

Kate M. O'Connor-Giles, PhD

Curriculum Vitae | Updated October 2026

Professor of Neuroscience

Provost's Professor of Brain Science
Department of Neuroscience and Carney Institute for Brain Science, Brown University
185 Meeting St. Providence, RI 02912 | kate_oconnor-giles@brown.edu

EDUCATION AND TRAINING

2004–2009	Postdoctoral Fellow Laboratory of Genetics, University of Wisconsin–Madison Mentor: Barry Ganetzky
2003	PhD, Molecular Genetics Washington University School of Medicine Advisor: James Skeath
1995–1999	Graduate Student, Cell and Structural Biology University of Illinois at Urbana-Champaign Advisor: Chris Doe
1991	B.A., Economics University of Illinois at Urbana-Champaign

ACADEMIC APPOINTMENTS

2024–present	Provost's Professor of Brain Science Department of Neuroscience and Carney Institute for Brain Science, Brown University
2022–present	Associate Director, Center for the Neurobiology of Cells and Circuits Carney Institute for Brain Science, Brown University
2018–2024	Provost's Associate Professor of Brain Science, with tenure Department of Neuroscience and Carney Institute for Brain Science, Brown University
2016–2018	Associate Professor, with tenure Laboratories of Genetics and Cell and Molecular Biology, University of Wisconsin–Madison
2009–2016	Assistant Professor Laboratories of Genetics and Cell and Molecular Biology, University of Wisconsin–Madison

HONORS AND AWARDS

2021	NIH NINDS Landis Award for Outstanding Mentorship
2014–2016	McKnight Foundation Technological Innovations in Neuroscience Award
2008–2012	NIH NINDS K99/R00 Pathway to Independence Award
2008	DeLill Nasser Award for Professional Development in Genetics
2004–2007	Jane Coffin Childs Memorial Fund Postdoctoral Fellowship
2002	Spencer T. and Ann W. Olin Medical Scientist Fellow

CURRENT GRANT SUPPORT

9/1/2026–8/31/2027	R56 NS146176, NIH/NINDS PI: O'Connor-Giles Role of ER membrane contact sites in synapse formation and plasticity Effort: 2 calendar months Direct \$304,106, Total \$473,561
6/1/2026–5/31/2027	Giuliani RNA Center Seed Award MPIs: O'Connor-Giles, Fu Impact of modulating tRNA modifications on translation in the brain Direct \$50,000 *50% to O'Connor-Giles lab
5/1/2026–6/30/2027	Brown University Division of Research Seed Award PI: O'Connor-Giles Role of ER membrane contact sites in synapse formation and plasticity Direct \$50,000
1/6/2026–12/31/2030	R01 NS117068, NIH/NINDS MPIs: O'Connor-Giles, Fu Function of ALKBH8 and tRNA modification in the nervous system Effort: 2 calendar months Direct \$1,730,000 (Annual \$371,742*), Total \$2,227,968 *~50% to O'Connor-Giles lab
9/25/2025–8/31/2029	R01AA031702, NIH/NIAAA MPIs: Kaun, O'Connor-Giles Circuit and molecular mechanisms through which alcohol influences natural reward Effort: 1 calendar month Direct \$1,380,575 (Annual \$)*, Total \$2,150,570 *~10% to O'Connor-Giles lab
8/1/2023–6/30/2028	R01DA058947, NIH/NIDA MPIs: Kaun, O'Connor-Giles, Larschan Gene Regulation in Memory Circuits as a consequence of Polysubstance Use Effort: 1 calendar month Direct \$1,749,901 (Annual \$349,972)*, Total \$2,719,795 *~10% to O'Connor-Giles lab

PUBLICATIONS

- Kentro JA*, **Singh G***, Pham TM, Currie J, Khullar S, Medeiros AT, Tsiarli M, **Larschan E, O'Connor-Giles KM**. Deaf1 regulates the coordinated repression of synaptic genes to limit synaptogenesis. *bioRxiv* [Preprint]. 2026 Sep 25:2024.10.30.621128. doi: [10.1101/2024.10.30.621128](https://doi.org/10.1101/2024.10.30.621128). *Equal contribution.
- Tennant N, Pavuluri A, **Singh G**, Cortez K, **O'Connor-Giles K, Larschan E**, Singh R. An snRNA-seq aging clock for the fruit fly head sheds light on sex-biased aging. *Sci Rep*. 2026 Apr 14;16(1):17434. doi: [10.1038/s41598-026-48613-0](https://doi.org/10.1038/s41598-026-48613-0).
- Van der Linden Costello P, Wennerberg MN, Rydbom JA, Gratz S, Fennema LF, **O'Connor-Giles KM**, Broihier HT. Selective regulation of transsynaptic alignment and postsynaptic assembly by a novel NCAM family synaptic adhesion molecule. *bioRxiv* [Preprint]. 2026 Mar 16:2026.03.13.710942. doi: [10.64898/2026.03.13.710942](https://doi.org/10.64898/2026.03.13.710942).
- Thakur RS, **O'Connor-Giles KM**. PDZD8 links organelle crosstalk to synaptic remodeling via autophagy. *Autophagy*. 2025 Oct;21(10):2299-2300. doi: [10.1080/15548627.2025.2537983](https://doi.org/10.1080/15548627.2025.2537983). Epub 2025 Aug 3.
- Thakur RS, **O'Connor-Giles KM**. PDZD8 promotes autophagy at ER-lysosome membrane contact sites to regulate activity-dependent synaptic growth. *Cell Rep*. 2025 Apr 22;44(4):115483. doi: [10.1016/j.celrep.2025.115483](https://doi.org/10.1016/j.celrep.2025.115483). Epub 2025 Mar 28.

