Glaucoma FAST TRACK℠

October 8, 2025

Atlanta, GA

Brightfocus.org/GlaucomaFastTrack

#GlaucomaFastTrack

BrightFocus® Foundation

Cure in Mind. Cure in Sight.

Welcome To the BrightFocus Glaucoma Fast Track℠ 2025 Workshop!

For more than 50 years, BrightFocus Foundation has supported early-career scientists in their quest to discover cures for diseases of mind and sight. We are proud to organize and sponsor the Glaucoma Fast Track workshop, a unique immersive opportunity for emerging researchers to learn from, and interact with, leaders in this field. We are especially excited to hold Glaucoma Fast Track as a pre-symposium to the International Society for Eye Research (ISER) Glaucoma Symposium.

At BrightFocus, our mission is clear: harness the power of science to end the conditions we fear most—loss of sight and loss of mind. Through our support of research on glaucoma, macular degeneration, and Alzheimer's, we serve as an umbrella for scientific innovation in neurodegenerative disease research, uniquely positioned for experts to share discoveries about one disease to inform another. I encourage you to bring your most creative, most innovative ideas to BrightFocus.

We are proud to support early-stage scientists in glaucoma research. As an independent nonprofit organization, BrightFocus is free to support investigator-initiated research that crosses borders and disciplines. The world-class members of our scientific review committees seek out the untried, the unexpected, and the most promising. Since our inception, we have invested more than $310 million in innovative research grants across 28 countries, thanks to generous donor support.

For more information on our research opportunities, please visit **brightfocus.org/apply** or email us at researchgrants@brightfocus.org.

I hope that your time at Glaucoma Fast Track is meaningful and rewarding, accelerating your path toward scientific discovery. Please remember that your journey doesn't stop at the end of this workshop or the accompanying ISER/BrightFocus Glaucoma Symposium. As alumni of the BrightFocus Glaucoma Fast Track, please keep in touch with each other and with BrightFocus. We hope this experience sparks collaboration and innovation for years to come.

Sincerely,

Diane Bovenkamp

Diane Bovenkamp, PhD
Vice President of Scientific Affairs

About the Workshop

Workshop Goals

Glaucoma Fast Track helps speed progress toward a cure for glaucoma by investing in promising scientists in the field of vision research. This workshop offers graduate students, postdocs, and other early-career researchers an immersive environment to learn and discuss foundational knowledge and recent discoveries through close interaction with established leaders in the field.

As a participant in this workshop, by its end you will have immersed yourself in the latest discoveries in glaucoma research and connected with preeminent vision scientists and early-stage researchers from across the globe.

Share your photos and key takeaways from Glaucoma Fast Track on social media using the #GlaucomaFastTrack hashtag.

Thank you to this year's co-organizers and co-chairs: Diane Bovenkamp, PhD; Abbott F. Clark, PhD; Colleen McDowell, PhD; and Rebecca M. Sappington, PhD.

Thank You to Our Fast Track Sponsors

BrightFocus Foundation Board of Directors

RKD GROUP

J.P.Morgan PRIVATE BANK

Atlantic Union Bank

CORENTUS
Elevating leadership and team effectiveness

MOORE

COPILEVITZ, LAM & RANEY

STELTER

Sponsors as of October 2, 2025

BrightFocus Glaucoma Fast Track Session Schedule

All times are listed in the local time (Eastern Standard Time)

07:45-08:00	**WELCOME AND INTRODUCTIONS** **Diane Bovenkamp, PhD**
08:00-09:00	**OPENING TALK** What is Glaucoma? Clinical Aspects of Glaucoma **Yvonne, Ou, MD** Moderator: **Diane Bovenkamp, PhD**
09:00-10:15	**SESSION 1: FUNDAMENTALS SESSION** How and What You Need to Consider in the Modeling (Approach to Inducing Front and Back of the Eye) and the Pathobiology (to Demonstrate Key Outcomes) **Michael Elliott, PhD:** Pressure-Induced Models for the TM **Robert W. Nickells, PhD:** Use of Optic Nerve Crush Model **Rebecca M. Sappington, PhD:** Pressure-induced Model **Colleen McDowell, PhD:** Transgenic Models Moderator: **Abbott F. Clark, PhD**
10:15-10:45	***Coffee Break***
10:45-12:00	**SESSION 2: NEW MODELS AND MODELING OUTCOMES** **Gillian McLellan, BVMS, PhD:** Large Animal Models **Brad Fortune, OD, PhD:** Best Ways to Image and Select Outcomes **Jason Meyer, PhD:** Stem Cells **Tasneem Sharma, PhD:** Perfusion Organ Cultures and the Application of Stem Cells Moderator: **Colleen McDowell, PhD**
12:00-13:15	***Lunch Break***
13:15-14:30	**SESSION 3: AI AND IMAGING** **Kevin Chan, PhD:** Overview of Imaging: Comparison of OCT, MRI Eye-Brain Connection **Luca Della Santina, PhD:** AI Approach to Identify Synapses **Michael G. Anderson, PhD:** AI Approach to Count Axons **Cecilia Lee, MD:** AI-Powered Insights From Clinical Data: Advancing Glaucoma Research Moderator: **Rebecca M. Sappington, PhD**
14:30-15:30	**SESSION 4: GENETICS / FUTURE THERAPIES** **Janey L. Wiggs, MD, PhD:** Update on Genetics **Yutao Liu, PhD:** Using GWAS Data in Basic Research **Ahmara G. Ross, PhD:** Challenges of Using Gene Therapy in Glaucoma Moderator: **Abbott F. Clark, PhD**
15:30-16:00	***Coffee Break***
16:00-17:00	**FINANCING SCIENTIFIC PURSUITS/GOALS** **Paloma Liton, PhD** **Abbott F. Clark, PhD** **Jimmy Liu, PhD** **Cynthia Steel, PhD** Moderator: **Rebecca M. Sappington, PhD**

