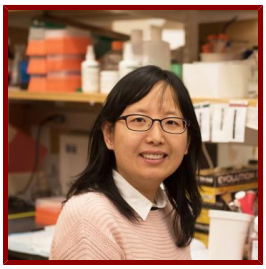
Stanford



# Sui Wang, PhD

Assistant Professor of Ophthalmology

### CONTACT INFORMATION

- **ADMINISTRATIVE CONTACT**

  Sara Horca - Administrative Associate III

  **Email** shorca@stanford.edu

  **Tel** 650-497-1182

## Bio

### ACADEMIC APPOINTMENTS

- Assistant Professor, Ophthalmology
- Member, Bio-X
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

### ADMINISTRATIVE APPOINTMENTS

- Department of Ophthalmology, Stanford University School of Medicine, (2017- present)

### HONORS AND AWARDS

- Pathway to Stop Diabetes Career Initiator Award, American Diabetes Association (2016)
- McCormick and Gabilan Faculty Award, McCormick and Gabilan Foundation (2017)
- E. Matilda Ziegler Foundation for the Blind Award, E. Matilda Ziegler Foundation (2018)

### PROFESSIONAL EDUCATION

- Postdoc, Harvard Medical School , Genetics (2016)
- PhD, Vanderbilt University , Cell and Developmental Biology (2009)
- BS, Fudan University , Biological Sciences (2004)

## Research & Scholarship

### CURRENT RESEARCH AND SCHOLARLY INTERESTS

Our research focuses on understanding the molecular mechanisms that underlie retinal development and diseases. We utilize genetic and genomic tools to uncover how different types of retinal cells, including retinal neurons, glia and the vasculature, respond to developmental cues and disease insults at the epigenomic and transcriptional levels, and how they interact and collectively contribute to the integrity of the retina.

1. Retinal cell fate specification.

We are using genetic tools and methods, such as in vivo plasmid electroporation and CRISPR, to dissect the roles of cis-regulatory elements and transcription factors in controlling retinal cell fate specification.

2. The multicellular responses elicited by diabetes in the retina.

Diabetes can induce multicellular responses in the retina, including vascular lesions, glial dysfunction and neurodegeneration, all of which contribute to retinopathy. We are using diabetic rats as models to investigate the detailed molecular mechanisms underlying the diabetes-induced multicellular responses, and the disease mechanisms of diabetic retinopathy.

3. Molecular tools that allow for cell type-specific labeling and manipulation in vivo.

Cis-regulatory elements, such as enhancers, play essential roles in directing tissue/cell type-specific and stage-specific expression. We are interested in identifying enhancers that can drive cell type-specific expression in the retina and brain, and incorporating them into plasmid or AAV based delivery systems.

## Teaching

### STANFORD ADVISEES

**Doctoral Dissertation Reader (AC)**

Emma Costa, Cosmos Wang

**Postdoctoral Faculty Sponsor**

Liang Li, Cheng-Hui Lin, Man-Ru Wu

### GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Neurosciences (Phd Program)

## Publications

### PUBLICATIONS

- **Dynamic Transcriptional and Translational Profiling of Reactive Muller Glia Following Retinal Injury**
  Ashouri, M., Bhuckory, M., Nahmou, M., Hay, S., Knasel, C. M., Cameron, E. G., Wang, S., Palanker, D. V., Goldberg, J. L.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Defining multiplicity of plasmid electroporation in the retina for high-throughput genetic screening**
  Woodworth, M., Wang, S., Goldberg, J. L., Greig, L.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2021
- **Foxo1 controls gut homeostasis and commensalism by regulating mucus secretion.** *The Journal of experimental medicine*
  Chen, Z., Luo, J., Li, J., Kim, G., Chen, E. S., Xiao, S., Snapper, S. B., Bao, B., An, D., Blumberg, R. S., Lin, C. H., Wang, S., Zhong, et al
  2021; 218 (9)
- **Cell type- and stage-specific expression of Otx2 is regulated by multiple transcription factors and cis-regulatory modules in the retina.** *Development (Cambridge, England)*
  Chan, C. S., Lonfat, N., Zhao, R., Davis, A. E., Li, L., Wu, M., Lin, C., Ji, Z., Cepko, C. L., Wang, S.
  2020
- **Enhancer transcription identifies cis-regulatory elements for photoreceptor cell types.** *Development (Cambridge, England)*
  Perez-Cervantes, C., Smith, L. A., Nadadur, R. D., Hughes, A. E., Wang, S., Corbo, J. C., Cepko, C., Lonfat, N., Moskowitz, I. P.
  2020
- **Enhancer transcription identifies cis-regulatory elements for photoreceptor cell types.** *Development (Cambridge, England)*
  Perez-Cervantes, C. n., Smith, L. A., Nadadur, R. D., Hughes, A. E., Wang, S. n., Corbo, J. C., Cepko, C. n., Lonfat, N. n., Moskowitz, I. P.