6. Neuman SD*, Thakur RS*, Gratz SJ, **O'Connor-Giles KM**#, Bashirullah A#. Neurodegenerative and neurodevelopmental roles for bulk lipid transporters VPS13A and BLTP2. *Mov Disord*. 2025 Jul;40(7):1356-1368. doi: [10.1002/mds.30178](https://doi.org/10.1002/mds.30178). Epub 2025 Mar 28. *Equal contribution; #corresponding authors.
7. Madhwani KR, Sayied S, Ogata CH, Hogan CA, Lentini JM, Mallik M, Dumouchel JL, Storkebaum E, Fu D, **O'Connor-Giles KM**. tRNA modification enzyme-dependent redox homeostasis regulates synapse formation and memory. *Proc Natl Acad Sci U S A*. 2024 Nov 12;121(46):e2317864121.
8. Medeiros AT, Gratz SJ*, Delgado A, Ritt JT, **O'Connor-Giles KM***. Ca²⁺ channel and active zone protein abundance intersects with input-specific synapse organization to shape functional synaptic diversity. *eLife*. 2024 Sep 18;12:RP88412. *Corresponding authors.
9. DePew AT, Bruckner JJ, **O'Connor-Giles KM**, Mosca TJ. Neuronal LRP4 directs the development, maturation and cytoskeletal organization of Drosophila peripheral synapses. *Development*. 2024 Jun 1;151(11):dev202517.
10. Medeiros AT, **O'Connor-Giles KM**. To b or not to b: transcriptional regulation of tonic type Ib vs. phasic type Is motor neurons. *Neuron*. 2023;111:3497-3499.
11. Gratz SJ, **O'Connor-Giles KM**, Wildonger J. Introduction to CRISPR and its use in Drosophila. *Cold Spring Harb Protoc*. 2023.
12. Gratz SJ, **O'Connor-Giles KM**, Wildonger J. Generating CRISPR alleles in Drosophila. *Cold Spring Harb Protoc*. 2023.
13. Hogan CA*, Gratz SJ*, Dumouchel JL*, Thakur RS, Delgado A, Lentini JM, Madhwani KR, Fu D, **O'Connor-Giles KM**. Expanded tRNA methyltransferase family member TRMT9B regulates synaptic growth and function. *EMBO Rep*. 2023;24:e56808. *Equal contribution.
14. Ghelani T, Escher M, Thomas U, Esch K, Lützkendorf J, Depner H, Maglione M, Parutto P, Gratz S, Ryglewski S, Walter A, Holcman D, **O'Connor-Giles K**, Heine M, Sigrist S. An active zone state switch concentrates and immobilizes voltage-gated Ca²⁺ channels to promote long-term plasticity. *Sci Adv*. 2023 Feb 17;9(7):eade7804. PMID: PMC9937578.
15. Calderon D, Blecher-Gonen R, Huang X, Secchia S, Kentro J, Daza RM, Martin B, Dulja A, Schaub C, Trapnell C, Larschan E, **O'Connor-Giles KM**, Furlong EEM, Shendure J. The continuum of Drosophila embryonic development at single-cell resolution. *Science*. 2022 Aug 5;377(6606):eabn5800.
16. Isabella AJ, Leyva-Díaz E, Kaneko, Gratz SJ, Moens CB, Hobert O, **O'Connor-Giles K**, Thakur R, Sun H. The field of neurogenetics: where it stands and where it is going. *Genetics*. 2021 Aug;11(8).
17. Hoover KM, Gratz SJ, Qi N, Herrmann KA, Liu Y, Perry-Richardson JJ, Vanderzalm PJ, **O'Connor-Giles KM**, Broihier HT. The calcium channel subunit alpha2delta-3 organizes synapses via an activity-dependent and autocrine BMP signaling pathway. *Nat Commun*. 2019;10(1):5575.
18. Gratz SJ, Goel P, Bruckner JJ, Hernandez RX, Khateeb K, Macleod GT, Dickman D, **O'Connor-Giles KM**. Endogenous tagging reveals differential regulation of Ca²⁺ channels at single active zones during presynaptic homeostatic potentiation and depression. *J Neurosci*. 2019;39:2416-2429. *Featured article; highlighted in Faculty of 1000*.
19. Bier E, Harrison MM, **O'Connor-Giles KM**, Wildonger J. Advances in engineering the fly genome with the CRISPR-Cas system. *Genetics*. 2018;208:1-18.
20. Bruckner JJ, Zhan H, Gratz SJ, Rao X, Zilberg G, **O'Connor-Giles KM**. Fife organizes synaptic vesicles and calcium channels for high-probability neurotransmitter release. *J Cell Biol*. 2017;216(1):231-246. *Highlighted in Faculty of 1000*.
21. Zhan H, Bruckner JJ, Zhang Z, **O'Connor-Giles KM**. Three-dimensional imaging of Drosophila motor synapses reveals ultrastructural organizational patterns. *J Neurogenet*. 2016;30(3-4):237-246.
22. **O'Connor-Giles KM**, Zhang B, Simpson JH, Wu CF. The neurogenetics of Drosophila: the Ganetzky legacy. *J Neurogenet*. 2016;30(3-4):149-151.
23. **O'Connor-Giles KM**. Toll-tally tubular: a newly identified Toll-like receptor-FoxO pathway regulates dynamics of the neuronal microtubule network. *J Cell Biol*. 2016;214:371-373.

