

## Takeshi Morita, Ph.D.

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### EDUCATION

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<b>University of California, Berkeley</b> Ph.D., Molecular and Cell Biology Thesis: "Genetic variation as a tool for identifying novel transducers of itch"	August 2016
<b>University of California, San Diego</b> M.S., Biology Thesis: "Function and acuity of the rat vibrissa system during texture discrimination"	September 2008
<b>University of California, San Diego</b> B.S., Animal Physiology and Neuroscience	December 2006

### RESEARCH AND PROFESSIONAL EXPERIENCE

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<b>Assistant Professor, Florida International University</b> Department of Biological Sciences	2025 – Present
<b>Research Specialist, Howard Hughes Medical Institute</b> Laboratory of Neurogenetics and Behavior Advisor: Leslie B. Vosshall, Ph.D.	2020 – 2025
<b>Scientific Course Consultant (Course Faculty Member), Marine Biological Laboratory</b> Neurobiology: Mechanisms & Advanced Approaches	2017 – 2022
<b>Postdoctoral Fellow, The Rockefeller University</b> Laboratory of Neurogenetics and Behavior Advisor: Leslie B. Vosshall, Ph.D.	2016 – 2020
<b>Graduate Student Researcher, University of California, Berkeley</b> Department of Molecular and Cell Biology Advisors: Diana M. Bautista, Ph.D., and Rachel B. Brem, Ph.D.	2010 – 2016
<b>Staff Research Associate, University of California, Berkeley</b> Department of Molecular and Cell Biology Advisor: Diana M. Bautista, Ph.D.	2009 – 2010
<b>Graduate Student Researcher, University of California, San Diego</b> Division of Biological Sciences Advisor: Daniel E. Feldman, Ph.D.	2007 – 2008
<b>Undergraduate Research Assistant, University of California, San Diego</b> Division of Biological Sciences Advisor: Daniel E. Feldman, Ph.D.	2006 – 2007

### FELLOWSHIPS AND AWARDS

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<b>Japan Society for the Promotion of Science Overseas Research Fellowship</b>	2017 – 2019
<b>Harvey L. Karp Discovery Award</b>	2016 – 2017
<b>The Alan J. Bearden Award</b>	2016
<b>Berkeley Graduate Division Conference Travel Grant</b>	2015
<b>8th World Congress of Itch Travel Award</b>	2015

**PUBLICATIONS**

(#Corresponding author, \*equal contribution)