2020

- **Cell type- and stage-specific expression of Otx2 is regulated by multiple transcription factors and cis-regulatory modules in the retina.** *Development (Cambridge, England)*
  Chan, C. S., Lonfat, N. n., Zhao, R. n., Davis, A. E., Li, L. n., Wu, M. R., Lin, C. H., Ji, Z. n., Cepko, C. L., Wang, S. n.
  2020
- **Dynamic Transcriptional Profiling of Reactive Muller Glia Following Retinal Injury**
  Ashouri, M., Madaan, A., Nahmou, M., Wang, S., Goldberg, J. L., Cameron, E. G.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2019
- **Neurog3-Independent Methylation Is the Earliest Detectable Mark Distinguishing Pancreatic Progenitor Identity.** *Developmental cell*
  Liu, J., Banerjee, A., Herring, C. A., Attalla, J., Hu, R., Xu, Y., Shao, Q., Simmons, A. J., Dadi, P. K., Wang, S., Jacobson, D. A., Liu, B., Hodges, et al
  2019; 48 (1): 49
- **The THO Complex Coordinates Transcripts for Synapse Development and Dopamine Neuron Survival.** *Cell*
  Maeder, C. I., Kim, J., Liang, X., Kaganovsky, K., Shen, A., Li, Q., Li, Z., Wang, S., Xu, X. Z., Li, J. B., Xiang, Y. K., Ding, J. B., Shen, et al
  2018
- **Synaptotagmin 4 Regulates Pancreatic beta Cell Maturation by Modulating the Ca2+ Sensitivity of Insulin Secretion Vesicles** *DEVELOPMENTAL CELL*
  Huang, C., Walker, E. M., Dadi, P. K., Hu, R., Xu, Y., Zhang, W., Sanavia, T., Mun, J., Liu, J., Nair, G. G., Tan, H., Wang, S., Magnuson, et al
  2018; 45 (3): 347-+
- **Distributed hepatocytes expressing telomerase repopulate the liver in homeostasis and injury.** *Nature*
  Lin, S. n., Nascimento, E. M., Gajera, C. R., Chen, L. n., Neuhöfer, P. n., Garbuzov, A. n., Wang, S. n., Artandi, S. E.
  2018
- **Detection and manipulation of live antigen-expressing cells using conditionally stable nanobodies** *ELIFE*
  Tang, J. C., Drokhlyansky, E., Etemad, B., Rudolph, S., Guo, B., Wang, S., Ellis, E. G., Li, J. Z., Cepko, C. L.
  2016; 5
- **Photoreceptor Fate Determination in the Vertebrate Retina** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Wang, S., Cepko, C. L.
  2016; 57 (5)
- **A Gene Regulatory Network Controls the Binary Fate Decision of Rod and Bipolar Cells in the Vertebrate Retina** *DEVELOPMENTAL CELL*
  Wang, S., Sengel, C., Emerson, M. M., Cepko, C. L.
  2014; 30 (5): 513-527
- **NeuroD Factors Regulate Cell Fate and Neurite Stratification in the Developing Retina** *JOURNAL OF NEUROSCIENCE*
  Cherry, T. J., Wang, S., Bormuth, I., Schwab, M., Olson, J., Cepko, C. L.
  2011; 31 (20): 7365-7379
- **Neurog3 gene dosage regulates allocation of endocrine and exocrine cell fates in the developing mouse pancreas** *DEVELOPMENTAL BIOLOGY*
  Wang, S., Yan, J., Anderson, D. A., Xu, Y., Kanal, M. C., Cao, Z., Wright, C. V., Gu, G.
  2010; 339 (1): 26-37
- **Sustained Neurog3 expression in hormone-expressing islet cells is required for endocrine maturation and function** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Wang, S., Jensen, J. N., Seymour, P. A., Hsu, W., Dor, Y., Sander, M., Magnuson, M. A., Serup, P., Gu, G.
  2009; 106 (24): 9715-9720
- **Myt1 and Ngn3 form a feed-forward expression loop to promote endocrine islet cell differentiation** *DEVELOPMENTAL BIOLOGY*
  Wang, S., Hecksher-Sorensen, J., Xu, Y., Zhao, A., Dor, Y., Rosenberg, L., Serup, P., Gu, G.
  2008; 317 (2): 531-540
- **Loss of Myt1 function partially compromises endocrine islet cell differentiation and pancreatic physiological function in the mouse** *MECHANISMS OF DEVELOPMENT*
  Wang, S., Zhang, J., Zhao, A., Hipkens, S., Magnuson, M. A., Gu, G.
  2007; 124 (11-12): 898-910

- **The fringe molecules induce endocrine differentiation in embryonic endoderm. by activating cMyt1/cMyt3** *DEVELOPMENTAL BIOLOGY*
  Xu, Y., Wang, S., Zhang, H., Zhao, A., Stanger, B. Z., Gu, G.
  2006; 297 (2): 340-349