24. Ukken FP, Bruckner JJ, Weir KL, Hope SJ, Sison SL, Birschbach RM, Hicks L, Taylor KL, Dent EW, Gonsalvez GB, **O'Connor-Giles KM**. BAR-SH3 sorting nexins are conserved interacting proteins of Nervous wreck that organize synapses and promote neurotransmission. *J Cell Sci*. 2016;129:166-177.
25. Hicks L, Liu G, Ukken FP, Lu S, Bollinger KE, **O'Connor-Giles K**, Gonsalvez GB. Depletion or over-expression of Sh3px1 results in dramatic changes in cell morphology. *Biol Open*. 2015;4(11):1448-1461.
26. Akbari OS, Bellen HJ, Bier E, Bullock SL, Burt A, Church GM, Cook KR, Duchek P, Edwards OR, Esvelt KM, Gantz VM, Golic KG, Gratz SJ, Harrison MM, Hayes KR, James AA, Kaufman TC, Knoblich J, Malik HS, Matthews KA, **O'Connor-Giles KM**, Parks AL, Perrimon N, Port R, Russell S, Ueda R, Wildonger J. Safeguarding gene drive experiments in the laboratory. *Science*. 2015;349:927-929.
27. Gratz SJ, Rubinstein CD, Harrison MM, Wildonger J, **O'Connor-Giles KM**. CRISPR-Cas9 genome editing in *Drosophila*. *Curr Protoc Mol Biol*. 2015;111:31.2.1-20.
28. Kimble J, Bement WM, Chang Q, Cox BL, Drinkwater NR, Gourse RL, Hoskins AA, Huttenlocher A, Kreeger PK, Lambert PF, Mailick MR, Miyamoto S, Moss RL, **O'Connor-Giles KM**, Roopra A, Saha K, Seidel HS. Strategies from UW-Madison for rescuing biomedical research in the US. *eLife*. 2015;4:e09305.
29. Bruckner JJ, Zhan H, **O'Connor-Giles KM**. Advances in imaging ultrastructure yield new insights into presynaptic biology. *Front Cell Neurosci*. 2015;9:196.
30. Gratz SJ, Harrison MM, Wildonger J, **O'Connor-Giles KM**. Precise genome editing of *Drosophila* with CRISPR RNA-guided Cas9. *Methods Mol Biol*. 2015;1311:335-348.
31. Harrison MM, Jenkins BV, **O'Connor-Giles KM**, Wildonger J. A CRISPR view of development. *Genes Dev*. 2014;28:1859-1872.
32. Gratz SJ*, Ukken FP*, Rubinstein CD, Thiede G, Donohue LK, Cummings AM, **O'Connor-Giles KM**. Highly specific and efficient CRISPR/Cas9-catalyzed homology-directed repair in *Drosophila*. *Genetics*. 2014;196:961-971. *Equal contribution. *Highlighted in GENETICS 2014 Spotlight*.
33. Gratz SJ, Wildonger J, Harrison MM, **O'Connor-Giles KM**. CRISPR/Cas9-mediated genome engineering and the promise of designer flies on demand. *Fly*. 2013;7:249-255.
34. Gratz SJ, Cummings AM, Nguyen JN, Hamm DC, Donohue LK, Harrison MM, Wildonger J, **O'Connor-Giles KM**. Genome engineering of *Drosophila* with the CRISPR RNA-guided Cas9 nuclease. *Genetics*. 2013;194(4):1029-1035. *Highlighted in Genetics 2013 Spotlight and Faculty of 1000*.
35. Bruckner JJ*, Gratz SJ*, Slind JK, Geske RR, Cummings AM, Galindo SE, Donohue LK, **O'Connor-Giles KM**. Fife, a *Drosophila* Piccolo-RIM homolog, promotes active zone organization and neurotransmitter release. *J Neurosci*. 2012;32(48):17048-17058. *Equal contribution.
36. Babaoglan AB, **O'Connor-Giles KM**, Mistry H, Schickedanz A, Wilson BA, Skeath JB. Sanpodo: a context-dependent activator and inhibitor of Notch signaling during asymmetric divisions. *Development*. 2009;136:4089-4098.
37. **O'Connor-Giles KM**, Ganetzky B. Satellite signaling at synapses. *Fly*. 2008;2(5):259-261.
38. **O'Connor-Giles KM**, Ho LL, Ganetzky B. Nervous wreck interacts with Thickveins and the endocytic machinery to attenuate retrograde BMP growth signaling during synaptic growth. *Neuron*. 2008;58:507-518.
39. Eberl D, Kitamoto T, Berke B, **O'Connor-Giles K**, Ueda A, Lee J, Ruan H, Engel J, Ganetzky B. Meeting report: genes, neurons, circuits, and behaviors: highlights of Cold Spring Harbor Meeting on *Drosophila* neurobiology, Oct 3-7, 2007. *J Neurogenet*. 2008;22:3-13.
40. **O'Connor-Giles KM**, Skeath JB. Numb inhibits membrane localization of Sanpodo, a four-pass transmembrane protein, to promote asymmetric divisions in *Drosophila*. *Dev Cell*. 2003;5(2):231-243. *Highlighted in Nature News and Views and Faculty of 1000*.

