Stanford OPHTHALMOLOGY | Stanford Center for Optic Disc Drusen, Byers Eye Institute

5th Annual Stanford Center for Optic Disc Drusen Conference Agenda

Monday, April 22, 2024 • 8AM-4PM PDT
In-person: Conference Room D110, Stanford Research Park,
3145 Porter Dr., Palo Alto, CA 94304

Virtual: via Zoom webinar

Visit the ODD website:
med.stanford.edu/optic-disc-drusen

Visit our department website:
med.stanford.edu/ophthalmology

EVENT ORGANIZERS

Joyce Liao, MD, PhD
Director, Center for Optic Disc Drusen at Stanford
Stanford Medicine Professor of Ophthalmology
and Professor of Neurology

Jeffrey Goldberg, MD, PhD
Blumenkranz Smead Professor and Chair of Ophthalmology

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Time	Topic	Speakers/Moderators
7:30am – 7:55am PDT	**In-person:** Stanford Research Park Conference Center. 3145 Porter Drive, Conference room D110, Palo Alto, CA, 94304 Parking is free or walk from ophthalmology labs Check in at registration desk for souvenirs and enjoy breakfast **Virtual:** Zoom webinar opens at 7:45am PDT	Any issues, please email us at OpticDiscDrusen@stanford.edu
8:00am – 8:02am	**Welcoming remarks**	**Jeffrey Goldberg, MD, PhD**
8:02am – 8:10am	**Introduction to Stanford Center for Optic Disc Drusen and our research goals**	**Joyce Liao, MD, PhD**
8:10am – 10:00am PDT (110 min)	**Session 1: Optic disc drusen: clinical presentations and multimodal imaging**	**Moderators: Heather Moss, MD, PhD Shannon Beres, MD**
8:10am – 8:30am (20 min)	Optic disc drusen-associated optic nerve stroke	Joyce Liao, MD, PhD
8:30am – 8:50am (20 min)	Ciliopathies: optic disc drusen-associated syndromic diseases	Yang Sun, MD, PhD
8:50am – 9:10am (20 min)	Papilledema or pseudopapilledema: optic disc drusen in children	Shannon Beres, MD
9:10am – 9:30am (20 min)	Optic disc drusen-associated choroidal neovascularization	Gabriel Velez, MD, PhD
9:30am – 9:50am (20 min)	Optic disc drusen-associated macular drusen and retinal degeneration	Anas Alkhabaz, MBBS
9:50am – 10:00am (10 min)	Discussion	Moderators
10:00am – 10:20am PDT (20 min)	**Break *(food and drinks in café area)***	

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Agenda Continued

all times in PDT

Time	Topic	Speakers/Moderators
10:20am – 12:00pm PDT (100 min)	**Session 2: Mitochondria and optic nerve calcification**	**Moderators: Alfredo Sadun, MD, PhD David Myung, MD, PhD**
10:20am – 10:50am (30 min)	Anterior optic nerve and mitochondrial impairment	Alfredo Sadun, MD, PhD
10:50am – 11:10am (20 min)	Biomineralization of the optic nerve	Joyce Liao, MD, PhD
11:10am – 11:30am (20 min)	Calcification of human retinal ganglion cells	Hirenkumar Patel, PhD
11:30am – 11:50am (20 min)	Ultrastructural analysis of human mitochondria in eye-brain diseases	Wah Chiu, PhD
11:50am – 12:00pm (10 min)	Discussion	Moderators
12:10pm – 12:50pm PDT (40 min)	**Patient Q&A Session, Open Discussion/Lunch** **In-person:** Stanford Research Park Conference Center, Room D110 **Virtual:** via Zoom webinar	**Moderators: Shannon Beres, MD, Joyce Liao, MD, PhD Heather Moss, MD, PhD**
1:00pm – 2:35pm PDT (95 min)	**Session 3: Genomics, multiomics, and treatment of optic neuropathies**	**Moderators: Jeffrey Goldberg, MD, PhD Rui Chen, PhD**
1:00pm – 1:30pm (30 min)	Single cell atlas of human optic nerve	Rui (Ray) Chen, PhD
1:30pm – 1:50pm (20 min)	Searching for optic disc drusen genes	Joyce Liao, MD, PhD Rui (Ray) Chen, PhD
1:50pm – 2:10pm (20 min)	Optineurin in optic nerve degeneration and regeneration	Yang Hu, MD, PhD
2:10pm – 2:30pm (20 min)	Gliotherapeutics for optic neuropathies	Jeffrey Goldberg, MD, PhD
2:30pm – 2:40pm (10 min)	**Discussion and Wrap up**	**Joyce Liao, MD, PhD Jeffrey Goldberg, MD, PhD**