Special Session on Communication & Collaboration

There will be a special session on Communication & Collaboration exclusively for all travel fellows attending the 2025 meeting. This session, presented by communication expert Bri McWhorter, will take place on October 7 from 4:00-6:00 pm, followed by a networking dinner. Attendance to this event is mandatory for all Travel Awardees.

Bri McWhorter, Founder and CEO, Activate To Captivate

Bri McWhorter is the founder of Activate to Captivate, where she teaches communication techniques from an actor's point of view. She specializes in public speaking, presentation skills, scientific communications, interview skills, and interpersonal communications. Bri has worked with a variety of organizations including top universities around the country, Fortune 500 companies, government organizations such as the NIH and Special Forces, and numerous scientific foundations. Bri enjoys helping people distill complex information into engaging stories to share with others.

Speakers

Mike Anderson, PhD

Professor, Department of Molecular Physiology and Biophysics, Carver College of Medicine Iowa Glaucoma Center, Institute for Vision Research, University of Iowa

Dr. Anderson is a geneticist who emphasizes use of mouse models in his work on glaucoma at the University of Iowa. His approaches are often centered on phenotype-driven genetics, which offers an opportunity to discover pathways important in the physiologically-relevant context of a whole animal. Using this approach over the past 25 years, he has studied genes influencing ocular disease as simple Mendelian factors (Sh3pxd2b, Myoc, Tbk1, Apbb2), digenic interactions (Gpnmb & Tyrp1), modifiers (Ab3b1, Tyr), and quantitative traits (Cctq, Mrdq, Acdq). He also uses mouse genetics to perform functional tests of mechanism, including studies of loci implicated in glaucoma via GWAS. All these projects are heavily dependent on an ability to work with mice and phenotype them rigorously. In recent years, the need for quantitative phenotyping of retinal ganglion cells and their axons has led Dr. Anderson to collaboratively contribute to development of several resources for automated phenotyping, including iterations of AxonDeep and AxoNet. In ongoing work, Dr. Anderson continues to help build the capabilities of these tools, which have the promise to move advances from the rapidly evolving AI and imaging fields into breakthroughs for glaucoma. and endogenous damage-associated immunomodulatory.

Diane Bovenkamp, PhD | Co-Chair, Glaucoma Fast Track Organizing Committee

Vice President of Scientific Affairs, BrightFocus Foundation

Diane Bovenkamp, PhD, Vice President of Scientific Affairs, is the chief scientist at BrightFocus Foundation, overseeing global operations of the organization's research programs. She serves as the scientific liaison in local, national, and international forums, and identifies and develops new research initiatives, partnerships, and funding policies consistent with the mission of BrightFocus.

Dr. Bovenkamp obtained her PhD in Biochemistry from Queen's University in Kingston, Ontario, Canada, discovering and studying Eph receptors in angiogenesis and neural development in zebrafish and mice. She completed a Postdoctoral Fellowship in the Vascular Biology Program at Boston Children's Hospital/Harvard Medical School, isolating and characterizing zebrafish neuropilins. Dr. Bovenkamp conducted further research at the Johns Hopkins University Bayview Proteomics Center in the Division of Cardiology at Johns Hopkins School of Medicine in Baltimore, Maryland, using proteomic techniques for biomarker detection in human serum.

