

# KIMBERLY MULLIGAN, PhD

Assistant Professor of Biological Sciences

(916) 278-6152  
kimberly.mulligan@csus.edu  
www.mulliganlab.com  
6000 J St, Sacramento, CA 95819-6077

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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, lafrati 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 (2017) "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

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

## Grants and Fellowships

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