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Agenda Continued

all times in PDT

2:40pm – 3:30pm (50 min)	**Reception and Poster Session** ***(hors d'oeuvre appetizers and refreshments)*** **Poster presenters: Please stand by your poster at the first 30 min (2:40-3:10pm) of the poster session.** The attendees are excited to talk to the people who did the work. **In-person:** Please join us for light refreshments during the poster session. **Virtual:** We hope you can join us in person in the future!	All in person attendees

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Anas Alkhabaz, MBBS
Postdoctoral Scholar – Liao Lab
Stanford University

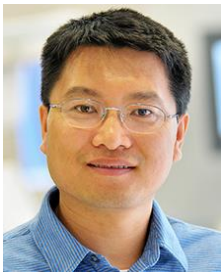
Dr. Alkhabaz received his medical degree from Alfaisal University College of Medicine, Saudi Arabia, in August 2023. He recently joined the Liao Lab as a postdoctoral scholar where he is studying clinical associations of optic disc drusen and analyzing patient-derived fibroblast samples. His basic research will focus on studying models of optic nerve and retinal ganglion cell diseases.

Shannon Beres, MD
Clinical Associate Professor of Neurology and (by courtesy) of Ophthalmology, Stanford University

Dr. Shannon Beres is a pediatric and adult neuro-ophthalmologist. She is currently working on projects using hand-held optical coherence tomography in infants and young children. She contributes to multi-site studies in pediatric optic neuritis, cranial neuropathies, pseudotumor cerebri syndrome, and optic pathway gliomas.

Wah Chiu, PhD
Wallenberg-Bienenstock Professor of Bioengineering
Director of Cryogenic electron microscopy and Bioimaging
Stanford Linear Accelerator Center (SLAC) National Accelerator Laboratory, Stanford University

Dr. Chiu's work has made multiple transformational contributions in developing single particle CryoEM for the structural determination of molecular machines at atomic resolution. His recent research is devoted to characterization of subcellular structure signatures of cells normal and pathological states with and without therapeutic intervention. Dr. Chiu is an elected member of the National Academy of Sciences.



Rui Chen, PhD
Professor of Molecular and Human Genetics
Baylor College of Medicine

Dr. Chen, a professor at Baylor College of Medicine's Department of Molecular and Human Genetics, directs both the Center for Single Cell Omics and the ATC Single Cell Genomics Core. His research utilizes genetics, genomics, model systems, and bioinformatics to unravel the genetic basis of human retinal diseases. Additionally, Dr. Chen is leading the effort of creating the human eye's single-cell atlas for the Human Cell Atlas project, employing cutting-edge single-cell omics and spatial transcriptomics technologies.

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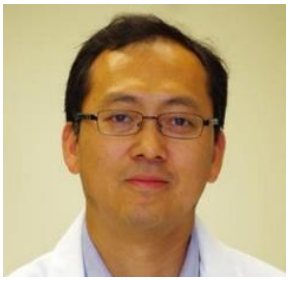
Jeffrey Goldberg, MD, PhD
Blumenkranz Smead Professor and Chair of Ophthalmology
Stanford University

Dr. Goldberg's clinical effort is focused on medical and surgical intervention for treatment of glaucoma and other optic nerve diseases. His research is directed at neuroprotection and regeneration of retinal ganglion cells and the optic nerve. His laboratory is developing novel stem cell and nanotherapeutics approaches for treatment of vision loss.



Yang Hu, MD, PhD
Associate Professor of Ophthalmology
Stanford University

Dr. Yang Hu is working on neuroprotection and axon regeneration for optic neuropathies. His lab focuses on the molecular mechanisms responsible for axon injury-induced neuronal degeneration with the goal of building on this understanding to develop effective combined strategies to promote neuroprotection, regeneration and functional recovery.