Kevin Chan, PhD

Associate Professor, Stanford University

His laboratory focuses on developing and applying new, non-invasive methods for imaging neurodegeneration, neurodevelopment, neuroplasticity, and neuroregeneration in both humans and experimental animal models of glaucoma and other vision-related diseases and injuries to guide vision preservation and restoration. Dr. Chan completed his doctoral studies in biomedical engineering at The University of Hong Kong, and was awarded the Li Ka Shing Prize for the best PhD thesis at the University studying imaging of the visual system. He has nearly two decades of experience in structural, metabolic, and functional magnetic resonance imaging (MRI) research on the eye and brain. At NYU, his team also combines the use of optical coherence tomography, MRI, neuromodulation, and psychophysical assessments to determine the processes underlying the interplay among eye, brain, and behavior in health and disease. Dr. Chan is a 2024 Gold Fellow of the Association for Research in Vision and Ophthalmology (ARVO). In addition, he received the 2019 BrightFocus Foundation Thomas R. Lee Award for Glaucoma Research.

Abbott F. Clark, PhD

Graduate School of Biomedical Sciences, Executive Director and FARVO Professor, North Texas Eye Research Institute, Executive Director and Regents Professor, Pharmacology & Neuroscience, University of North Texas Health Science Center

Prior to joining UNTHSC 16 years ago, Abe worked at Alcon Laboratories for 23 years, departing as Vice President of Discovery Research and Head of Glaucoma Research to join UNTHSC. His research has been focused on the discovery of molecular pathogenic pathways for glaucomatous damage to the eye in order to develop novel disease modifying therapies for glaucoma. Abe's laboratory has recently discovered both small molecule, gene therapies, and genome editing that prevent glaucoma damage to the eye and vision centers of the brain. Dr. Clark collaborates with a number of other investigators around the world in order to perform interdisciplinary and translational research. Abe's lab has been continuous funded by grants from the NEI, Department of Defense, and pharmaceutical/biotechnology companies. Dr. Clark has published more that 250 peer-reviewed scientific articles, 22 book chapters and is the editor of 2 ophthalmic textbooks. He is an inventor of more than 80 patents. Abe has given over 140 invited national and international presentations of his research and has organized and/or chaired sessions in 26 national and international scientific meetings. He serves on the editorial boards of 3 ophthalmic journals and Molecular Neurodegeneration. He also has successfully trained 23 PhD students as well as 7 postdoctoral fellows.

Luca Della Santina, PhD

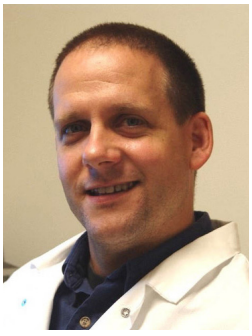
Assistant Professor, University of Houston, College of Optometry

His research aims at understanding how retinal circuits are dismantled during glaucoma and other retinal neurodegenerative diseases responsible for blindness worldwide. As neurons are lost in the retina, the remaining circuits are progressively dismantled and rearranged, creating a challenging environment for vision restoration therapies. His laboratory also develops novel tools based on AI for large-scale detection of retinal synapses across animal species and disease models, that are shared with the neuroscience. community to improve our ability to recognize early patterns of synaptic pathology.

Michael Elliott, PhD

Gregory L. Skuta, MD Endowed Chair in Ophthalmology, Presbyterian Health Foundation Presidential Professor, Professor of Ophthalmology, College of Medicine, Professor of Biochemistry & Physiology, College of Medicine, University of Oklahoma Health Sciences Center, Dean A. McGee Eye Institute

Michael H. Elliott, PhD, FARVO, is Professor of Ophthalmology and Biochemistry & Physiology and holds the Gregory L. Skuta Chair and a Presbyterian Health Foundation (PHF) Presidential Professorship. Dr. Elliott's research interests focus on the roles of membrane microdomains, so-called "lipid rafts" in ocular physiology and pathophysiology. These interests include studies on caveolae, specialized lipid domains, which act as mechanosensors in the aqueous humor drainage pathway. He also works in the retina examining how membrane microdomains modulate neuroinflammatory and neuroprotective signaling and ocular vascular function. His research is supported by the National Eye Institute and by past funding from foundations including the BrightFocus Foundation, Research to Prevent Blindness, Inc., American Diabetes Association, PHF, and the Oklahoma Center for Adult Stem Cell Research. Dr. Elliott is a Gold Fellow of the Association for Research in Vision and Ophthalmology and member of the Alcon Research Institute and the Trabecular Meshwork Study Club.