SOFTWARE TOOLS AND WEBSITES

Optimal Target Finder. An online tool for identification of CRISPR targets in *Drosophila* and other invertebrates. 1.6M pageviews (2014–2025).

FlyCRISPR. A website for sharing the genome engineering tools and techniques we develop. 625K pageviews (2013–2025).

ADMINISTRATIVE AND SCIENTIFIC LEADERSHIP POSITIONS (SELECT)

2026–present	Presidential Scholars Program Advisor, Brown University
2025	Genetics Society of America Nominating Committee
2024–present	Neuroscience Graduate Program Admissions Committee, Brown University
2024–2025	Brown Center for Alzheimer's Disease Faculty Recruitment Committee
2024, 2021	Post-baccalaureate Research Education Program (PREP) Admissions Committee, Brown University
2023–present	Brown Growing BioMed Research Strategic Group, Division of Biology and Medicine, Brown University
2023–present	Integrated Life Sciences Building Planning Advisory Committee, Brown University
2023–2024	Neuroscience Diversity and Inclusion Committee Chair, Brown University
2023–2024	DEI chair, Neuroscience Faculty Recruitment Committee, Brown University
2022–present	Carney Institute for Brain Science Executive Committee, Brown University
2021–present	GENETICS, Senior Editor, Experimental technologies & resources section
2021–present	Carney Institute Advancing Research Careers Steering Committee, Brown University
2021–present	Neuroscience Mentoring and Awards Committee
2021–present	Neuroscience Graduate Program Seminar Committee, Brown University
2021–2022	MCB Department ad hoc tenure committee, Judy Liu, Brown University
2021–2022	MCB Department ad hoc tenure committee, Ashley Webb, Brown University
2021	School of Engineering Target of Opportunity Faculty Recruiting Committee
2020–2023	Brain ExPo Postdoctoral Seminar Series Faculty Advisor, Carney Institute for Brain Science, Brown University
2020–2021	Chair, Neuroscience Graduate Program Admissions Committee, Brown University
2020	Molecular Biology, Cell Biology & Biochemistry Graduate Program Admissions Committee, Brown University
2020	Life Sciences Research Ramp-up Task Force, Division of Biology and Medicine, Brown University
2019–present	Neuroscience Undergraduate Advising
2019–2023	Neuroscience Graduate Program First-Year Advisor
2019–2022	Neurobiology of Cells and Circuits Steering Committee, Carney Institute for Brain Science, Brown University
2019–2021	Brown University Academic Priorities Committee (Vice Chair, 2020–21)
2019–2021	Junior Faculty Mentoring Program, Division of Biology and Medicine, Brown University
2019–2020	Carney Institute Faculty Recruitment Committee
2019–2020	Ad hoc tenure committee, Dr. Karla Kaun
2019–2020	Neuroscience ad hoc Departmental Vision Committee
2018–present	Advanced Microscopy Committee, Carney Institute for Brain Science
2018–present	Neuroscience Undergraduate Curriculum Committee
2018–2020	GENETICS, Associate Editor
2017–2018	Chair, Cell & Molecular Biology Graduate Program Admissions Committee
2016–2018	Chair, Genetics Undergraduate Curriculum Committee

MENTORING

Current Postdoctoral Researchers

Gunjan Singh, 2023–present (Co-mentored with Dr. Erica Larschan)
 Rajan Thakur, Simons Foundation Faculty-to-Fellow Awardee, 2019–present

Current Graduate Students

Amelia Harman, Neuroscience Graduate Program, 2026–present (Co-mentored with Dr. Karla Kaun)
 Sydney Brown, Molecular Biology, Cell Biology & Biochemistry Graduate Program, 2026–present

Current Undergraduate Research Students

Ally Calderon, Biology
 Olesya Naryshkina, Neuroscience
 Lina Baki, Program in Liberal Medical Education
 Alyssa Wang, Biophysics

Past Postdoctoral Researchers

Matthew Sternfeld, Postdoctoral Researcher 2016–2017
 Currently Research & Development Manager, Cellular Dynamics, Madison, WI
 Hong Zhan, Postdoctoral Researcher 2014–2018
 Currently Research Scientist, Ahlquist lab, University of Wisconsin–Madison
 Dustin Rubinstein, Postdoctoral Researcher 2012–2015
 Currently Director Translational Genomics Facility, University of Wisconsin Biotechnology Center
 Fiona Ukken, Postdoctoral Researcher 2011–2016
 Currently Visiting Faculty Specialist, University of Maryland, HHMI

Past Graduate Students

Jenn Dumouchel, PhD Oct 2025
 Currently Senior Specialist, Gates Medical Research Institute
 James Kentro, PhD May 2025
 Co-mentored with Dr. Erica Larschan
 Currently Postdoctoral Researcher, Binder lab, Max Planck, Munich, Germany
 AJ Lonski, MS May 2025
 Currently PhD student, University of Chicago
 Audrey Medeiros, PhD May 2024
 Currently Program Manager, Scientific Innovation and Strategic Investments, Massachusetts Life Sciences Center
 Kim Madhwani, PhD May 2024
 Caley Hogan, PhD January 2020, University of Wisconsin–Madison
 Currently Research Scientist, University of Wisconsin–Madison, Wasserman lab
 Joseph Bruckner, PhD December 2016, University of Wisconsin–Madison
 Currently Senior Scientist, InVivo Biosystems
 Xiao Rao, MS May 2016, University of Wisconsin–Madison
 Scott Gratz, PhD November 2015, University of Wisconsin–Madison
 Currently Senior Research Associate, O'Connor-Giles lab

