



Wendy Liu, MD, PhD

Clinical Instructor, Ophthalmology

CLINICAL OFFICES

- **Stanford Byers Eye Institute**

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Bio

BIO

Dr. Wendy Liu, MD, PhD, is a fellowship-trained glaucoma and cataract surgeon. Her clinical practice focuses on management of adult glaucoma and cataracts. She specializes in traditional glaucoma surgery as well as minimally-invasive glaucoma surgery, such as iStent, Hydrus, Xen, KDB, OMNI, and GATT. Her goal is to work together with patients to determine what the best treatment options are for them, so they can maintain the best vision and quality of life.

In addition to clinical practice, Dr. Liu engages in translational research with the goal of finding new druggable targets in glaucoma treatment. Her interests include the role of mechanosensation in the eye as it relates to the pathophysiology of glaucoma.

Dr. Liu graduated summa cum laude from Princeton University with a degree in Molecular Biology and certificates in biophysics, materials science and engineering. She received several awards for excellence in academics and research, including the Shapiro Award for Academic Excellence, the American Society for Microbiology Undergraduate Research Fellowship, and the Sigma Xi Book Award for the best senior thesis. She subsequently earned her MD with honors from Harvard Medical School in the Harvard-MIT Program in Health Sciences and Technology, and PhD in Neurobiology from Harvard University. At Harvard, she was awarded the Presidential Scholarship and Martha Gray Prize for Excellence in Research. She was selected to receive a Howard Hughes Medical Institute research fellowship for her PhD work, which led to the discovery of novel thermosensory and olfactory circuits in the fruit fly using in vivo electrophysiology. She completed her ophthalmology residency at Massachusetts Eye and Ear, where she was awarded the Gragoudas Folkman Award for the best research grant proposal. She completed her glaucoma fellowship at Wills Eye Hospital.

Dr. Liu has published first-author articles in journals including New England Journal of Medicine, Nature, Proceedings of the National Academy of Sciences, and Current Biology. She is a member of the American Academy of Ophthalmology, the Association for Research in Vision and Ophthalmology, and the American Glaucoma Society.

CLINICAL FOCUS

- Ophthalmology

- Glaucoma
- Cataracts
- Minimally Invasive Surgical Procedures

ACADEMIC APPOINTMENTS

- Clinical Instructor, Ophthalmology

HONORS AND AWARDS

- Heed Ophthalmic Foundation Residents Retreat, Heed Ophthalmic Foundation
- Gragoudas-Folkman Award, Massachusetts Eye and Ear
- Martha Gray Prize for Excellence in Research, Harvard Medical School
- Presidential Scholarship, Harvard Medical School
- International Student Research Fellowship, Howard Hughes Medical Institute
- Graduated Summa Cum Laude with Highest Honors in Molecular Biology, Princeton University
- Certificates in Biophysics, Materials Science and Engineering, Princeton University
- George Khoury '65 Prize for Academic Excellence, Princeton University
- Sigma Xi Book Award for best senior thesis in Molecular Biology, Princeton University
- Phi Beta Kappa, Princeton University
- Sigma Xi, Princeton University

PROFESSIONAL EDUCATION

- Fellowship, Wills Eye Hospital , Glaucoma
- Residency, Massachusetts Eye and Ear , Ophthalmology
- Internship, Beth Israel Deaconess Medical Center , Internal Medicine
- MD, Harvard Medical School , Medicine
- PhD, Harvard University , Neurobiology
- AB, Princeton University , Molecular Biology

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Dr. Liu's research interests include the role of mechanosensation in the eye as it relates to the pathophysiology of glaucoma, with the goal of finding new druggable targets in glaucoma treatment.

Questions we are interested in studying include:

- 1) What are the ion channels that mediate pressure sensing in the eye?
- 2) What physiological roles do these channels play in the eye?
- 3) How do these ion channels mediate the development of ocular pathologies?

We study these questions using a combination of techniques including patch clamp electrophysiology, molecular biology, human genetics, and animal models of glaucoma and other ocular diseases.

** We are currently looking for postdoctoral fellows and researchers to join our group. Highly motivated candidates with expertise in techniques such as eye and brain histology, molecular and cellular biology, patch clamp electrophysiology, calcium imaging and animal handling experience are encouraged to apply.

Requirements: Completion of PhD, MD, or MD PhD training. Previous experience in vision or neuroscience research is ideal.

How to Apply: Please send a copy of your CV (please include list of publications, research skills, and contact for 3 references) to: Dr. Wendy Liu
wendywliu@stanford.edu **

Publications

PUBLICATIONS

- **Repair of Tube Erosion by Modifying the Tube Extender** *JOURNAL OF GLAUCOMA*
Liu, W. W., Werner, A., Chen, T. C.
2020; 29 (7): 604-606
- **Three-dimensional Neuroretinal Rim Thickness and Visual Fields in Glaucoma: A Broken-stick Model.** *Journal of glaucoma*
Liu, W. W., McClurkin, M., Tsikata, E., Hui, P. C., Elze, T., Celebi, A. R., Khoueir, Z., Lee, R., Shieh, E., Simavli, H., Que, C., Guo, R., de Boer, et al
2020; 29 (10): 952-963
- **Imaging Retinal Ganglion Cell Death and Dysfunction in Glaucoma.** *International ophthalmology clinics*
Liu, W. W., Margeta, M. A.
2019; 59 (4): 41-54
- **Diagnosing Myasthenia Gravis with an Ice Pack** *NEW ENGLAND JOURNAL OF MEDICINE*
Liu, W. W., Chen, A.
2016; 375 (19): E39
- **Thermosensory processing in the Drosophila brain** *NATURE*
Liu, W. W., Mazor, O., Wilson, R. I.
2015; 519 (7543): 353-+
- **Transient and Specific Inactivation of Drosophila Neurons In Vivo Using a Native Ligand-Gated Ion Channel** *CURRENT BIOLOGY*
Liu, W. W., Wilson, R. I.
2013; 23 (13): 1202-1208
- **Glutamate is an inhibitory neurotransmitter in the Drosophila olfactory system** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
Liu, W. W., Wilson, R. I.
2013; 110 (25): 10294-10299
- **Organic-inorganic interfaces and spiral growth in nacre** *JOURNAL OF THE ROYAL SOCIETY INTERFACE*
Yao, N., Epstein, A. K., Liu, W. W., Sauer, F., Yang, N.
2009; 6 (33): 367-376
- **A Microfluidic Chamber for Analysis of Neuron-to-Cell Spread and Axonal Transport of an Alpha-Herpesvirus** *PLOS ONE*
Liu, W. W., Goodhouse, J., Jeon, N., Enquist, L. W.
2008; 3 (6): e2382