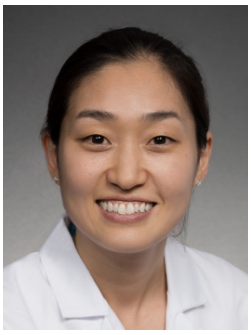


Brad Fortune, OD, PhD

Senior Scientist, Van Buskirk Chair for Ophthalmic Research, Discoveries in Sight Research Laboratories, Devers Eye Institute, Legacy Research Institute

Research Interests:

- Measurement of vision function in human glaucoma and experimental models of glaucoma
- Electrophysiological assessment of vision function clinically and in experimental disease models
- Imaging retinal nerve fiber layer and optic nerve head structure, ocular blood flow, correlations with vision function
- Glaucoma pathogenesis, axonal transport, neurovascular coupling
- Vision restoration



Cecilia Lee, MD

Professor of Ophthalmology, Klorfine Family Endowed Chair, University of Washington

Dr. Lee's research focuses on the role of ophthalmology in understanding systemic and neurological health, with an emphasis on leveraging the eye as a non-invasive window into overall well-being. Her work explores how advanced retinal imaging technologies can uncover structural and vascular changes in the retina that reflect broader systemic processes, including neurodegeneration, vascular disease, and metabolic disorders. By applying artificial intelligence and machine learning to analyze large-scale imaging datasets, Dr. Lee identifies biomarkers for early detection, disease progression, and risk stratification across conditions like Alzheimer's disease, dementia, and diabetes. Her research highlights the strong associations between ophthalmic conditions—including diabetic retinopathy, glaucoma, and age-related macular degeneration—and systemic diseases, emphasizing the potential of eye health to provide critical insights into brain and body health. Through innovative tools, collaborative frameworks, and data-sharing platforms, Dr. Lee aims to bridge the gap between ophthalmology and systemic medicine, advancing strategies for prevention, earlier diagnosis, and improved management of diseases that impact both vision and overall health.

Paloma Liton, PhD

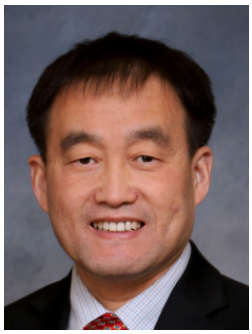
Full Professor, Duke University

Dr. Paloma Liton is a tenured professor at Duke University with joint appointments in the Departments of Ophthalmology and Pathology. She earned her PhD in Molecular Biology from the Universidad Autónoma de Madrid in 2001 and completed postdoctoral training in outflow pathway biology and physiology in the laboratory of the late Dr. David Epstein. Dr. Liton's research explores the link between autophagy-lysosomal pathway dysfunction and glaucoma in aging eyes. She has pioneered studies on autophagy in outflow pathway physiology and neurodegeneration in glaucoma. Her contributions have earned her several prestigious awards, including the Alcon Research Institute Young Investigator Award and the Thomas R. Lee Glaucoma Research Award. An active member of the scientific community, Dr. Liton serves on editorial boards of multiple journals, including Experimental Eye Research as Executive Editor. She also participates in review panels for the National Eye Institute, BrightFocus Foundation, and other international study sections. Additionally, she is part of the BrightFocus Scientific Committee Board, chairs the ISER/BrightFocus Travel Award Committee and acts as the Vice-president of the Americas for ISER.

Jimmy Liu, PhD

Director, Vision Science Programs, BrightFocus Foundation

Dr. Jimmy Liu received his BS (Bachelor of Science) in Chemical and Biomolecular Engineering from the University of Maryland, College Park and his PhD in Biology from Johns Hopkins University and the National Institutes of Health (NIH). He has spent his entire professional career at the NIH, with 8 years at the National Eye Institute as a researcher studying the basic mechanisms of inherited eye diseases, resulting in 8 peer-reviewed publications, and 1 year as a program specialist at the National Institutes of Neurological Disorders and Stroke managing hundreds of grants for neuroscience trainees from diverse backgrounds. Jimmy has also received several NIH awards for his contributions to institute science outreach and research administration projects.



Yutao Liu, PhD

Professor, Graduate Program Director, Cellular Biology & Anatomy
Co-Director, James & Jean Culver Vision Discovery Institute,
Medical College of Georgia at Augusta University

Dr. Liu has been the CBA Graduate Program Director, the Basic Science Co-Director of the James and Jean Culver Vision Discovery Institute, and the Director of the NEI P30 Center Core Grant at Augusta University. He is a human molecular geneticist studying human genetic disorders (glaucoma and keratoconus), supported by NIH/NEI and private foundations, with over 180 publications. Since 2010, he has been an active Co-Investigator of the NEIGHBOR and NEIGHBORHOOD consortia to study glaucoma genetics using GWAS, next-gen sequencing, and bioinformatics approaches. His research focuses on the functional characterization of GWAS-identified glaucoma/keratoconus genes using human disease tissues, in vitro 2D and 3D cell culture (primary human corneal, trabecular meshwork, and endothelial cells), organ-on-a-chip with human cells, and in vivo transgenic mouse models to determine the gene-environmental or cell-cell interactions. He is also interested in exploring the role of extracellular vesicles (EVs) in the pathogenesis of glaucoma and keratoconus using nanoparticle tracking analysis, electron microscopy, ddPCR, and multi-omics approaches. His group is currently investigating the role of estrogen receptor signaling in modulating outflow/IOP and glaucoma risk.

