **Vosshall LB**. (2023) Cross-modal sensory compensation increases mosquito attraction to humans bioRxiv doi: https://doi.org/10.1101/2023.10.10.561721

[24] Zeledon EV, Baxt LA, Khan TA, Michino M, Miller M, Huggins DJ, Jiang CS, **Vosshall LB**, Duvall LB. (2024). Next generation neuropeptide Y receptor small molecule agonists inhibit mosquito biting behavior. bioRxiv doi: https://doi.org/10.1101/2024.02.28.582529

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[26] L Houri-Zeevi, MM Walker, J Razzauti, A Sharma, HA Pasolli, **LB Vosshall** (2025) Mosquito sex under lock and key. bioRxiv doi: https://doi.org/10.1101/2025.04.11.648401

## Invited Review Articles (1991 – Present)

[1] Sehgal A, B Man, JL Price, **LB Vosshall**, MW Young. (1991) New clock mutations in *Drosophila*. PMID: 2006779

[2] Young MW, K Wager-Smith, **L Vosshall**, L Saez, MP Myers. (1996) Molecular Anatomy of a Light-sensitive Circadian Pacemaker in *Drosophila*. PMID: 9246456

[3] **Vosshall LB. (**2000) Olfaction in *Drosophila*. PMID: 10981620

[4] **Vosshall LB.** (2001) The molecular logic of olfaction in *Drosophila*. PMID: 11238253

[5] **Vosshall LB.** (2001) How the brain sees smells. PMID: 11709177

[6] Keller A, **LB Vosshall**. (2003) Decoding olfaction in *Drosophila*. PMID: 12593988

[7] **Vosshall LB.** (2003) Putting smell on the map. PMID: 12689762

[8] Giarratani L, **LB Vosshall.** (2003) Toward a molecular description of pheromone perception. PMID: 12971888

[9] **Vosshall LB.** (2004) Olfaction: attracting both sperm and the nose. PMID: 15530382

[10] Keller A, **LB Vosshall**. (2004) Human olfactory psychophysics. PMID: 15498475

[11] **Vosshall LB**, MC Stensmyr. (2005) Wake up and smell the pheromones. PMID: 15664166

[12] **Vosshall LB.** (2005) Social signals: the secret language of mice. PMID: 15823526

[13] **Vosshall LB**, R Stocker. (2007) Molecular architecture of smell and taste in *Drosophila*. PMID: 17506643

[14] **Vosshall LB.** (2007) Into the mind of a fly. PMID: 17994085

[15] **Vosshall LB. (**2008) Scent of a fly. PMID: 18786353

[16] Keller A, **LB Vosshall**. (2008) Better smelling through genetics: mammalian odor perception. PMID: 18938244

[17] Touhara K, **LB Vosshall**. (2009) Sensing odorants and pheromones with chemosensory receptors. PMID: 19575682

[18] Nakagawa T, **LB Vosshall**. (2009) Controversy and consensus: non-canonical signaling mechanisms in the insect olfactory system. PMID: 19660933

[19] Bussell JJ, **LB Vosshall**. (2010) Chemical ecology: reprogramming a termite monarchy. PMID: 20720547

[20] **Vosshall LB**, BS Hansson. (2011) A unified nomenclature system for the insect olfactory coreceptor. PMID: 21441366

[21] **Vosshall LB**. (2012) The glacial pace of scientific publishing: why it hurts everyone and what we can do to fix it. PMID: 22935905

[22] **Vosshall, LB**. (2015) Laying a controversial smell theory to rest. PMID: 26015552

[23] Matthews, BJ, **LB Vosshall**. (2020) How to turn an organism into a model organism in 10 'easy' steps. PMID: 32034051

[24] **Vosshall LB**. (2020) Catching plague locusts with their own scent. PMID: 32788700

[25] Neal, LA, **LB Vosshall**. (2021) Eyeless worms detect color. PMID: 33674482

## Book Chapters (1993 – Present)

[1] Baylies, MK, L Weiner, **LB Vosshall**, L Saez, MW Young. (1993) Genetic, molecular, and cellular studies of the *per* locus and its products in *Drosophila melanogaster*. *In* Molecular Genetics of Biological Rhythms. M.W. Young, ed. (New York: Marcel Dekker, Inc.), pp. 123-153