Past Postbaccalaureate Researchers

Amelia Harman, Brown PREP Program, 2024–2025
 Currently PhD student, NSGP, Brown University

Nicolas Arriaga, Brown PREP Program, 2023–2024

Currently M.S. student, Computational Biology, Columbia University

Sara Ríos Méndez, Brown PREP Program, 2021–2022

Currently PhD candidate, Mayoral Lab, NSGP, Brown University

Kiah Price, 2014–2016

Kelsey Branchfield, 2009–10

Currently Assistant Professor, Medical Director of Cytogenetics and Molecular Genetics, University of Minnesota

Past Undergraduate Researchers

Kennedy Tyson, B.S. 2026

Victoria El-Khoury, B.S. 2025

Clinical Research Coordinator, Massachusetts General Hospital

Karen Hernandez, B.S. 2025

STEAM Tutor

Will Kemball-Cook, B.S. 2025

Medical student, Albert Einstein College of Medicine

Joanne Lee, B.S. 2025

MD-PhD student, Brown University

Liana Lewis, B.S. 2025

Assistant Research Scientist, Fenton Lab, NYU

Carlson Ogata, B.S. 2025

Medical student, Brown University

Sophie Phipps, B.S. 2025

Junior Research Specialist, Tien Peng lab, UCSF

Nhu Tran, B.S. 2025

Fulbright Scholar

Michael Jia, B.S. 2024

Dental student, Columbia College of Dental Medicine

Leona Hariharan, B.S. 2023

Medical Student, UCSF

Anna-Marie Nolte, B.S. 2022

Iditarod dog sled trainer

Shanzeh Sayied, B.S. 2022

Medical Student, Albert Einstein College of Medicine

Lang Liang, B.S. 2022

Dental Student, Harvard School of Dental Medicine

Kush Patel, B.S. 2022

Associate in Life Science Partnerships, Flatiron Health

Olivia Kuk, B.S. 2021

Medical student, Boston University

Brian McCrae, B.S. 2020

MD, Brown University 2025

Resident Physician at Brown University Health

Xueyang He, B.S. 2019

PhD candidate, Boutz Lab, University of Rochester

Yihong Li, B.S. 2019

Ziheng Zhang, B.S. 2019

PhD candidate, Ayudha Lab, University of Wisconsin–Madison

Sarah Guagliardo, B.S. 2018

PhD candidate, NIDDK, NIH

Karam Khateeb, B.S. 2018

PhD 2025, Yazdan Lab, University of Washington, Seattle

Postdoctoral Fellow, Feldman Lab, UC-Berkeley

Greg Zilberg, B.S. 2017

PhD 2024, Wacker Lab, Icahn School of Medicine at Mount Sinai

Postdoctoral Associate, Butterwick Lab, Yale

Kurt Weir, B.S. 2016

PhD student, Blackshaw Lab, Johns Hopkins

Research Assistant Professor, University of Houston

Emily Fong, B.S. 2015

Disease Management Pharmacist

Nate Carpenter, B.S. 2015

MD student, Medical College of Wisconsin

Grace Heglund-Lohman, B.S. 2015

MPH 2020, University of Minnesota

JD 2023, Lewis & Clark

Advocacy Manager, Food Bank of Alaska

Sammi Sison, B.S. 2015

PhD 2024, Yeo lab, UCSD

Associate Director – External Innovation S&E Diabetes & Obesity, Eli Lilly

Ryan Birschbach, B.S. 2014

JD 2023, Duke University

Law Clerk with Justice Janet Protasiewicz, Wisconsin Supreme Court

Sarah Hope, B.S. 2014

Occupational Therapist

Gene Thiede, B.S. 2014

Research Technician, USDA

Elizabeth Roeske, B.S. 2014

MD 2020, University of Minnesota Medical School

Raymond Chou, B.S. 2013

MD 2017, Medical College of Wisconsin

Laura Donohue, B.S. 2013

PhD 2021, Genetics Graduate Program, Stanford University

Computational Biologist, EditCo

Alex Cummings, B.S. 2012

MS Genetics Counseling 2016, University of Minnesota

Program Manager - Genomic Navigation at UW Health

Samantha Galindo, B.S. 2012

PhD 2019, Grueber Lab, Columbia University

Director of Innovation Alliances at Deerfield Management

Sierra Jin, B.S. 2012
MD 2017, Medical College of Wisconsin

Past Summer Research Students

Alice Yacubovich, 2026
University of Maryland-Baltimore
Computational Neuroscience cohort of the Leadership Alliance at Brown

Tatiana Francios, 2022
Community College of Rhode Island
Rhode Island IDeA Network of Biomedical Research Excellence Summer Undergraduate Research Fellowship program

Marimar Benitez, 2014
University of Puerto Rico, Rio Piedras Campus, San Juan, Puerto Rico
UW–Madison Summer Research Opportunities Program
Currently PhD student, Sloan Kettering

Anna Zeidman, 2013
Brown University
UW–Madison Summer Research Opportunities Program
M.D. 2023, Stanford

Nicsa Tanco Valcarcel, 2010
Universidad del Este, Carolina, Puerto Rico
UW–Madison Summer Research Opportunities Program

