

2025 J. William Kohl, M.D. Summer Scholarship for Medical Students
Department of Ophthalmology & Vision Science
University of California Davis

The Department of Ophthalmology & Vision Science at UC Davis is pleased to announce the J. William Kohl Summer Scholarship for medical students. This opportunity provides a stipend of \$2,500 for at least eight medical students undertaking mentored research in the vision sciences.

Additionally, this scholarship also includes a \$1,200 travel grant, which is intended to defray the cost of presenting your research at a national ophthalmology conference.

Eligibility Requirements

- Currently enrolled in an accredited U.S. medical school
- Interested in pursuing a career in ophthalmology
- Students currently working on ongoing research with a UC Davis faculty member may apply for funding through the Kohl scholarship only if they are not receiving funding through other sources during the summer quarter
- Prior recipients of the Kohl Summer Research Scholarship are NOT eligible to receive the scholarship again

Non-UC Davis medical students: Medical students outside of UC Davis will coordinate with UC Davis staff to determine the manner in which scholarship funds may be received by you or your institution. It is the responsibility of the student to secure housing and all necessary transportation needed for the summer.

Kohl Scholars Research Symposium

In fall 2025, scholars will present their research at an evening research symposium at UC Davis Eye Center. Those students participating from other institutions may present virtually.

Scholarship Application Timeline

- Application deadline: March 15, 2025
 - Submit all application items (see page 2) to ucdkohlscholars@gmail.com
- Scholarships are awarded on a rolling basis. It is recommended to submit your application as early as possible.

2025 J. WILLIAM KOHL SUMMER RESEARCH SCHOLARSHIP APPLICATION

Name:

School/institution:

Current year in medical school:

Describe your interest in ophthalmology and/or vision science research. What is your prior experience with research? If you have prior research experience, include a brief description of a prior project and your involvement in the project. (limit 500 words)

Have you been previously awarded the J. William Kohl Summer Research Scholarship at UC Davis? (Y/N)

- *Note: Prior recipients of the Kohl Summer Research Scholarship are NOT eligible to receive the scholarship again*

For rising third- and fourth-year medical students (academic year 2025-2026), will you be on a clinical clerkship during summer 2025? If so, how do you plan to incorporate performing research into your schedule?

Please also provide the following items:

- Current CV
- A up-to-date copy of your medical student transcript

Please numerically rank up to 3 projects that you are interested in (1 = most interested). If selected for the scholarship, you will be assigned to one of the three projects you ranked. You do not need to rank more than one project if there is only one project you would like to apply for. If you have questions about a project, please reach out to the research mentor directly.

Rank (1-3)	Project Title	Mentor
	Clinical trial of VR headset synoptophore	Ben Jastrzembski M.D.
	Effect of intravitreal injection of human CD34+ stem cells and exosomes from mesenchymal stem cells on a murine model of diabetic retinopathy	Susanna Park M.D. Ph.D.
	Metabolomic profiling in patients with idiopathic intracranial hypertension (IIH)	Allison Liu M.D. Ph.D.
	Visual outcomes in pediatric patients with MOGAD	Allison Liu M.D. Ph.D.
	Role of steroids in central serous chorioretinopathy	Glenn Yiu M.D. Ph.D.
	Role of suprachoroidal anatomy in retinal diseases	Glenn Yiu M.D. Ph.D.
	Impact of lipids and oral statins on AMD	Glenn Yiu M.D. Ph.D.
	Ocular hypertension following local steroid injections in uveitis	Kareem Moussa M.D. and Michele Lim M.D.
	Role of inflammation and vitamin D in age-related macular degeneration (AMD)	Parisa Emami-Naeini M.D. M.P.H.
	Creation of a 3-D Printed Model Eye for the Practice of Goldmann Applanation Tonometry	Michele Lim M.D.

RESEARCH OPPORTUNITIES FOR 2025 J. WILLIAM KOHL SUMMER RESEARCH SCHOLARSHIP

Project: Clinical trial of virtual reality (VR) headset synoptophore

Mentor: Ben Jastrzembski, M.D. (benjast@ucdavis.edu)

Description: We have developed custom-built software to be used with the commercially available Oculus Quest Pro VR headset that provides similar diagnostic information as clinical sensorimotor examinations (e.g. prism or cover test) or a mechanical synoptophore. These tests provide invaluable information for planning of strabismus (eye misalignment) surgery.