[2] **Vosshall LB.** (2003) Diversity and expression of odorant receptors in *Drosophila*. In *Insect Pheromone Biochemistry and Molecular Biology.* (eds. G.J. Blomquist and R.G. Vogt), pp. 567-591, Elsevier Academic Press, London

[3] Laissue PP, **LB Vosshall**. (2007) The olfactory sensory map in *Drosophila*. *In* Brain Development in *Drosophila*, G. Technau (ed). Landes Bioscience

[4] **Vosshall LB. (**2007) Olfactory/Gustatory Processing. *In* Invertebrate Neurobiology, R. Greenspan and G. North (eds). Cold Spring Harbor Laboratory Press, pp.79-100

[5] Imai T, H Sakano, **LB Vosshall**. (2010) Topographic mapping – the olfactory system *In* Wiring the Brain: The Biology of Neuronal Guidance., AL Kolodkin and M Tessier-Lavigne (eds). Cold Spring Harbor Laboratory Press, 1;2(8):a001776

# SERVICE, TEACHING, MENTORING

***Rockefeller University (RU) Academic Service***

- RU Neuroscience Search Committee 2000-2003
- RU Graduate Admissions Committee 2000-2010, 2013-2021
- RU Centennial Video Committee, 2001
- RU Honorary Degree Committee, 2001
- Tri-Institutional MD-PhD Program Screening Committee 2001-2002
- Tri-Institutional MD-PhD Program Interviewing 2003-2010
- RU Neuroscience Retreat Director: 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2022
- RU HOL Forum Co-Organizer: 2001-2003
- RU Friday Lecture Committee, 2004-2013
- RU Vice Chair (Neuroscience) Faculty Search Committee, 2005-2011, 2013, 2018
- RU Graduate Education Committee, 2006-2021
- RU Mid-Career Hiring Committee 2012-2019
- RU Postdoctoral Awards Review Committee 2009-2018
- RU Open Faculty Search Committee, 2009-2011, 2013-2015, 2016 (chair), 2018
- Tri-Institutional Postdoctoral Breakout Award Committee 2015-2021
- Founder and Co-Director, Rockefeller University Diversity Initiative (RUDI) 2015-2017

***Rockefeller University (RU) Administrative Service***

- RU Academic Council, 2001-2004; 2010-2012; 2013 (chair), 2019-2022
- RU DNA Sequencing Resource Center Committee, 2002-2004
- RU Committee to Revise Appointment and Promotion Policy, 2004
- RU Core Strategic Planning Committee, 2004-2005
- RU Student and Faculty Club Committee, 2004-2024
- RU IT Committee, 2005-2018
- RU Welsh Hall Renovation Committee, 2007-2009
- RU Strategic Planning Committee, 2011-2012, 2018-2019
- RU Staff Scientist Appointment Working Subcommittee, 2014
- RU Presidential Search Committee, 2016
- RU Precision Instrumentation Technologies (PIT) Resource Center Advisory Committee 2018-2021
- RU Library Advisory Committee, 2019-2021
- RU Bioinformatics Resource Center Advisory Committee, 2019-2021
- RU COVID-19 Research Restart Committee, 2020-2022

***Internal Teaching***

- Tri-Institutional Ethics Course, 2001-2002
- Tri-Institutional Second Year MD-PhD Frontiers Course, 2002-2006, 2009, 2010, 2014
- RU Cell Biology Course, 2002, 2004, 2006, 2008, 2014, 2016
- RU Behavioral Neuroscience Course, 2004, 2006, 2008
- RU Experiment &Theory Course, 2002-2004, 2006-2010
- RU Outreach STRAW Course, 2002-2004
- RU Hospital CCTS Course, 2008-2015
- RU Comprehensive Neuroscience Course, 2021

***External Teaching***

- Lecture in Developmental Neuroscience Course, New York University, 2001-2004
- Lecture on Sensory Systems to Cold Spring Harbor Neurobiology of Drosophila course, 2002, 2011

- Faculty, Neural Systems & Behavior Course, Marine Biological Laboratory, Woods Hole, MA, 2005-2007
- Lecture L'Oreal Women in Science Career Seminar, 2008
- NYU ITP Course Lecture, Visualizing the Five Senses, 2008
- *Drosophila* Genetics and Genomics, Wellcome Trust Genome Campus, Hinxton, Cambridge, UK, 2009