Past Interns

Constantin Beckers, 2020
MD-Master's student, Julius-Maximilians-University Würzburg

Thesis Committees

Brown University

Isla Brooks, NSGP, Barnea lab, 2026–present
Ariana Taboada, Pathobiology, Oancea lab, 2026–present
Levin Schökle, Müller lab, University of Zurich, 2026–present
Jaydon Cyrus, MCBGP, Barnea lab, 2025–present
Shreya Rajhans, MCBGP, Accornero lab, 2025–present
Olivia Molano, GPP, Kindt Lab, 2025–present
Sandeep David, GPP, Kindt lab, 2025–present
Cynthia (Lulu) Schulz, MCBGP, Frost lab, 2025–present
Ushnik Das, Müller lab, University of Zurich, 2025–present
Rebecca Tripp, NSGP, Fleischmann lab, 2025–present
Morgan Thomas, MCBGP, Frost lab, 2025–present (PhD 2026)
Ilayda Top, NSGP, Hoffman-Kim lab, 2025–present
Ben Filio, GPP, Wagner lab, 2024–present
Mauricio Garcia, NSGP, Andrade lab, 2024–present
Esra Taner, TSGP, Larschan lab, 2024–2026
Isabelle Pilo, MCBGP, Larschan lab, 2024–present
Sara Ríos Méndez, NSGP, Mayoral lab, 2024–present
Kaitlyn Cortez, MCBGP, Larschan lab, 2024–present
Diana Wall, MCBGP, Hart lab, 2023–present
Lila Gordon, GPP, Taraska lab, 2023–present
Rares Mosneanu, NSGP, Barnea lab, 2022–present
Joseph Aguilera, MCBGP, Larschan lab, 2021–present (PhD 2026)
Kathleen Carmichael, GPP, Cai lab, 2021–2025 (PhD 2025)

Erin Fingleton, GPP, Roche lab, 2021–2024 (PhD 2024)
 Doudou Yu, MCBGP, Webb lab, 2020–2025 (PhD 2025)
 Carlos Toro, TSGP, Aizenman lab, 2020–2025 (PhD 2025)
 Helen Belato, TSGP, Lisi lab, 2020–2023 (PhD 2023)
 Tariq Brown, NSGP, Kaun lab, 2019–2025 (PhD 2025)
 Ryan Castro, NSGP, Valdez lab, 2019–2022 (PhD 2022)
 Kavin Nunez, NSGP, Kaun Lab, 2019–2021 (PhD 2021)
 Lauren Fish, NSGP, Fallon Lab, 2019–2022 (PhD 2022)
 Anthony Crown, MCBGP, Barnea lab, 2019–2024 (PhD 2024)
 Hala Haddad, NSGP, Oancea lab, 2019–2023 (PhD 2023)
 Jamie Catalano, MPP, Kaun lab, 2019–2021
 Katie McCullar, NSGP, Kaun lab, 2018–2021
 Sara Zeppilli, NSGP, Fleischmann lab, 2018–2023 (PhD 2023)

University of Wisconsin–Madison

Ben Steyer, BME, Saha lab, 2017–2018 (PhD 2018)
 Irina Sedykh, Integrative Biology, Grinblat lab, 2017–2018
 Jared Carlson-Stevermer, BME, Saha lab, 2017–2018 (PhD 2018)
 Erica Macke, 2017–2018 (PhD 2018)
 Raakhee Shankar, CMB, Audhya lab, 2017–2018
 Alex Murphy, GTP, Kimble lab, 2016–2018
 Harriet Suanders, IPIB, Wildonger lab, 2016–2018
 Jennifer Gilbert, GTP, Blum lab, 2016–2018
 Randee Young, GTP, Sun lab, 2016–2017
 Russ Taylor, NTP, Dent lab, 2016–2018
 Edwin A. Suárez Zayas, NTP, Gomez lab, 2015–2017
 Nicholas Santistevan, GTP, Wolman lab, 2015–2018
 Khailee Marischuk, GTP, Boekhoff-Falk lab, 2015–2018
 Ariel Cyrus, GTP, Grinblat lab, 2015–2017
 Quentin Sprengelmeyer, GTP, Pool lab, 2015–2018
 Erica Schwotzer, GTP, Bashirullah lab, 2015–2018
 Thejaswi Nagaraju, PGTP, Sugden lab, 2015–2018
 Jacob Miller, NTP, Halloran lab, 2015–2016
 Gulpreet Kaur, CMB, Wassarman lab, 2014–2016
 Sihui Yang, CMB, Wildonger lab, 2014–2018
 Kendra Taylor, NTP, Dent lab, 2013–2018 (PhD 2018)
 Megan Gnazzo, CMB, Skop lab, 2012–2017 (PhD 2017)
 Emily Jobe, CMB, Zhao lab, 2012–2016 (PhD 2016)
 Kaitlin Dickenson, GTP, Yin lab, 2012–2017 (PhD 2017)
 Tristan Lee, NTP, Halloran lab, 2011–2016 (PhD 2016)
 Erin Gonzales, CMB, Yin Lab, 2011–2012 (PhD 2012)
 Kelly Pittman, CMB, Skop lab, 2010–2012
 Virginia Lamb, GTP, Anderson lab, 2010–2015 (PhD 2015)
 Elise Walck-Shannon, GTP, Hardin lab, 2010–2015 (PhD 2015)
 Annie Tanenhaus, NTP, Yin Lab, 2010–2014 (PhD 2014)
 Olga Ponomareva, MSTP, Halloran lab, 2010–2014 (PhD 2014)