Colleen McDowell, PhD

Associate Professor, Department of Ophthalmology and Visual Sciences, University of Wisconsin-Madison

Dr. McDowell's laboratory is dedicated to dissecting the molecular mechanisms responsible for glaucomatous trabecular meshwork (TM) damage, elevated intraocular pressure (IOP), as well as damage to the retina and optic nerve (ON). Their approach utilizes in vitro, in vivo, and ex vivo model systems combined with advanced molecular genetics, physiology, and imaging techniques. The involvement of TGFβ2 signaling pathways in the regulation of the extracellular matrix (ECM) in the trabecular meshwork (TM) has been well established. Her laboratory identified for the first time crosstalk between the TGFβ2 signaling pathway and the toll like receptor 4 (TLR4) signaling pathway in the regulation of the ECM in the TM. We are now identifying new targets in the TGFβ2-TLR4 signaling crosstalk to lower IOP and further explain the mechanisms involved in the development of glaucomatous TM damage. In addition, we are exploring the mechanisms for the development and regulation of segmental outflow through the TM and Schlemm's canal. Interestingly, there are many functional, structural, and cellular similarities between TM cells and optic nerve head (ONH) astrocytes and lamina cribrosa (LC) cells. The ONH region progressively remodels during glaucoma, leading to cupping of the optic disk as well as mechanical failure and fibrosis of the LC; however, the cellular and molecular mechanisms responsible for this remodeling are poorly understood. Her laboratory is also interested in identifying these mechanisms involved in the production and regulation of the ECM in the glaucomatous ONH.

Gillian McLellan, BVMS, PhD

Professor and Chair, Department of Surgical Sciences, Tim and Nancy Speaker Chair in Canine Health, School of Veterinary Medicine, Professor of Comparative Ophthalmology, Department of Ophthalmology and Visual Sciences, School of Medicine and Public Health, University of Wisconsin-Madison

Dr. McLellan is a tenured professor and Chair of Surgical Sciences at the University of Wisconsin-Madison. She is a board-certified clinician-scientist-veterinarian with PhD and post-doctoral training in the fields of ophthalmology, cell biology and comparative ocular pathology, and experience in the conduct of GLP pre-clinical safety and efficacy studies. For over 15 years, her research has focused on the molecular and cellular mechanisms that underlie IOP dysregulation and neurodegeneration in glaucoma, including tissue, cellular and molecular genetic factors that determine susceptibility to loss of vision. She has established many productive inter-disciplinary collaborations, that incorporate electrophysiology, pharmacology, genomics, transcriptomics, advanced imaging, pathology and biomechanical engineering. Her studies of glaucoma span molecular pathology to whole animal pathology and the in vivo characterization of animal and human disease. Work in the McLellan lab also probes complex links between glaucoma and Alzheimer's-like pathology and cognitive dysfunction in mouse models and in companion animals. She has a strong interest in advanced imaging technologies, as Program Director responsible for the Multimodal Imaging for Animal Models of Eye Disease director of UW-Madison's Animal Models Vision Research Core, and as a member of the Wisconsin Advanced Imaging of the Visual System (WAIVS) laboratory steering committee.

Jason Meyer, PhD

A. Donald Merritt Professor of Medical and Molecular Genetics
Director, SNRI Stem Cell Research Group Director, NCRAD iPS Cell Laboratory, Indiana University

Jason Meyer is the A. Donald Merritt Professor of Medical and Molecular Genetics at Indiana University School of Medicine, where he directs both the SNRI Stem Cel Research Group and the NCRAD iPSC Laboratory. His work employs human pluripotent stem cell models to investigate retinal development and disease, with a special focus on retinal ganglion cells (RGCs) and the optic nerve. The Meyer Lab is particularly interested in understanding the interactions between RGCs and glial cells, including astrocytes and microglia, which are pivotal in the neurodegenerative processes observed in glaucoma. By leveraging advanced techniques such as CRISPR/Cas9 gene editing, microfluidic platforms, and organoid models, his research dissects disease pathways to uncover critical factors that affect RGC survival, axonal integrity, and glial crosstalk in disease progression. Through collaborative work with leading colleagues, his lab's research aims to deepen our understanding of glaucoma and related diseases by focusing studies on disease modeling, drug discovery, and cell replacement approaches. This interdisciplinary approach not only deepens our understanding of retinal biology but also contributes to the development of more effective therapeutic strategies.