Project: Effect of intravitreal injection of human CD34+ stem cells and exosomes from mesenchymal stem cells on a murine model of diabetic retinopathy

Mentor: Susanna Park, M.D. Ph.D. (sscpark@ucdavis.edu)

Project: Metabolomic profiling in patients with idiopathic intracranial hypertension (IIH)

Mentor: Allison Liu, M.D. Ph.D. (aycliu@ucdavis.edu)

Description: IIH typically affects young obese women of reproductive age and is suspected to be a metabolic disorder potentially related to sex hormones. We have metabolomic data from 322 patients and controls, and the goal is to analyze these data to identify metabolites associated with the disease. The student will work closely with the mentor to learn about research design, data analysis, basic statistics, data presentation, manuscript writing, abstract submission, and manuscript revision.

Project: Visual outcomes in pediatric patients with MOGAD

Mentor: Allison Liu, M.D. Ph.D. (ayliu@ucdavis.edu)

Description: Myelin oligodendrocyte glycoprotein antibody-associated disease (MOGAD) often affects children and is frequently characterized by unique features of optic neuritis. However, the visual outcomes in pediatric MOGAD have not been systematically evaluated. We have collected data from Stanford, UC Davis, and UCSF spanning the past 15 years. This project aims to consolidate these datasets to produce a comprehensive manuscript reporting visual outcomes for this patient population. This study will provide valuable insights for predicting visual prognosis based on ophthalmic exams and testing data.

Project: Role of steroids in central serous chorioretinopathy

Mentor: Glenn Yiu, M.D. Ph.D. (gyiu@ucdavis.edu)

Description: Retrospective study of patients with CSCR to determine what type, dose, route of steroid had been used in the time prior to onset.

Project: Role of suprachoroidal anatomy in retinal diseases

Mentor: Glenn Yiu, M.D. Ph.D. (gyiu@ucdavis.edu)

Description: Cross-sectional study of suprachoroidal layer thickness in patients with AMD or CSCR or RD to determine if the layer may regulate fluid buildup or resolution in these patients

Project: Impact of lipids and oral statins on AMD

Mentor: Glenn Yiu, M.D. Ph.D. (gyiu@ucdavis.edu)

Description: Database study to evaluate the association of plasma lipid profile, oral statins intake, and genetic risk on AMD severity using the UK Biobank

Project: Ocular hypertension following local steroid injections in uveitis

Mentor: Kareem Moussa, M.D. (kamoussa@ucdavis.edu) and Michele Lim, M.D. (mclim@ucdavis.edu)

Description: This is a retrospective chart review in which we seek to identify risk factors for the development of ocular hypertension following local steroid injections for uveitis and evaluate treatment outcomes across the various local steroid treatment formulations and routes.

Project: Role of inflammation and vitamin D in age-related macular degeneration (AMD)

Mentor: Parisa Emami-Naeini, M.D. M.P.H. (pemamin@ucdavis.edu)

Description: In these studies, we will use a large prospective database (UK Biobank), which includes ~500,000 participants, with extensive biomedical data, including serum 25-hydroxyvitamin D (25(OH)D) measurements, inflammatory biomarkers, and linked health records. The primary objective of this study is to investigate whether low serum vitamin D levels and increased level of inflammatory markers are associated with increased risk of AMD. My team has access to and is using this database to answer various questions. The Kohl scholars will be integrated in my team to use the database to extract data on AMD patients and perform the analyses.

Project: Creation of a 3-D Printed Model Eye for the Practice of Goldmann Applanation Tonometry

Mentor: Michele Lim, M.D. (mclim@ucdavis.edu)

Description: Goldmann applanation tonometry is considered the gold standard of intraocular pressure measurement. It is a requirement for every eye care provider to be able to conduct such measurements. However, the technique requires a high level of skill to perform and mistakes can lead to harm to the patient. A simulation model would allow for independent practice so that this technique can be performed in patients safely. This project aims to create an eye model and we will collaborate with the Translating Engineering Advances to Medicine (TEAM) Lab at UC Davis which is a part of the Department of Biomedical Engineering. The MS1 will collaborate with Dr. Lim, and ophthalmology resident Dr. Rachna Goli as well as the TEAM lab to help create this simulation model.

Attributes of the applicant: We are looking for an MS1 with a background in biomedical engineering or other engineering education.