Joyce Liao, MD, PhD
Director, Center for Optic Disc Drusen at Stanford
Stanford Medicine Professor of Ophthalmology
and Professor of Neurology, Stanford University

Dr. Liao is dedicated to making basic discoveries and improving clinical care and treatment of patients with eye-brain issues like optic disc drusen and ischemic optic neuropathy. She runs a basic science laboratory focused on optic nerve diseases and retinal ganglion cells and a human clinical research group investigating risk factors for disease and testing highly promising novel therapies. Her goal is to improve the diagnosis and treatment of patients suffering from vision loss due to optic neuropathies.

Heather Moss, MD, PhD
Professor of Ophthalmology and of Neurology
Director, Neuro-Ophthalmology Fellowship
Stanford University

Dr. Moss is a physician-scientist who provides expert neuro-ophthalmic clinical care. She directs an innovative clinical-research program in biomarker discovery. Dr. Moss's clinical and research interests focus on idiopathic intracranial hypertension, optic neuritis, other optic neuropathies, and multiple sclerosis. She is also an expert in telemedicine.

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David Myung, MD, PhD
Associate Professor of Ophthalmology and, by courtesy, of Chemical Engineering, Stanford University

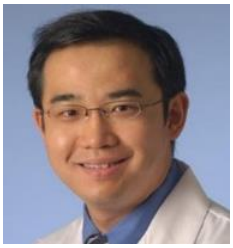
Dr. Myung is an ophthalmologist and attending physician specializing in cataract and corneal surgery and external diseases of the eye. He is the Director of the Ophthalmic Innovation Program. Myung leads a research group that takes an interdisciplinary approach toward fostering regeneration of ocular tissues. He is also Director of the Stanford Teleophthalmology Automated Testing and Universal Screening Program, which is pushing the boundaries of telemedicine and artificial intelligence (AI) to improve eye care worldwide.

Hirenkumar Patel, PhD
Postdoctoral Scholar, Liao Lab
Stanford University

Dr. Patel received his PhD in 2018 from Mumbai University, India. He is a postdoctoral Scholar in the Liao Lab. He works in the area of stem cells and their differentiation to retinal ganglion cells (RGC). Presently, he is working on the derivation of fibroblast cell lines from patients' skin biopsies and evaluation of their basic cellular function and metabolic activity under different calcification conditions.

Alfredo A. Sadun, MD, PhD
Flora L. Thornton Endowed Chair and Chief of Ophthalmology, Doheny, Vice-Chair of Ophthalmology
University of California Los Angeles

Dr. Sadun is an international authority in neuro-ophthalmology, especially in diseases of the optic nerve. He maintains an active laboratory with research centered on the clinical, psychophysical and laboratory studies of diseases of the optic nerve, diseases of mitochondrial impairment, optic nerve regeneration, and neuro-protection. Dr. Sadun has made pivotal discoveries on Leber hereditary optic neuropathy, and he was the first to identify an optic neuropathy associated with Alzheimer's disease.



Yang Sun, MD, PhD
Professor of Ophthalmology and Vice Chair of Academic Affairs
Stanford University

Dr. Yang Sun is a clinician-scientist with a clinical specialty in glaucoma. He practices at both Byers Eye Institute at Stanford as well as at VA Palo Alto Health Care System. He is an NIH and VA-funded investigator with a research focus on the role of inositol metabolism in eye development and disease. The current research interests in his lab include the elucidation of the mechanisms in cilia-mediated signaling in developmental and degenerative eye conditions.

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Gabriel Velez, MD, PhD
Ophthalmology Resident
Stanford University

Gabriel Velez is a PGY2 ophthalmology resident at Stanford. He received his bachelor's in molecular biology from Winona State University in 2014. He completed his MD and PhD at the University of Iowa. His Ph.D. research focused on studying the structure of the calpain-5 (CAPN5) protein and its role in the development of neovascular inflammatory vitreoretinopathy, a rare blinding disease. His research interests include translational proteomics, retinal disease, ocular oncology, structural biology, mass spectrology, drug design, and bioinformatics.