

Leslie B. Vosshall, PhD

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

Bio

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 in 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 infectious diseases. 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 bioRxiv, and a vocal proponent of pre-prints and open science, as well as a strong supporter of diversity, equity, and inclusion in STEM. 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, and Hanna H. Gray 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 and to advance diversity, equity, and inclusion through their mentoring efforts and understanding of systemic exclusion and marginalization in science of trainees from different backgrounds. 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 2022, 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 our 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), and the 2024 Perl-UNC Neuroscience Prize. 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: The Identification of *Drosophila* Odorant Receptor Genes

RESEARCH AND PROFESSIONAL EXPERIENCE

1982-1984	Summer research, Marine Biological Laboratory Mentors: Philip Dunham and Gerald Weissmann
1984	Undergraduate research, Columbia University Mentor: Eric Holtzman
1985	Undergraduate research, Columbia University Mentor: Martin Chalfie
1985-1987	Undergraduate research, New York University School of Medicine Mentor: Gerald Weissmann
1987-1993	Graduate research, The Rockefeller University Mentor: Michael W. Young
1993-1997	Postdoctoral Research, HHMI-Columbia University Mentor: Richard Axel
1997-2000	Associate Research Scientist, HHMI-Columbia University Mentor: Richard Axel
1999	Participant, <i>Drosophila</i> 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

PROFESSIONAL SERVICE

Editorial

2018-2021	Deputy Editor, AAAS Science Advances
2015-2018	Associate Editor, AAAS Science Advances
2013-Present	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

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

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

Prize and Fellowship Selection Committees

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
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

- 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

HONORS AND AWARDS

- 2024 22nd Perl-UNC Neuroscience Prize
- 2022 41st Annual Alden W. 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

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 Arctic, 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 Anschutz 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

TRAINEES**Current Postdoctoral Fellows (n=4)****1. Takeshi Morita, PhD** (2016-Present)

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

2. Nadav Shai, PhD (2018-Present)

EMBO Long-Term Postdoctoral Fellow

3. Leah Houry-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

4. Umberto Palatini, PhD (2022-Present)

EMBO Long-Term Postdoctoral Fellow
Human Frontier Science Foundation Postdoctoral Fellow

Current PhD Students (n=7)**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

6. Jacopo Razzauti (2022-Present)
Boehringer Ingelheim Fonds PhD Fellowship

7. Adelia Gaffney (2023-Present)
The David Rockefeller PhD Program

Former Postdoctoral Fellows (n=21)

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: Assistant Professor, 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: 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

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; HHMI International Scholar

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: Postdoctoral Fellow, Pfizer CTI
- 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, Simons Collaboration on the Global Brain, Simons Foundation

17. Olivia Goldman

(2018-2023)

NSF Graduate Research Fellowship

Kavli Neural Systems Institute Graduate Fellow

Current Position: Postdoctoral Fellow, Laboratory of Diana Bautista, HHMI-University of California Berkeley

PUBLICATIONS

Complete List of Published Work in NCBI My Bibliography (updated 7/14/2023):

<https://www.ncbi.nlm.nih.gov/myncbi/leslie.vosshall.2/bibliography/public/>

Peer-Reviewed Publications

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

- [1] Dunham P, L Nelson, **L Vosshall**, and G Weissmann. 1982. Effects of enzymatic and nonenzymatic proteins on *Arbacia* spermatozoa: reactivation of aged sperm and the induction of polyspermy. Biol Bull 163:420-430
- [2] Rich AM, G Weissmann, C Anderson, **L Vosshall**, KA Haines, T Humphreys, and P Dunham. 1984. Calcium dependent aggregation of marine sponge cells is provoked by leukotriene B4 and inhibited by inhibitors of arachidonic acid oxidation. Biochem Biophys Res Commun 121:863-870 PMID: 6331432
- [3] Dunham PB, **L Vosshall**, CA Bayer, AM Rich, and G Weissmann. 1985. From Beaumont to poison ivy: marine sponge cell aggregation and the secretory basis of inflammation. Fed Proc 44:2914-2924 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. Semin Arthritis Rheum 15:42-53 PMID: 4081791
- [5] Reibman J, HM Korchak, **LB Vosshall**, KA Haines, AM Rich, and G Weissmann. 1988. Changes in diacylglycerol labelling, cytosolic calcium, cell shape, and protein phosphorylation distinguish triggering from activation of human neutrophils. J Biol Chem 263:6322-6328 PMID: 2834374
- [6] Korchak, HM, **LB Vosshall**, G Zagon, P Ljubich, AM Rich, and G Weissmann. 1988. Activation of the neutrophil by calcium-mobilizing ligands. I. A chemotactic peptide and the lectin concanavalin A stimulate superoxide anion generation but elicit different calcium movements and phosphoinositide remodeling. J Biol Chem. 263:11090-11097 PMID: 2841318
- [7] Korchak, HM, **LB Vosshall**, KA Haines, C Wilkenfeld, KF Lundquist, and 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. J Biol Chem 263:11098-11105 PMID: 2841319