- 15) Yoshino J#, Chiu A, **Morita T**, Yin C, Tenedini FM, Sokabe T, Emoto K, Parrish JZ#  
Heat-off responses of epidermal cells sensitize *Drosophila* larvae to noxious inputs  
Preprint: *bioRxiv* (2025), doi: <https://doi.org/10.1101/2025.05.30.656957>
- 14) Goldman OV#, DeFoe AE, Qi Y, Jiao Y, Weng SC, Houri-Zeevi L, Lakhani P, **Morita T**, Razzauti J, Rosas-Villegas A, Tsitohay YN, Walker MM, Hopkins BR, Mosquito Cell Atlas Consortium, Akbari OS, Duvall LB, White-Cooper H, Sorrells TR, Sharma R, Li H#, Vosshall LB#, Shai N#  
Mosquito Cell Atlas: A single-nucleus transcriptomic atlas of the adult *Aedes aegypti* mosquito  
Preprint: *bioRxiv* (2025), doi: <https://doi.org/10.1101/2025.02.25.639765>  
*Cell*. 2025 Oct 30; S0092-8674(25)01137-7. doi: 10.1016/j.cell.2025.10.008
- 13) Yoshino J\*, Mali SS\*, Williams CR\*, **Morita T**, Emerson C, Arp C, Miller S, Yin C, The L, Hemmi C, Motoyoshi M, Ishii K, Emoto K#, Bautista DM#, Parrish JZ#  
*Drosophila* epidermal cells are intrinsically mechanosensitive and drive nociceptive behavioral outputs  
Preprint: *bioRxiv* (2022), doi: <https://doi.org/10.1101/2022.10.07.511265>  
*eLife* (2024) May 13, doi: <https://doi.org/10.7554/eLife.95379.1>
- 12) **Morita T**#, Lyn NG, von Heynitz RK, Goldman OV, Sorrells TR, DeGennaro M, Matthews BJ, Houri-Zeevi L, Vosshall LB  
Cross-modal sensory compensation increases mosquito attraction to humans  
Preprint: *bioRxiv* (2023), doi: <https://doi.org/10.1101/2023.10.10.561721>  
*Science Advances* (2025) Jan 3;11(1):eadn5758. doi: 10.1126/sciadv.adn5758
- 11) Yin C, **Morita T**, Parrish JZ  
A cell atlas of the larval *Aedes aegypti* ventral nerve cord  
Preprint: *bioRxiv* (2023), doi: <https://doi.org/10.1101/2023.09.08.556941>  
*Neural Development* (2024) Jan 31;19(1):2. doi: 10.1186/s13064-023-00178-8, (PMID: 38297398)
- 10) De Obaldia ME#, **Morita T**, Dedmon LC, Boehm勒 DJ, Jiang CS, Zeledon EV, Cross JR, Vosshall LB#  
Differential mosquito attraction to humans is associated with skin-derived carboxylic acid levels  
Preprint: *bioRxiv* (2022), doi: <https://doi.org/10.1101/2022.01.05.475088>  
*Cell* (2022) Oct 27; 185(22): 4099-4116, (PMID: 36261039)
- 9) Herre M\*, Goldman OV\*, Lu TC, Caballero-Vidal G, Qi Y, Gilbert ZN, Gong Z, **Morita T**, Rahiel S, Ghaninia M, Ignell R, Matthews BJ, Li H, Vosshall LB, Younger MA\*#  
Non-canonical odor coding in the mosquito  
Preprint: *bioRxiv* (2022), doi: <https://doi.org/10.1101/2020.11.07.368720>  
*Cell* (2022) Aug 18; 185(17):3104-3123, (PMID: 35985288)
- 8) Basrur NS#, De Obaldia ME, **Morita T**, Herre M, von Heynitz RK, Tsitohay YN, Vosshall LB#  
*fruitless* mutant male mosquitoes gain attraction to human odor  
Preprint: *bioRxiv* (2020), doi: <https://doi.org/10.1101/2020.09.04.282434>  
*eLife* (2020) Dec 7;9:e63982. doi: 10.7554/eLife.63982, (PMID: 33284111)
- 7) Hill RZ, **Morita T**, Brem RB, Bautista DM  
S1PR3 mediates inflammatory pain and itch via distinct TRP channel-dependent pathways  
Preprint: *bioRxiv* (2017), doi: <https://doi.org/10.1101/235614>  
*The Journal of Neuroscience* (2018), 38(36):7833-7843, (PMID: 30082422)
- 6) Hill RZ, Hoffman B, **Morita T**, Campos SM, Lumpkin EA, Brem RB, Bautista DM  
The signaling lipid sphingosine 1-phosphate regulates mechanical pain  
Preprint: *bioRxiv* (2017), doi: <http://dx.doi.org/10.1101/236778>  
*eLife* (2018), 7:e33285, (PMID: 29561262)
- 5) **Morita T**\*, McClain SP\*, Batia LM, Pellegrino M, Wilson SR, Kienzler KA, Lyman K, Olsen ASB, Wong JF, Stucky CL, Brem RB#, Bautista DM#

HTR7 mediates serotonergic acute and chronic itch  
*Neuron* (2015), 87(1): 124–138, (PMID: 26074006)

4) Schwarzer C, Fu Z, **Morita T**, Whitt AG, Neely AM, Li C, Machen TE  
Paraoxonase 2 serves a proapoptotic function in mouse and human cells in response to the  
Pseudomonas aeruginosa quorum-sensing molecule N-(3-Oxododecanoyl)-homoserine lactone  
*Journal of Biological Chemistry* (2015), 290(11): 7247-58, (PMID: 25627690)

3) Wilson SR, Nelson AM, Batia L, **Morita T**, Estandian D, Owens DM, Lumpkin EA, Bautista DM  
The ion channel TRPA1 is required for chronic itch  
*The Journal of Neuroscience* (2013), 33(22): 9283-94, (PMID: 23719797)

2) Gerhold KA\*, Pellegrino M\*, Tsunozaki M, **Morita T**, Leitch DB, Tsuruda PR, Brem RB, Catania KC, Bautista DM  
The star-nosed mole reveals clues to the molecular basis of mammalian touch  
*PLoS One* (2013), 8(1):e55001, (PMID: 23383028)

1) **Morita T\***, Kang H\*, Wolfe JH, Jadhav SP, Feldman DE  
Psychometric curve and behavioral strategies for whisker-based texture discrimination in rats  
*PLoS One* (2011), 6(6): e20437, (PMID: 21673811)

## TEACHING EXPERIENCE

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- **Scientific Course Consultant (Faculty), Marine Biological Laboratory** Summers 2017 – 2022  
*Neurobiology: Mechanisms & Advanced Approaches*
- **Instructor, University of California, Berkeley** Summer 2013  
*Neuro Bootcamp - Helen Wills Neuroscience Institute*
- **Graduate Student Instructor, University of California, Berkeley** Spring 2013  
*Cell Biology and Physiology Laboratory*
- **Graduate Student Instructor, University of California, Berkeley** Fall 2011  
*Introduction to Human Physiology*
- **Teaching Assistant, University of California, San Diego** Summer 2007  
*Mammalian Physiology*
- **Teaching Assistant, University of California, San Diego** Spring 2007  
*Laboratory in Microbiology*

