

# Kimberly Mulligan, PhD

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## Education

PhD                      **Stanford University**, Stanford, CA  
Sept 2008              Developmental Biology

BS                        **University of California at San Diego**, La Jolla, CA  
June 1999              Biochemistry and Cell Biology

## Positions & Training

*Jan 2015- current*      **Assistant Professor of Biological Sciences:** California State University, Sacramento  
Courses: BIO227 Developmental Biology & Regenerative Medicine, BIO121 Molecular Cell Biology, BIO2 (Laboratory) Introduction to Cells, Molecules, and Genes

*July 2011-July 2012*   **Postdoctoral Research:** Department of Psychiatry, Center for Molecular Neurodevelopment, University of California at San Francisco  
Project: Functional analysis of Dixdc1, a candidate risk gene for neuropsychiatric illness, in mammalian embryonic neurodevelopment  
Advisor: Benjamin Cheyette, M.D., PhD

*Sept 2008-June 2011*   **Postdoctoral Research:** Department of Developmental Biology, Stanford University  
Project: CIRM-funded initiative to optimize the expression and purification of Wnt proteins to mediate analysis of liposome-based stem cell studies  
Advisor: Roel Nusse, PhD

*Sept 2001-Aug 2008*   **Doctoral Research:** Department of Developmental Biology, Stanford University  
Dissertation: Molecular characterization of Swim, a novel Wnt binding protein that promotes long-range signaling by maintaining Wingless solubility during *Drosophila* development  
Advisor: Roel Nusse, PhD

## Peer-Reviewed Publications

- Jan 2017*                      **Mulligan K** and Cheyette B (2017) “Neurodevelopmental Perspectives on Wnt Signaling in Psychiatry” Review. *Mol Neuropsych*, Jan 13. (2) 219-246
- Oct 2016*                      Martin PM, Stanley RE, Ross AP, Freitas AE, Moyer CE, Brumback AC, Iafrati J, Stapornwongkul KS, Dominguez S, Kivimae S, **Mulligan K**, Pirooznia M, McCombie WR, Potash JB, Zandi PP, Purcell SM, Sanders SJ, Zuo Y, Sohal VS, Cheyette BNR. “*DIXDC1* contributes to psychiatric susceptibility by regulating dendritic spine and glutamatergic synapse density via GSK3 and Wnt/ $\beta$ -catenin signaling” *Mol Psych*, Oct 18. doi: 10.1038
- June 2016*                      **Mulligan K** and Cheyette B (2016) “Introduction to Wnt signaling” *Inborn Errors of Development*, 3<sup>rd</sup> Edition, Oxford University Press
- Dec 2012*                      **Mulligan K** and Cheyette B (2012) “Wnt signaling in vertebrate neural development and function” Review. *J NeuroImmune Pharmacol*. Dec; 7(4) 774-87
- Jan 2012*                      **Mulligan K**, Fuerer C, Ching W, Willert K, Fish M, Nusse R (2012) “Secreted-Wingless interacting molecule (Swim) promotes long-range signaling by maintaining Wingless solubility” *Proc Natl Acad Sci USA*. Jan10;109 (2):370-7
- Nov. 2008*                      Nusse R, Fuerer C, Ching W, **Harnish K\***, Logan C, Zeng A, ten Berge D, Kalani Y. (2008) “Wnt signaling and stem cell control” *Cold Spring Harb Symp Quant Biol*. Nov (73) 59-66. Review
- June 2007*                      **Harnish K\***, Willert K, Nusse R (2007) “Analysis of *Drosophila* Lipocalin, a putative Wnt carrier protein” Wnt Meeting  
Presentation type: Platform
- Nov. 2004*                      Johnson ML, **Harnish K\***, Nusse R, Van Hul W (2004) “LRP5 and Wnt signaling: a union made for bone.” *J Bone Mineral Research*. Nov;19(11):1749-57. Review