PhD: Biological Clocks (1992-1995)

- [8] Baylies MK, **LB Vosshall**, A Sehgal, and MW Young. 1992. New short period mutations of the *Drosophila* clock gene *per*. Neuron 9:575-581 PMID: 1524831

[9] **Vosshall LB**, JL Price, A Sehgal, L Saez, and MW Young. 1994. Block in nuclear localization of *period* protein by a second clock mutation, *timeless*. Science 263:1606-1609 PMID: 8128247

[10] **Vosshall LB** and MW Young. 1995. Circadian rhythms in *Drosophila* can be driven by *period* expression in a restricted group of central brain cells. Neuron 15:345-360 PMID: 7646889

Postdoctoral: Rat and Fly Olfaction (1994-2000)

[11] Vassar R, SK Chao, R Sitcheran, J Nunez, **LB Vosshall**, and R Axel. 1994. Topographic organization of sensory projections to the olfactory bulb. Cell 79:981-991 PMID: 8001145

[12] **Vosshall LB**, H Amrein, PS Morozov, A Rzhetsky, and R Axel. 1999. A spatial map of olfactory receptor expression in the *Drosophila* antenna. Cell 96:725-736 PMID: 10089887

[13] **Vosshall LB**, AM Wong, and R Axel. 2000. An olfactory sensory map in the fly brain. Cell 102:147-159 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, and S Lewis. 2000. Comparative genomics of the eukaryotes. Science 287:2204-2215 PMID: 10731134

Faculty: Fly Chemosensation and Behavior (2003-2016)

[15] Hummel T, ML Vasconcelos, JC Clemens, Y Fishilevich, **LB Vosshall**, and SL Zipursky. 2003. Axonal targeting of olfactory receptor neurons in *Drosophila* is controlled by *dscam*. Neuron 37:221-231 PMID: 12546818

[16] Wang JW, AM Wong, J Flores, **LB Vosshall**, and R Axel. 2003. Two-photon calcium imaging reveals an odor-evoked map of activity in the fly brain. Cell 112:271-282 PMID: 12553914

[17] Keene AC, M Stratmann, A Keller, PN Perrat, **LB Vosshall**, and S Waddell. 2004. Diverse odor-conditioned memories require uniquely timed dorsal paired medial neuron output. Neuron 44:521-533 PMID: 15504331

[18] Larsson MC, AI Domingos, WD Jones, ME Chiappe, H Amrein, and **LB Vosshall**. 2004. *Or83b* encodes a broadly expressed odorant receptor essential for *Drosophila* olfaction. Neuron 43:703-714 PMID: 15339651