Outside Thesis Committees

Tulika Malik, Babcock lab, Lehigh University
 Tabby Kreko, Eaton lab, UT Health San Antonio

Honors Theses Advisor

Carlson Ogata, 2025
 Joanne Lee, 2025

Liana Lewis, 2025
 Nhu Tran, 2025
 Sophie Phipps, 2025
 Michael Jia, 2024
 Lang Liang, 2022
 Shanzeh Sayied, 2022
 Olivia Kuk, 2021

TEACHING

University Teaching

Brown University

Neuroscience 1530: Communication in the brain: what we know and how we know it

Instructor, Fall 2020, Fall 2022, Fall 2023, Fall 2024, Fall 2026

Enrollment: 19–23

Neuroscience 2030: Advanced Cellular and Molecular Neurobiology

Co-Instructor, Fall 2019

Guest lecturer (1 week/semester), Fall 2020, Fall 2021, Fall 2022, Fall 2023, Fall 2024

Enrollment: 20

Engineering 1800: Social Impact of Emerging Technologies: The Role of Scientists and Engineers

Guest lecturer (1 lecture/semester), Fall 2021, Fall 2022, Fall 2023

Neuroscience 1020: Principles of Neurobiology

Guest lecturer (1 lecture), Spring 2020

Neuroscience 1040: Introduction to Neurogenetics

Guest lecturer (1 lecture), Spring 2022

Neuroscience Graduate Program Ethics & Skills workshop series

Workshop leader (1 workshop/semester), Fall 2019, Fall 2020, Fall 2021

BioMed Responsible Conduct of Research

Guest lecturer (1 lecture/semester), Fall 2021, Fall 2022

University of Wisconsin–Madison

Genetics 566: Advanced Genetics Capstone

Co-Instructor, Spring 2011–2018

Enrollment: ~50

Genetics 133: Genetics in the News

Co-Instructor, Spring 2016–2018

Enrollment: ~100

Genetics 520: Neurogenetics

Guest lecturer, Fall 2017

Neuroscience 765: Developmental Neurobiology

Guest lecturer, Spring 2012, 2013, 2015, 2016, 2018

Biomedical Engineering 619: Microscopy of life

Guest lecturer, Fall 2016

National and International Teaching

2023, 2025

Co-director

Drosophila Genetics and Genomics Course
 EMBL, Heidelberg, Germany

2021	Invited lecturer Drosophila Genetics and Genomics Course EMBL, Heidelberg, Germany
2014, 2016, 2018	Invited lecturer Drosophila Genetics and Genomics Course Wellcome Trust Advanced Courses, Cambridge, U.K.
Spring 2016	Invited lecturer Advanced Genetics, Zhiyuan College Jiao Tong University, Shanghai, China
Summer 2012–2014	Co-director Drosophila Neurobiology: Genes, Circuits & Behavior Course Cold Spring Harbor Laboratory, New York
2009–2011, 2015, 2016	Invited lecturer Neurobiology of Drosophila Course Cold Spring Harbor Laboratory, New York

INVITED TALKS AND PLATFORM PRESENTATIONS (SELECT)

2025	Diverse roles of tRNA modification in neurodevelopment Radboud University, Nijmegen, Netherlands
2023	Keynote speaker Indian Drosophila Research Conference, Trivandrum, India (declined due to teaching conflicts)
2023	Mechanisms of coordinated synaptic gene expression Neuroscience graduate program retreat, Brown University
2023	From genes to connections: molecular building blocks of synapse formation and function Institute of Developmental Biology and Neurobiology seminar, University of Mainz, Germany
2023	CRISPR in flies Drosophila Genetics and Genomics Practical Course, European Molecular Biology Laboratory, Heidelberg, Germany
2023	Mechanisms of coordinated synaptic gene expression Center for Translational Neuroscience, Brown University
2023	Regulation of coordinated synaptic gene expression Center for Computational Molecular Biology, Brown University
2023	Genetic and epigenetic regulation of synapse formation and function Molecular Genetics and Cell Biology Seminar, University of Chicago
2022	Genetics and epigenetics of synapse formation and function Simons Center for the Social Brain, MIT
2021	CRISPR in flies Drosophila Genetics and Genomics Practical Course, European Molecular Biology Laboratory, Heidelberg, Germany, online due to COVID-19
2019	Communication in neural circuits: from genes to synapse formation, function & plasticity Neuroscience Colloquium, Charité Universitätsmedizin, Berlin, Germany
2019	Communication in neural circuits: from genes to synapse formation, function & plasticity Developmental, Molecular and Chemical Biology Seminar, Tufts University School of Medicine
2019	Regulation of presynaptic organization for distinct neurotransmitter release properties Giant Synapse Meeting

- 2019** **Genetic dissection of synapse formation, function and plasticity**
Department of Biology Seminar, University of Rochester
- 2019** **Translational regulation in the brain: a role for post-transcriptional modification of tRNAs**
Brown Neuroscience Graduate Program In-house Seminar
- 2019** **From genes to synapses: mechanistic investigation of neurotransmission**
Molecular Pharmacology and Physiology Graduate Program Retreat, Brown University
- 2019** **Genetic dissection of synapse formation, function and plasticity**
Tata Institute for Genetics and Society Seminar, University of California San Diego
- 2018** **Genetic dissection of synapse form and function**
Janelia Research Campus
- 2018** **Genetic dissection of synapse form and function**
Molecular Pharmacology, Physiology & Biotechnology Seminar, Brown University
- 2018** **Genetic dissection of synapse form and function**
Molecular Biology, Cell Biology and Biochemistry Graduate Program retreat, Brown University
- 2018** **The dynamic lives of synapses**
Neuroscience graduate program retreat, Brown University