***Scientific Outreach Activities***

- Research lecture to Prospective RU PhD Students, 2001, 2002, 2006
- Lecture to Columbia School of Journalism Students, 2002-2004
- Lecture to Human Resources, Diversity Recruitment Day, 2003
- Vosshall Laboratory Tour for Child & Family Center Teachers, 2004
- Presentation to S&P/Moody's for RU Bond Rating Evaluation, 2005
- Women & Science Breakfast Lecture, 2005
- Women & Science Luncheon Panel, 2007, 2009
- Women & Science Luncheon Lecture, 2011
- Secret Science Club Public Lecture, 2008
- New York Academy of Sciences Public Lecture, 2008
- Experimental Cuisine Collective Symposium, 2009
- Manchester, UK Science Day, 2011
- Dialogues of Discovery, HHMI-Janelia Research Campus, 2011
- Observer Effects: Conversations on Art & Science, EMPAC, Troy, NY, 2012
- TedX Leuven Salon, 2013
- Science Saturday, The Rockefeller University, 2014
- HHMI Food For Thought Lecture, 2014
- Secret Science Club North Public Lecture (New York, NY) "What's That Smell?" 2016
- New York Spa Alliance Symposium "The Science of Scent," 2016
- Museum of Modern Art (New York, NY) "Is Fashion Modern? An Abecedarium," 2016
- Workshop on Sensory logic of the Gastronomic Brain. Co-organized by the restaurant Mugaritz (Errenteria, Spain), the Basque Culinary Center (San Sebastian, Spain) and the Centre for Genomic Regulation (Barcelona, Spain), 2016
- Presentation to CCNY-affiliated senior organization Quest - A Community for Lifelong Learning, "Fascinating Attraction: The biology of human scent and mosquitoes," 2016
- American Museum of Natural History Teen SciCafe "No More Mosquitoes?" 2017
- American Museum of Natural History (New York, NY) SciCafe "Modifying Mosquitoes with CRISPR." 2017
- Rockefeller University Women & Science Annual Luncheon Lecture: "From A to Zika: Global Health is Local Health." 2017
- Speaker Metro-NY Chapter of Women in BIO: "Female Leadership in Science." 2017
- Rockefeller University "Talking Science" presentation to high school students, 2018
- Quanta Magazine "Joy of X" Podcast with Steven Strogatz, 2019
- Clear+Vivid Podcast with Alan Alda, 2019
- Person Place Thing with Randy Cohen, 2019
- Bio Eats World Podcast, 2021
- Puerto de Ideas Festival, Atacama, Chile (virtual), 2021
- Ignorance Podcast in collaboration with Nautilus Magazine, co-hosted with Stuart Firestein, 2020-2021
- Rockefeller University Talking Science: Infectious Diseases and Immunology, 2022

***Film***

- Feature film: The Fly Room (color, 83 minutes, directed by Alexis Gambis), 2014. Role: Edith Wallace. Streaming on YouTube (https://www.youtube.com/watch?v=9vNJZeIfwfo)

***Podcast***

- "Ignorance: How It Drives Science with Stuart Firestein & Leslie Vosshall." Available on Spotify (https://open.spotify.com/show/2qpMOlX9OMoeHD3hBh5IEG).

***Rockefeller University Thesis Committees***

- Catharine Boothroyd—Young Lab
- Dylan Chan—Hudspeth Lab
- Lucia Chemes—Hudspeth Lab
- M. Eugenia Chiappe—Hudspeth Lab
- Svetlana Ghorokova—Heintz Lab
- Doruk Golcu—Gilbert Lab
- Veronique Haegeli—Strickland Lab
- Daylon James—Brivanlou Lab
- Erica Keen—Hudspeth Lab
- Trudy McCall—McEwen Lab
- Leopoldo Petreanu—Nottebohm/Alvarez-Buylla Labs
- Valentin Piech—Gilbert/Reeke Labs
- Joanna Spencer—McEwen Lab
- Carine Waase—Shaham Lab
- Perrin Wilson—Hatten Lab
- Genevieve Yuen—McEwen Lab
- Carl Procko—Shaham Lab
- Emily Rhodes Lowry—Strickland Lab
- Geulah Livshits—Fuchs Lab
- Justin McManus—Gilbert Lab
- Suchit Patel—Hudspeth Lab
- Tian He—Sakmar Lab
- Laura Winzenread—Bargmann Lab
- Katherine Leitch—Hudspeth lab
- Christine Cho—Bargmann Lab
- Meghan Lockhard—Bargmann Lab
- Sean McKenzie—Kronauer Lab
- Laura Seeholzer—Ruta Lab
- Samantha Larson—Fuchs Lab
- Aylesse Sordillo—Bargmann Lab
- Zikun Wang—Young Lab
- Emily Lorenzen—Sakmar Lab
- Paul Muller—Mucida Lab
- Vikram Chandra—Kronauer Lab
- Taylor Hart—Kronauer Lab
- Lindsay Cantin—Jarvis Lab
- Gregory Gedman—Jarvis Lab
- Jazz Weissman—Maimon Lab
- Anoj Ilanges—Friedman Lab
- Evan Witt—Zhao Lab
- Samuel Khodursky—Zhao Lab
- Anna Ryba—Ruta Lab