## PRESENTATIONS

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### Talks

- 10) Mosquito Bites: Flexible Human-Seeking Behavior and the Itch They Leave Behind 2025  
*Invited Seminar, Department of Biological Sciences, Florida International University, Miami, FL*
- 9) The neuronal and behavioral basis of the unbreakable attraction of mosquitoes to humans 2024  
*Invited Seminar, Department of Entomology, University of California, Riverside, Riverside, CA*
- 8) Neuronal and behavioral basis of mosquito sensory compensation 2023  
*Kavli Neural Systems Institute Seminar, New York, NY*
- 7) Neuronal and behavioral basis of mosquito sensory compensation 2022  
*Invited Seminar, Marine Biological Laboratory, Woods Hole, MA*
- 6) Sensory compensation and plasticity of *Aedes aegypti* mosquito host-seeking behavior 2021  
*Invited Seminar, Marine Biological Laboratory, Woods Hole, MA*
- 5) HTR7 mediates serotonergic acute and chronic itch 2015  
*Invited Seminar, National Institute of Physiological Sciences, Okazaki, Japan*
- 4) HTR7 mediates serotonergic acute and chronic itch 2015  
*8th World Congress on Itch, Nara, Japan*
- 3) The serotonin receptor HTR7 mediates chronic itch 2015  
*UC Berkeley Molecular and Cell Biology Departmental Retreat, Lake Tahoe, CA*
- 2) Genetic mapping of novel molecular players in itch 2012

## Takeshi Morita, Ph.D. - Curriculum Vitae

*UC Berkeley Neuroscience Departmental Retreat, Lake Tahoe, CA*

1) Molecular cellular and genetic mechanisms underlying itch 2011  
*UC Berkeley Molecular and Cell Biology Departmental Retreat, Lake Tahoe, CA*

### Posters

4) Sensory compensation and plasticity of *Aedes aegypti* mosquito host-seeking behavior 2023  
*Howard Hughes Medical Institute Investigator Meeting, Chevy Chase, MD*

3) Using natural variation to identify novel molecular players in itch 2014  
*The Neurobiology of Pain and Itch, San Francisco, CA*

2) Genetic mapping of novel molecular players in itch 2013  
*UC Berkeley Neuroscience Departmental Retreat, Lake Tahoe, CA*

1) Macrovibrissae are sufficient to perform fine texture discrimination in rats 2008  
*Society for Neuroscience Annual Meeting, Washington, DC*

## OUTREACH

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- **FIU STEAM Festival** 2025  
*Miami, FL*
  - Introduced K-8 students to mosquito biology and public health
- **Guest Lecturer** 2025  
*Regis High School, New York, NY*
  - Introduced high school students to mosquito biology and modern laboratory techniques
- **Summer Neuroscience Program** 2023  
*The Rockefeller University – 20 students, led a pair of students for research project*
  - Provided mentorship to a team of local high school students for developing research projects
- **Brain Tumor Survivor Care Program 360°** 2021 – 2022  
*Toho University Ohashi Medical Center/UCSF Brain Tumor Center – more than 50 active participants*
  - Helped launch the collaboration between Toho University Ohashi Medical Center and UCSF Brain Tumor Center to establish the first brain tumor survivor's program in Japan
  - Translated UCSF's patient and caregiver manuals into Japanese
- **Monthly community clean-up, Science and Communication and Media group** 2019 – 2020  
*The Rockefeller University – 10-15 children/parent groups per event*
  - Organized events to clean up the neighborhood and raise pollution awareness aimed at children
- **Zero-waste Halloween event, Science and Communication and Media Group** 2019  
*The Rockefeller University – 50 children/parent groups*
  - Volunteered to raise awareness of plastic pollution for local children
- **Research Experience for Undergraduates Summer Mentorship Program** Summers 2013, 2014  
*National Science Foundation – 15 students, directly mentored one student for a project each year*
  - Mentored undergraduate students from under-resourced universities to conduct research projects

## PROFESSIONAL DEVELOPMENT

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- **Managing Science & Scientists Workshop** Summer 2023  
*The Rockefeller University*
- **The Hurford Science Diplomacy Initiative: Faces of Science Diplomacy** Winter 2020  
*The Rockefeller University*
- **Launching Your Undergraduate Science Teaching Career Course** Fall 2019  
*Tri-I: Memorial Sloan Kettering/The Rockefeller University/Weill Cornell Medicine*
- **Management Training Series: Coaching for Potential** 2019  
*The Rockefeller University*