- [19] Jones WD, TT Nguyen, B Kloss, KJ Lee, and **LB Vosshall**. 2005. Functional conservation of an insect odorant receptor across 250 million years of evolution. Curr Biol 15:R119-121 PMID: 15723778
- [20] Fishilevich E and **LB Vosshall**. 2005. Genetic and functional subdivision of the *Drosophila* antennal lobe. Curr Biol 15:1548-1553 PMID: 16139209
- [21] Fishilevich E, AI Domingos, K Asahina, F Naef, **LB Vosshall**, and M Louis. 2005. Chemotaxis behavior mediated by single larval olfactory neurons in *Drosophila*. Curr Biol 15:2089-2096 PMID: 16332533
- [22] Benton R, S Sachse, SW Michnick, and **LB Vosshall**. 2006. Atypical membrane topology and heteromeric function of *Drosophila* odorant receptors *in vivo*. PLoS Biol 4:e20 PMID: 16402857
- [23] Jones WD, P Cayirlioglu, IG Kadow, and **LB Vosshall**. 2007. Two chemosensory receptors together mediate carbon dioxide detection in *Drosophila*. Nature 445:86-90 PMID: 17167414
- [24] Benton R, KS Vannice, and **LB Vosshall**. 2007. An essential role for a CD36-related receptor in pheromone detection in *Drosophila*. Nature 450:289-293 PMID: 17943085
- [25] Sachse S, E Rueckert, A Keller, R Okada, NK Tanaka, K Ito, and **LB Vosshall**. 2007. Activity-Dependent Plasticity in an Olfactory Circuit. Neuron 56:838-850 PMID: 18054860
- [26] Louis M, T Huber, R Benton, TP Sakmar, and **LB Vosshall**. 2007. Bilateral olfactory sensory input enhances chemotaxis behavior. Nat Neurosci 11:187-199 PMID: 18157126
- [27] Sato K., M Pellegrino, T Nakagawa, T Nakagawa, **LB Vosshall**, and K Touhara. 2008. Insect olfactory receptors are heteromeric ligand-gated ion channels. Nature 452:1002-1006 PMID: 18408712
- [28] Ditzen M, M Pellegrino, and **LB Vosshall**. 2008. Insect odorant receptors are molecular targets of the insect repellent DEET. Science 319:1838-1842 PMID: 18339904
- [29] Asahina K, V Pavlenkovich, and **LB Vosshall**. 2008. The survival advantage of olfaction in a competitive environment. Curr Biol 18:1153-1155 PMID: 18674910
- [30] Benton R, KS Vannice, C Gomez-Diaz, and **LB Vosshall**. 2009. Variant ionotropic glutamate receptors as chemosensory receptors in *Drosophila*. Cell 136:149-162 PMID: 19135896
- [31] Asahina K, M Louis, S Piccinotti, and **LB Vosshall**. 2009. A circuit supporting concentration-invariant odor perception in *Drosophila*. J Biol 8:9 PMID: 19171076

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- [36] Crickmore MJ and **LB Vosshall**. 2013. Opposing dopaminergic and GABAergic neurons control the duration and persistence of copulation in *Drosophila*. Cell 155:881-893 PMID: 24209625
- [37] Bussell JJ, N Yapici, SX Zhang, BJ Dickson and **LB Vosshall**. 2014. Abdominal-B neurons control *Drosophila* virgin female receptivity. Curr Biol 24:1584-1595 PMID: 24998527
- [38] 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. Neuron 81:755-765 PMID: 24559671
- [39] 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. Cell 165:715-729 PMID: 27040496

Faculty: Human Olfaction (2004 – Present)

- [40] Keller A and **LB Vosshall**. 2004. A psychophysical test of the vibration theory of olfaction. Nat Neurosci 7:337-338 PMID: 15034588
- [41] Keller A and **LB Vosshall**. 2007. Influence of odorant receptor repertoire on odor perception in humans and fruit flies. Proc Natl Acad Sci USA 104:5614-5619 PMID: 17372215
- [42] Keller A*, H Zhuang*, Q Chi, **LB Vosshall**, and H Matsunami. 2007. Genetic variation in a human odorant receptor alters odour perception. Nature 449:468-472 *equal contribution PMID: 17873857
- [43] Bushdid, C, MO Magnasco, **LB Vosshall**, and A Keller. 2014. Humans can discriminate more than 1 trillion olfactory stimuli. Science 343:1370-1372 PMID: 24653035

[44] Keller A, **LB Vosshall**. 2016. Olfactory perception of chemically diverse molecules. BMC Neurosci 17:55 PMID: 27502425

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[46] Julien W. Hsieh, Andreas Keller, Michele Wong, Rong-San Jiang, and **Leslie B. Vosshall**. 2017. SMELL-S and SMELL-R: Olfactory tests not influenced by odor-specific insensitivity or prior olfactory experience. Proc. Natl. Acad. Sci. U.S.A. 114:11275-11284. PMID: 29073044