Rob Nickells, PhD

Professor and F. A. Davis Chair, Department of Ophthalmology and Visual Science, University of Wisconsin–Madison

Dr. Nickells received his PhD in developmental biology at the University of Calgary and began studying the pathophysiology of glaucoma as a research fellow at the Wilmer Eye Institute at Johns Hopkins. He is currently Professor and Frederick A. Davis Research Chair in the Department of Ophthalmology and Visual Science at the University of Wisconsin-Madison, where he runs an active research program centered on the molecular pathways activated in retinal ganglion cells after optic nerve damage. A major focus is on the interactions of the pro-apoptotic and anti-apoptotic members of the Bcl2 gene family. Major branches of this research include investigating the role of BAX in the process of mitochondrial dynamics, how modulating BAX alters the activation program, and the development of therapies that target BAX function. In addition to this focus on biology intrinsic to ganglion cells, the lab is now investigating some of the multiple roles that retinal glia play in ganglion cell homeostasis and pathology.

Yvonne Ou, MD

Dr. and Mrs. Stacy R. Mettier Jr. Professor of Ophthalmology, Vice Chair for Postgraduate Education, Department of Ophthalmology, University of California, San Francisco

The research interests of the Ou laboratory are in glaucoma neurodegeneration, circuit disassembly and repair, and neuronal plasticity. The team is studying the cellular and synaptic mechanisms of retinal ganglion cell degeneration and identifying specific types of ganglion cells and circuits that are particularly susceptible, with an eye for improving diagnostic and treatment modalities for patients. The group also has developed translational applications from the team's laboratory findings, specifically novel clinical ERG paradigms and virtual-reality based oculokinetic perimetry for glaucoma diagnostics. More recently, the Ou lab is part of an NEI Audacious Goals Initiative team tackling barriers to retinal ganglion cell transplantation as a vision restoration strategy.

Ahmara Ross, MD, PhD

Assistant Professor of Ophthalmology and Neurology, University of Pennsylvania, Scheie Eye Institute

Dr. Ross is a physician-scientist at the University of Pennsylvania dedicated to understanding the genetic mechanisms of glaucoma and developing innovative treatments for optic neuropathies. Clinically, she treats patients suffering from irreversible vision loss due to retinal ganglion cell (RGC) death. While reducing intraocular pressure remains the primary treatment for glaucoma, many patients continue to experience disease progression, and as a neuro-ophthalmologist, she also manage blindness from untreatable conditions. Her lab integrates molecular biology, gene delivery, stem cell differentiation, and mouse models of ocular neurodegeneration to develop gene-based strategies for RGC protection and restoration. One focus is the use of SIRT1 as a therapeutic candidate while optimizing tools such as AAV-mediated cloning and iPSC-derived RGCs. Another focus is the evaluate potentially disease-causing single nucleotide polymorphisms identified as glaucoma "risk" genes, understand their pathophysiological contribution to RGC degeneration, and investigate the potential for neuroprotective and neurorestorative therapy. Ultimately, she aims to accelerate the translation of innovative therapies from bench to bedside, improving treatment options for patients.

Rebecca Sappington, PhD

Associate Professor, Co-Director, Translational Eye and Vision Research Center Director, Ocular Biorepository Core Resource Chair, Faculty Development Council Dept. Biochemistry, Wake Forest University

Dr. Sappington's research program focuses on inflammation and stress signaling in neurodegeneration, particularly in the visual system. Her work focuses on signaling pathways and disease features with commonality across neurodegenerative diseases. As such, her laboratory utilizes traditional models of eye disease as well as small and large animal models of amyotrophic lateral sclerosis and Alzheimer's disease. She also has a passion for technical innovation in basic and translational sciences. Through collaborative team science, Dr. Sappington is contributing to the development of novel particle-based drug delivery tools, tissue preservation and transplantation mediums, and modified CRISPR-based gene editing tools.

Tasneem Sharma, PhD

Vice Chair of Strategic Engagement, Assistant Professor, Department of Ophthalmology, Indiana University School of Medicine

Dr. Sharma's vision is to streamline healthcare pipelines to make them affordable and accessible to the public. Her research targets glaucoma pathology and space biology effects using preclinical human eye models. She developed a patented pressure model to study glaucoma and astronaut-related eye defects, aiming to create interventions that improve public healthcare. By investigating ocular neurodegeneration, pressure-induced neuronal cell death, and leveraging stem cell technologies, her work advances disease modeling and precision medicine. She is dedicated to uncovering the complex pathogenesis of glaucoma, moving beyond intraocular pressure modulation to develop neuroprotective strategies that safeguard retinal neurons. Additionally, she explores regenerative medicine through stem cell-based neuronal transplantation to restore visual function and improve patient outcomes. This combined focus on neuroprotection and regeneration drives my efforts to transform ocular neurodegenerative disease treatments, enhancing patient prognoses and quality of life while advancing therapeutic innovation.