CONFERENCE AND SYMPOSIUM ORGANIZATION

- 2025** **Co-chair, Techniques & Technology Session**
The Allied Genetics Conference
- 2020** **Co-chair, Technology & Resources Session**
The Allied Genetics Conference
- 2019** **Co-chair, Neurobiology of Drosophila Meeting**
Cold Spring Harbor Laboratory
- 2017** **Chair, Synaptic Transmission and Plasticity Session**
Neurobiology of Drosophila Meeting, Cold Spring Harbor Laboratory
- 2016** **Co-chair, Technology and Resources Session**
The Allied Genetics Conference
- 2015** **Co-chair, Technological Innovations Workshop**
Neurobiology of Drosophila Meeting, Cold Spring Harbor Laboratory
- 2015** **Co-chair, Novel methods & Genomics Session**
24th European Drosophila Research Conference
- 2015** **Co-organizer, Diverse Applications of CRISPR-Cas9 Genome Engineering Workshop**
56th Annual Drosophila Research Conference
- 2015** **Co-chair, Technology & Resources Session**
56th Annual Drosophila Research Conference
- 2014** **Chair, Synapses in Development and Disease Nanosymposium**
Society for Neuroscience Annual Meeting
- 2014** **Co-organizer, The Practice and Promise of CRISPR/Cas9-mediated Genome Engineering Workshop**
55th Annual Drosophila Research Conference

GRANT REVIEW PANEL MEMBERSHIP

2026	NIH Special Emphasis Panel, ZRG1 BN-F (92)
2024	NIH Special Emphasis Panel, Transformative Research Award Review
2019, 2023	Carney Institute Innovation Award Review Panel
2020	Ad hoc reviewer, Graduate Women in Science National Fellowship Program
2018–2022	Standing member, National Institutes of Health Molecular neurogenetics (MNG) study section
2017	Ad hoc member, National Institutes of Health Molecular neurogenetics (MNG) study section
2016	Mail reviewer, National Institutes of Health Cellular and Molecular Biology of Glia (CMBG) study section
2016	Ad hoc reviewer, National Science Foundation Integrative Organismal Systems
2015	Ad hoc member, National Institutes of Health Neurological Sciences and Disorders (NSD) study section
2015	Ad hoc member, National Institutes of Health Synapses, Cytoskeleton and Trafficking (SYN) study section
2014	Ad hoc member, National Institutes of Health Neurological Sciences and Disorders (NSD) study section
2014	Ad hoc member, National Institutes of Health Neurodifferentiation, Plasticity and Regeneration (NDPR) study section
2012	Ad hoc reviewer, Alzheimer's Society, U.K.

SCIENTIFIC OUTREACH

2023	Designer fruit flies: Using CRISPR to study brain development New Bedford Science Cafe
2023	Managing a Lab Group, Collaborations, and Conflicts Workshop, Brown Advancing Research Careers (ARC) program
2023	Mentoring Up Workshop, Brown Building a Resilient Community program
2022	Neuro DUG lab tour
2022	Omics During Development, Carney Methods Meetup
2022	Oral presentation judge, NE Regional SACNAS meeting
2021	CRISPR and the role of gene editing in neuroscience, Carney Conversations, Brown University
2021	Neuroscience DUG advising
2021	Neuroscience DUG faculty-student lunch
2020	CRISPR Workshop, Carney Leadership Alliance Scientific Techniques and Concepts
2020	Guest Lecturer, FAU Summer Integrative Neuroscience Experience REU
2020, 2022	GSA Journals Publishing Q&A panel
2019	Neuro DUG Research lab tours and panel discussion Brown Neuroscience Department Undergraduate Group
2019	Mind Brain Research Day poster judge
2018	Strategies for applying to faculty positions panel, Brown Postdocs in Brain Sciences
2016	Wednesday Nite @ the lab public seminar series, Madison, WI A CRISPR future: the promise and potential pitfalls of a powerful new tool for editing genomes

2016	Interviewed by Tianxiao Hong for article in inaugural issue of The Journal of Undergraduate Science and Technology (JUST)
2015–2018	Women in Science and Engineering student dinners and networking events
2015–16	Interviewed by the Boston Globe, Scientist, Christian Science Monitor, Quanta Magazine for articles about genome engineering technology and its application in clinical settings and natural populations.
2015	Radio interview with Sevie Kenyon, UW–Madison, about genome engineering
2014	SciMed Graduate Research Scholars Poster Session Judge
2013	MadBiology Boot Camp Mentoring lunch
2011	SciMed Graduate Research Scholars Postdoctoral Fellowship Session Panelist
2011	Wednesday Nite @ Bock Labs open house host
2010–2018	Biosciences Opportunities (BOPS) preview weekend participant
2010, 2015	Wisconsin Institutes of Discovery Town Center Sneak Preview (public demonstrations of our research)
2009–2018	Genetics Undergraduate Association dinners and events

MEMBERSHIP IN SCIENTIFIC SOCIETIES

Genetics Society of America
 Society for Neuroscience
 American Society for Cell Biology