\* Kimberly Harnish is my maiden name

## Recent Selected Posters by Research Students

July 2018	Murphy L, Hindi Z, Ghenta K, Nguyen D, and <b>Mulligan K</b> . “Exposure to the Environmental Neurotoxicant Polychlorinated Biphenyl-95 Phenocopies a Common Autism Risk Gene in <i>Drosophila melanogaster</i> ” 77 <sup>th</sup> Annual Society for Developmental Biology Meeting
July 2018	Welch C, Ardon-Castro A, Hu A, Lew A, Murphy L, Nguyen D, and <b>Mulligan K</b> . “The Autism-Associated Chromatin Modifier, <i>kismet/Chromodomain Helicase DNA Binding Protein 8</i> , Affects Axon Guidance and Behavioral Phenotypes in <i>Drosophila melanogaster</i> ” 77 <sup>th</sup> Annual Society for Developmental Biology Meeting
July 2018	Tinsley B, Palacios Y, Welch C, and <b>Mulligan K</b> . “The Autism-Associated Chromatin Modifier, <i>kismet/Chromodomain Helicase DNA Binding Protein 8</i> , Affects Axon Guidance and Behavioral Phenotypes in <i>Drosophila melanogaster</i> ” 77 <sup>th</sup> Annual Society for Developmental Biology Meeting
Jan 2018	Nguyen D, Lew A, Hu A, Murphy L, Welch C, Crawford R, and <b>Mulligan K</b> . “The Autism-Associated Chromatin Modifier, Chromodomain Helicase DNA Binding Protein 8, Affects Axon Guidance and Behavioral Phenotypes in <i>Drosophila</i> ” CSUPERB Annual Biotechnology Symposium
Jan 2018	Hindi Z, Murphy L, Ghenta K, Nguyen D, and Mulligan K <b>Mulligan K</b> . “Exposure to the Environmental Neurotoxicant Polychlorinated Biphenyl-95 Phenocopies a Common Autism Risk Gene in <i>Drosophila melanogaster</i> ” CSUPERB Annual Biotechnology Symposium
March 2017	Murphy L, Nguyen K, Trafton B, Ghenta K, Kumar A, and <b>Mulligan K</b> . “Developing <i>Drosophila melanogaster</i> as a Model for the Identification of Environmental Chemicals that Confer Risk to Autism” 58 <sup>th</sup> Annual <i>Drosophila</i> Research Conference
March 2017	Tupikova A, Dinh A, Torshizi A, Ashley E, and <b>Mulligan K</b> . “Analysis of Dendritic Morphology to Identify Chemicals that Converge with Fmr1 Mutations to Confer Risk of Autism” CSUS Student Research Symposium.
March 2017	Welch C, Lew A, Hu A, Nguyen D, and <b>Mulligan K</b> . “Comparative Analysis of Gut Microbiota in a <i>Drosophila</i> Model of Autism” CSUS Student Research Symposium.

## Grants and Fellowships

2018 – 2019	Pedagogy Enhancement Award ( <i>CSUS pedagogy award</i> )
2018 – 2019	Research and Creative Activities Award ( <i>CSUS research award</i> )
2018 – 2019	Instructionally Related Activities Award ( <i>CSUS research award</i> )
2018 – 2019	Goethe Research Award ( <i>CSUS research award</i> )
2018	Faculty Research Incentive Grant ( <i>CSUS research award</i> )
2017 – 2018	CSUPERB New Investigator Grant Program ( <i>CSU research award</i> )
2017 – 2018	Research and Creative Activities Award ( <i>CSUS research award</i> )
2017 – 2018	Instructionally Related Activities Award ( <i>CSUS research award</i> )
2017 – 2018	Goethe Research Award ( <i>CSUS research award</i> )
2017 – 2018	Exceptional Assigned Time Committee Award ( <i>CSUS research award</i> )
2016 – 2017	CSUPERB New Investigator Grant Program ( <i>CSU research award</i> )
2016 – 2017	Pedagogy Enhancement Award ( <i>CSUS pedagogy award</i> )
2015 – 2016	Provost's Research Incentive Funds Award ( <i>CSUS research award</i> )
2015 – 2016	Promising Practices Course Redesign Award ( <i>CSU pedagogy award</i> )
2011 – 2012	Judith M. Ford T32 NIH Fellowship ( <i>UCSF postdoctoral training grant</i> )
2002 – 2005	Stanford Graduate Fellowship ( <i>Stanford doctoral training grant</i> )