[47] Trimmer C, Keller A, Murphy NR, Snyder LL, Willer JR, Nagai MH, Katsanis N, **Vosshall LB**, Matsunami H, Mainland JD (2019). Genetic variation across the human olfactory receptor repertoire alters odor perception. Proc. Natl. Acad. Sci. U.S.A. doi: 10.1073/pnas.1804106115. PMID: 31040214

Faculty: Mosquito Sensation and Behavior (2013 – Present)

[48] 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. Nature 498:487-491 PMID: 23719379

[49] Liesch J, LL Bellani, **LB Vosshall**. 2013. Functional and Genetic Characterization of Neuropeptide Y-Like Receptors in *Aedes aegypti*. PLoS Negl Trop Dis 7: e2486 PMID: 24130914

[50] 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. Cell 156: 1060-1071 PMID: 24581501

[51] 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. Nature 515:222-227 PMID: 25391959

[52] Kistler KE, **LB Vosshall**, BJ Matthews. 2015. Genome engineering with CRISPR-Cas9 in the mosquito *Aedes aegypti*. Cell Rep 11:51-60 PMID: 25818303

[53] Corfas, RA, **LB Vosshall**. 2015. The cation channel TRPA1 tunes mosquito thermotaxis to host temperatures. eLife 4:e11750 PMID: 26670734

[54] Warren AS, C Aurrecochea, 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. Bioinformatics 31:1496-1498 PMID: 25573919

- [55] Matthews BJ, CS McBride, M DeGennaro, O Despo, **LB Vosshall**. 2016. The neurotranscriptome of the *Aedes aegypti* mosquito. BMC Genomics 17:32 PMID: 26738925
- [56] Duvall LB, Basrur NS, Molina H, McMeniman CJ, **Vosshall LB**. 2017. A peptide signaling system that rapidly enforces paternity in the *Aedes aegypti* mosquito. Curr Biol 27:3734-3742. PMID: 29174895
- [57] 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*. Nature. 562:119-123. PMID: 30258230
- [58] 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. Kurlach, D. E. Neafsey, A. M. Phillippy **LB Vosshall**. (2018). Improved reference genome of *Aedes aegypti* informs arbovirus vector control. Nature 563:501-507 PMID: 30429615
- [59] Duvall LB, L Ramos-Espiritu, KE Barsoum, JF Glickman and **LB Vosshall** (2019). Novel small molecule agonists of an *Aedes aegypti* neuropeptide Y receptor block mosquito biting behavior. Cell 176:687-701. PMID: 30735632
- [60] Dennis EJ, Goldman OV, **Vosshall LB** (2019). *Aedes aegypti* mosquitoes use their legs to sense DEET on contact. Curr Biol 29:1551-1556 PMID: 31031114
- [61] Liu, MZ, **LB Vosshall** (2019) General visual and contingent thermal cues interact to elicit attraction in female *Aedes aegypti* mosquitoes. Curr Biol 29:2250-2257 PMID: 1257144
- [62] Matthews BJ*, Younger MA*, **Vosshall LB** (2019) The ion channel *ppk301* controls freshwater egg-laying in the mosquito *Aedes aegypti*. eLife 8:e43963 *equal contribution PMID: 31112133
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bioRxiv Pre-Prints (2014 – Present)

[1] Warren AS, Aurrecochea 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* <https://www.biorxiv.org/content/10.1101/007963v2>

[2] Kistler K, **LB Vosshall**, BJ Matthews. 2015. Genome-engineering with CRISPR-Cas9 in the mosquito *Aedes aegypti*. *bioRxiv* <https://www.biorxiv.org/content/early/2014/12/30/013276>

[3] Magnasco MO, A Keller, **LB Vosshall**. 2015. On the dimensionality of olfactory space. *bioRxiv* <https://www.biorxiv.org/content/early/2015/07/06/022103>

[4] Matthews BJ, CS McBride, M DeGennaro, O Despo, **LB Vosshall**. 2015. The neurotranscriptome of the *Aedes aegypti* mosquito. *bioRxiv* <https://www.biorxiv.org/content/early/2015/09/15/026823>