- Audrey Harnagel—Bargmann Lab
- Tyler Lewy—Rice Lab
- Chad Morton—Ruta Lab
- Andrew Toader—Rajasethupathy Lab
- Jan Soroczynski—Risca Lab
- Elif Magemizoglu—Shaham Lab
- Elizabeth Thompson—Fuchs Lab
- James Tang – Bargmann Lab
- Jaycie Wang – Ruta lab

***External Thesis Committees***

- Joseph Osborne—Richard Axel, Columbia University
- Jennifer Power— Richard Axel, Columbia University
- Marcus Stensmyr—Bill Hansson, SLU/Alnarp, Sweden
- Sean O'Donnell— Richard Axel, Columbia University
- Allan Wong— Richard Axel, Columbia University
- Roscoe Brady— Richard Axel, Columbia University
- Esteban Mazzoni—Claude Desplan, New York University
- Sean Luo—Larry Abbott/Richard Axel, Columbia University
- Kyle Honegger—Glen Turner, Cold Spring Harbor Laboratory
- Kim Simpson— Richard Axel, Columbia University
- Joshua Hagen—Eric Lai, Sloan Kettering Institute
- Nathalie Neriec—Claude Desplan, New York University
- Erik Duboue— Richard Borowsky, New York University
- Juliet Zhang—Julia Kaltschmidt, Memorial Sloan-Kettering Institute
- Sudha Ragavalli Guttikonda—Lorenz Studer, Sloan-Kettering Institute
- Hershy Fischman—Charles Zuker, Columbia University
- Marion Risse—Consuelo de Moraes, ETH-Zurich

# FUNDING

**Howard Hughes Medical Institute**
Title: Modulation of Behavior by Internal Physiological State
Agency: Howard Hughes Medical Institute
Project period: 7/1/2008 – Present
P.I.: Leslie B. Vosshall
Goal: To understand how internal physiological state alters behaviors

***Completed***

**Robertson Therapeutic Development Fund (RTDF) 2019 Advanced Grant**
Title: Small Molecule GPCR Agonists to Block Mosquito Biting Agency: Robertson Therapeutic Development Fund
Project period: 10/1/2019 – 9/30/2021
P.I.: Leslie B. Vosshall
Goal: To develop new chemical entities that are potent agonists of NPYLR7, for use in controlling mosquito biting behavior

**Robertson Therapeutic Development Fund (RTDF) 2019 Pre-Clinical Lead Optimization Grant**
Title: Development of a Digital Olfactory Test Device
Agency: Robertson Therapeutic Development Fund
Project period: 12/1/2019 – 11/30/2021
P.I.: Leslie B. Vosshall
Goal: To develop a new clinical smell test for diagnosis of olfactory dysfunction

**NIH RO1 Award**
Title: Neuropeptide Regulation of Mosquito Host-Seeking Behavior
Agency: National Institute of Deafness and Other Communication Disorders
Grant Number: 1R01DC014247
Project period: 12/1/2014 – 11/30/2019
P.I.: Leslie B. Vosshall
Goal: To identify neuropeptide signaling mechanisms that modulate female mosquito

**Robertson Therapeutic Development Fund (RTDF) 2018 Pilot Proposal**
Title: Development of a Universal Smell Test of Olfactory Dysfunction
Agency: Robertson Therapeutic Development Fund
Project period: 5/1/2018 – 10/31/2019
P.I.: Leslie B. Vosshall
Goal: To develop hardware and software for a new smell test

**Robertson Therapeutic Development Fund (RTDF) 2016 Advanced Proposal**
Title: Small Molecules to Prevent Arthropod Biting Behavior
Agency: Robertson Therapeutic Development Fund
Project period: 10/1/2016 – 9/30/2018
P.I.: Leslie B. Vosshall
Goal: To develop small molecules that inhibit biting behavior of disease-vectoring arthropods