Cynthia Steel, PhD

Scientific Consultant at ARPA-H and Chief Scientific Officer, Glaucoma Research Foundation

Cynthia Steel has had an extensive and diverse career spanning over two decades in both academia and industry. She has a PhD in Cell Biology, Neurobiology, and Anatomy from Loyola University Chicago, as well as an MBA from the University of South Florida. She is the lead author of eight peer-reviewed manuscripts and a number of scientific abstracts, and was the recipient of research grants from the Department of Veterans Affairs as well as a Shaffer Grant for Innovative Research from the Glaucoma Research Foundation during her time in academia.

In 2016, Cynthia used her love of glaucoma research to make the transition to industry. Since then, she has worked at both small startups as well as large publicly-traded companies, and currently serves as a contract Science, Engineering, and Technical Advisor (SETA) at the Advanced Research Projects Agency for Healthcare (ARPA-H).

Cynthia also recently began her own venture into the world of podcasting, by founding and hosting the "Bench to Boardroom" podcast, which can be found on Apple Podcasts, YouTube, and Spotify.

Janey Wiggs, MD, PhD

Paul Austin Chandler Professor of Ophthalmology, Vice Chair for Clinical Research, Co-director Ocular Genomics Institute, Harvard Medical School

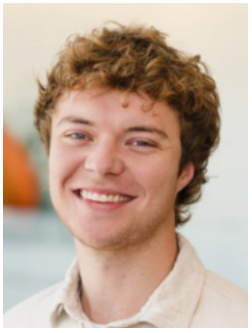
Dr. Wiggs's research program is focused on the discovery and characterization of genetic factors that contribute to glaucoma and has been continuously funded by the National Eye Institute (NEI) for this work for over 30 years. She is the PI of the NEIGHBORHOOD consortium for Primary open angle glaucoma genetics and a founding member of the International Glaucoma Genetics Consortium. She has lead large primary open angle glaucoma genome-wide association studies (GWAS) and has had critical roles in GWAS studies identifying novel loci for intraocular pressure and for exfoliation glaucoma. She also studies the genetic etiologies of familial types of glaucoma and has recently identified EFEMP1 and THBS1 as causal genes for childhood forms of glaucoma. Ongoing research studies include: a multi-ethnic normal tension glaucoma GWAS; a metabolomics study of blood plasma in exfoliation glaucoma patients and controls; whole genome sequencing of families affected by early-onset forms of glaucoma, investigations related to contributions of rare variants to primary open angle glaucoma and evaluation of polygenic risk burden in at-risk populations. She is currently developing genetic tests for early detection of primary open angle glaucoma based on rare variants and polygenic risk scores.

2025 Travel Award Recipients

Inas Aboobakar

Massachusetts Eye and Ear Institute, Havard Medical School

Dr. Aboobakar is a clinician-scientist at Mass. Eye and Ear/ Harvard Medical School. The aim of her research is to leverage genomic knowledge to facilitate precision approaches to glaucoma diagnosis, risk stratification, monitoring, and treatment. This includes big data analyses using population and hospital-based biobanks, prospective clinical recruitment to enable deep phenotyping, and lab-based studies using cell culture and zebrafish models to characterize disease mechanisms for glaucoma-associated genes. Her research is supported by an NIH K23 Clinician-Scientist Career Development Award, the Research to Prevent Blindness Career Development Award, and an American Glaucoma Society Young Clinician-Scientist Grant. She has been an invited speaker on glaucoma genetics at multiple national and international meetings.



Aaron T. Baker

Indiana University School of Medicine

Aaron T. Baker is a PhD student in Medical Neuroscience at the Indiana University School of Medicine (IUSM), where he is investigating iPSC-based models of glaucoma with a focus on neuroinflammation driven by genetic risk variants in retinal cells. His research builds on prior work as a Research Technician in the Meyer lab at IUSM, where he gained expertise in stem cell maintenance, retinal and cortical organoid differentiation, CRISPR/Cas9 gene editing, and electrophysiological analysis using microelectrode arrays. Aaron earned his BA in Neuroscience from Franklin College in 2023, graduating Cum Laude with a minor in Psychology. He has presented his work at major conferences including ARVO and ISER, and co-authored a publication in Stem Cell Reports on astrocyte reactivity and neurodegeneration. His contributions have been recognized with awards such as Best Overall Poster at the Heartland Vision Research Symposium and travel fellowships from IUSM and ISER/BFF.