[5] Corfas RA, **LB Vosshall**. 2015. TRPA1 tunes mosquito thermotaxis to host temperatures. *bioRxiv* <https://www.biorxiv.org/content/early/2015/10/05/027896>

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[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* <http://biorxiv.org/content/early/2016/10/21/082495>

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- [13] Dennis EJ, **LB Vosshall** (2018) DEET feet: *Aedes aegypti* mosquitoes use their tarsi to sense DEET on contact. [bioRxiv](https://doi.org/10.1101/360222) doi: <https://doi.org/10.1101/360222>
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- [21] 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. [bioRxiv 101101/20220105475088](https://doi.org/10.1101/20220105475088)
- [22] Venkataraman V, Shai N, Lakhiani P, Zylka S, Zhao J, Herre M, Zeng J, Neal LA, Molina H, Zhao L, **Vosshall LB**. 2022. Rapidly evolving genes underlie *Aedes aegypti* mosquito reproductive resilience during drought. [bioRxiv 10.1101/2022.03.01.482582](https://doi.org/10.1101/2022.03.01.482582)
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Invited Review Articles

- [1] Sehgal A, B Man, JL Price, **LB Vosshall**, and MW Young. 1991. New clock mutations in *Drosophila*. [Ann NY Acad Sci 618:1-10 PMID: 2006779](https://pubmed.ncbi.nlm.nih.gov/2006779/)
- [2] Young MW, K Wager-Smith, **L Vosshall**, L Saez, and MP Myers. 1996. Molecular Anatomy of a Light-sensitive Circadian Pacemaker in *Drosophila*. [Cold Spring Harb Symp Quant Biol 61:279-284](https://pubmed.ncbi.nlm.nih.gov/8711111/)
- [3] **Vosshall LB**. 2000. Olfaction in *Drosophila*. [Curr Opin Neurobiol 10:498-503](https://pubmed.ncbi.nlm.nih.gov/11111111/)
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- [7] **Vosshall LB**. 2003. Putting smell on the map. Trends Neurobiol 26:169-170
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- [10] Keller A, **LB Vosshall**. 2004. Human olfactory psychophysics. Curr Biol 14:R875-878
- [11] **Vosshall LB**, MC Stensmyr. 2005. Wake up and smell the pheromones. Neuron 45:179-181
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- [17] Keller A, **LB Vosshall**. 2008. Better smelling through genetics: mammalian odor perception. Curr Opi Neurobiol 18:364-369
- [18] Touhara K, **LB Vosshall**. 2009. Sensing odorants and pheromones with chemosensory receptors. Ann Rev Physiol 71:307-332
- [19] Nakagawa T, **LB Vosshall**. 2009. Controversy and consensus: non-canonical signaling mechanisms in the insect olfactory system. Curr Opin Neurobiol 19:284-292
- [20] Pellegrino M, Nakagawa T, **LB Vosshall**. 2010. Single sensillum recordings in the insects *Drosophila melanogaster* and *Anopheles gambiae*. J Vis Exp 36:1-5
- [21] Bussell JJ, **LB Vosshall**. 2010. Chemical ecology: reprogramming a termite monarchy. Nat Chem Biol 6:637-638
- [22] **Vosshall LB**, BS Hansson. 2011. A unified nomenclature system for the insect olfactory coreceptor. Chem Senses 36:497-498

- [23] **Vosshall LB**. 2012. The glacial pace of scientific publishing: why it hurts everyone and what we can do to fix it. FASEB J 26:3589-3593
- [24] **Vosshall, LB**. 2015. Laying a controversial smell theory to rest. Proc Natl Acad Sci U S A. 112:6525-6526 PMID: 26015552
- [25] Matthews, BJ, **Vosshall, LB**. 2020. How to turn an organism into a model organism in 10 'easy' steps. J Exp Biol 223(Pt Suppl 1). pii: jeb218198. PMID: 32034051
- [26] **Vosshall LB**. 2020. Catching plague locusts with their own scent. Nature 585:528-530. PMID: 32788700
- [27] Neal, L.A., **Vosshall, LB**. 2021. Eyeless worms detect color. Science 371:995. PMID: 33674482

Book Chapters

- [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 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 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-Present
- 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

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

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**