**The Quadrivium Award for Innovative Research in Epigenetics**
Title: Epigenetic Regulation of Mosquito Behavior
Agency: The Quadrivium Foundation

Project period: 3/1/2017 – 2/28/2018
P.I.: Leslie B. Vosshall
Goal: To understand the role of epigenetic and transcriptional changes in suppression of female mosquito host-seeking behavior

**NIH RO1 Award**
Title: Perceptual effects of genetic variation in human odorant receptors
Agency: National Institute of Deafness and Other Communication Disorders
Grant Number: 1RO1 DC013339
Project period: 7/12/2013 – 6/30/2016
P.I.: Joel Mainland (Leslie B. Vosshall, co-PI)
Goal: To examine the relationship between variation in odorant receptor genes and human smell perception

**Robertson Therapeutic Development Fund (RTDF) Pilot Award**
Title: Small Molecule Inhibitors of Mosquito Biting Behavior
Project Period: 08/01/2015 – 01/31/2016
Vosshall (PI)
Goal: To find novel small molecule agonists of the mosquito receptor NPYLR7 to inhibit female host-seeking behavior

**Klarman Family Program in Eating Disorders Research**
Title: G Protein-Coupled Receptors Regulating the Sensation of Hunger and Satiety
Agency: The Klarman Family Grant Foundation
Project period: 6/1/2012 – 5/31/2014
P.I.: Leslie B. Vosshall
Goal: To understand how GPCRs participate in the sensation of hunger or satiety and the promotion or suppression of feeding

**Grand Challenges in Global Health Award**
Title: Molecular Approaches to Alter Olfactory-driven Behaviors of Insect Disease Vectors
Agency: Bill and Melinda Gates Foundation/FNIH
Grant Number: 798
Project period: 9/15/2005 – 9/14/2013
P.I.: Richard Axel, M.D.
Goal: To use the insect odorant receptors as targets for the discovery of novel insect repellents useful in the fight against mosquitoes and the human infectious diseases they spread

**NIAID Vectorbase Driving Biological Projects Subcontract**
Title: Comparative Neurotranscriptome of *Aedes aegypti*
Agency: NIH/NIAID Grant Number: 798
Project period: 10/01/2010 – 9/30/2012
P.I.: Leslie B. Vosshall, Ph.D.
Goal: To use the RNAseq techniques with Illumina technology to decode the transcriptome of neural tissues of the yellow fever mosquito under different regimes of host-seeking behavior

**NIH RO1 Award**
Title: Molecular Biology of the Odorant Receptors
Agency: National Institute of Deafness and Other Communication Disorders
Grant Number: 5RO1 DC008600

Project period: 12/4/2006 – 11/30/2011
P.I.: Leslie B. Vosshall
Goal: To examine the relationship between insect odorant receptor structure and function

**Klarman Family Program in Eating Disorders Research**
Title: Identification of Novel Genes and Circuits in an Animal Model of Binge Eating Disorder
Agency: The Klarman Family Grant Foundation
Project period: 6/1/2008 – 5/31/2010
P.I.: Leslie B. Vosshall
Goal: To study feeding behavior and its regulation by genetic and chemical disruption in *Drosophila*

**NIH RO1 Award Supplement**
Title: Molecular Biology of the Odorant Receptors
Agency: National Institute of Deafness and Other Communication Disorders
Grant Number: 3R01DC008600-02S1
Project period: 12/05/2007 – 11/30/2009
P.I.: Leslie B. Vosshall
Goal: This supplement was granted under the US-Japan Brain Research Collaborative Program (BRCP) and was used in July 2009 for travel of Vosshall Lab members to Tokyo to collaborate with the laboratory of Kazushige Touhara.

**NIH RO1 Award Supplement**
Agency: National Institute of Deafness and Other Communication Disorders
ARRA (American Recovery and Reinvestment Act of 2009)
Grant Number: 3R01 DC008600-03S1
Project period: 7/19/2009 – 6/30/2010
P.I.: Leslie B. Vosshall
Goal: This supplement will be used to create a Laboratory Technician position to support our ongoing research program on the mechanism of action of the insect repellent DEET and to fund the testing of novel compounds that block insect odorant receptors.

**NIH RO1 Award**
Title: Genetics of Olfactory Coding in *Drosophila*
Agency: National Institute of Deafness and Other Communication Disorders
Grant Number: RO1 DC006711A1
Project period: 12/01/2004 – 11/30/2009
P.I.: Leslie B. Vosshall
Goal: To study odor coding in the *Drosophila* larva using molecular genetic approaches, including the selective ablation and rescue of identified neurons expressing a given odorant receptor gene

**Monique Weill-Caulier Trust Scholar Award**
Title: The Evolution of Human Perceptual Differences
Agency: Irma T. Hirschl Foundation
Project period: 1/1/2005 – 12/31/2009
P.I.: Leslie B. Vosshall
Goal: To associate specific olfactory phenotypes, including specific anosmia, with specific perturbations in human odorant receptor gene sequences

**CTSA Pilot Grant**
Title: Genetic basis of sex steroid-derived odor perception

Agency: National Institutes of Health/ National Center for Research Resources
Grant Number: 1 UL1 RR024143-01
Project period: 1/1/2007 – 6/30/2007
P.I.: Barry Coller
Goal: This pilot grant was used to set up feasibility studies for our IRB-approved protocol entitled "Physiological Effects of Androstadienone Exposure," in particular the protocol for distributing home ovulation kits and to purchase and test equipment used to measure skin conductance in human volunteers.

**John Merck Fellowship Award**
Title: Olfactory Perception and the Encoding of Preference
Agency: The John Merck Fund
Project period: 6/1/2002 – 5/31/2006
P.I.: Leslie B. Vosshall
Goal: To analyze the circuitry and function of neurons eliciting behavioral attraction and repulsion in *Drosophila*

**Beckman Young Investigator Award**
Title: Chemical Specificity of *Drosophila* Odorant Receptors
Agency: Arnold and Mabel Beckman Foundation
Project period: 9/1/2001 – 8/31/2004
P.I.: Leslie B. Vosshall
Goal: To identify candidate ligands for the *Drosophila* odorant receptors

**NIH RO1 Award**
Title: Formation of an Olfactory Sensory Map
Agency: National Institute of Deafness and Other Communication Disorders
Grant Number: 5RO1 DC05036
Project period: 8/1/2001 – 12/31/2006
P.I.: Leslie B. Vosshall
Goal: To examine the role of the odorant receptor in establishing the olfactory sensory map in the brain

**McKnight Scholar Award**
Title: The Molecular Biology of Odor Recognition in *Drosophila*
Agency: McKnight Endowment Fund for Neuroscience
Project period: 7/1/2001 – 6/30/2004
P.I.: Leslie B. Vosshall
Goal: To study the functional link between olfactory wiring and behavior

**NSF CAREER Award**
Title: Role of a Ubiquitous Odorant Receptor in Olfactory Perception
Agency: National Science Foundation
Grant Number: IBN 0092693
Project period: 4/1/2001 – 3/31/2006
P.I.: Leslie B. Vosshall
Goal: To determine the function of Or83b, the odorant receptor that is widely but selectively expressed in the *Drosophila* olfactory system

# PATENTS

Nuclear localization factor associated with circadian rhythms. 1999. US patent US5885831A. Inventors: Young, Michael W; Sehgal, Amita; **Vosshall, Leslie B**; Price, Jeffrey L; Myers, Michael P

Genes encoding insect odorant receptors and uses thereof. 1999. US Patent US7241881B2. Inventors: **Vosshall, Leslie B**; Amrein, Hubert O; Axel, Richard

Insect chemosensory receptors and methods of use thereof. 2005. Provisional patent application: P-8027-USP. Inventors: Jones, Walton D; **Vosshall, Leslie B**

Compositions and methods for characterizing and regulating olfactory sensations. 2008. US Patent US8298781B2. Inventors: Matsunami, Hiroaki; Keller, Andreas; Zhuang, Hanyi; Chi, Qiuyi; **Vosshall, Leslie B**

Insect odorant receptor antagonists. 2011. PCT/US2011/065536. Inventors: Nakagawa, Takao; **Vosshall, Leslie B**

SMELL-S and SMELL-R: olfactory tests not influenced by odor-specific insensitivity or prior olfactory experience. 2017. PCT/US2017/62/528,420. Inventors: Hsieh, Julien Wen; Keller, Andreas; **Vosshall, Leslie B**

Compositions and methods to inhibit arthropod host-seeking behavior. 2019. PCT attorney docket 2877.032P1. Inventors: Duvall, Laura; **Vosshall, Leslie B**