Virginia Baker Mathu

University of Wisconsin-Madison

I joined Dr. Gillian McLellan's laboratory at the University of Wisconsin-Madison as an undergraduate student majoring in chemistry in 2019. I assisted with experiments utilizing optical coherence tomography imaging and electrophysiology in a feline congenital glaucoma model. Upon graduation, I remained in the lab as a research intern where my work focused on developing a method for culturing trabecular meshwork cells from feline eyes. Now, as a fourth year PhD Student in the comparative biomedical sciences program at the University of Wisconsin-Madison, my current research focuses on how optic nerve damage, due to microbead-induced ocular hypertension or optic nerve crush surgery, impacts Alzheimer's disease outcomes.

Revathi Balasubramanian

Columbia University

Dr. Revathi Balasubramanian completed her PhD in Neurobiology at the University of Rochester studying the transcriptional basis of retinal development. She discovered novel roles for genes involved in retinal cell subtype development. Her postdoctoral research at Columbia University led to a significant understanding of cell signaling in early mammalian eye development with implications in understanding pediatric eye diseases such as aniridia, coloboma, and ocular albinism. Her most recent research on the anterior segment of the eye using single cell genomics has enhanced the understanding of the molecular basis of glaucoma. Dr. Balasubramanian's research excellence is demonstrated by her many publications and grants including the BrightFocus Foundation National Glaucoma Research grant and Research to Prevent Blindness Career Development Award, among others. In her lab at Columbia University, she combines her expertise in ocular development, disease, and genomics, to understand the mechanisms underlying congenital glaucoma.

Jennifer D. Ballheim

University of Oklahoma

Jennifer D. Ballheim is a PhD candidate in Biochemistry at the University of Oklahoma Health Sciences Center. Her research focuses on caveolae-mediated mechanotransduction in the conventional outflow pathway and its role in intraocular pressure regulation and glaucoma risk. She contributes to a collaborative NIH-funded project with Dr. Michael H. Elliott (OUHSC) and Dr. W. Daniel Stamer (Duke University) and has presented her findings at ARVO. Her poster received the Best Poster Award at the Oklahoma Microscopy Society meeting, and her work has been included in presentations by her lab at ISER and the Gordon Research Conference. She recently co-authored a manuscript under review examining blood-retinal-barrier dysfunction in glaucoma. Jennifer serves as revenue chair for the Oklahoma City chapter of the Foundation Fighting Blindness and recently submitted an NIH F31 fellowship proposal integrating proteomics, advanced microscopy, and in-vivo physiology to investigate caveolae gene variant effects on ocular pressure regulation.

Ji Won Bang

Stanford University

Ji Won Bang, PhD is a research scientist in the Department of Ophthalmology at Stanford University School of Medicine. Her research investigates how brain circuits are affected by glaucoma and explores strategies to slow disease progression. She focuses particularly on degeneration of the hypothalamus, a central hub of autonomic and hormonal regulation that receives direct input from retina. Dr. Bang studies how glaucoma-related hypothalamic degeneration impacts both the central nervous system and systemic physiology. She employs advanced magnetic resonance imaging and behavioral testing methods to uncover disease mechanisms. Her ultimate goal is to deepen understanding of glaucoma pathogenesis and translate this knowledge into new treatment approaches.

Rafael Siqueira Chagas

Georgia Institute of Technology

Rafael Siqueira Chagas received his PhD in Biochemistry from the University of São Paulo in 2024 and joined the Lieberman Lab at Georgia Tech in 2025 as a Postdoctoral Fellow. His research focuses on understanding the mechanisms by which certain mutations in the MYOC gene lead to disease-associated protein variants, and on developing a cell-free expression approach to investigate their folding and aggregation behavior.

Yibo Chen

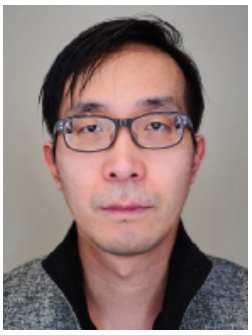
Emory University and Georgia Institute of Technology

Yibo Chen is a PhD student in Biomedical Engineering at Emory University and Georgia Institute of Technology. His research focuses on the intersection of Al and biomechanics for glaucoma studies. He is developing Al models that analyze optic nerve head tissue from OCT scans to provide faster, more convenient morphological analysis, aiming to improve early diagnosis and prognosis for glaucoma.

Charis Chiang

Emory University and National University (Singapore)

I am a final-year PhD candidate at the National University of Singapore and a visiting scholar at the Emory Eye Center, Emory University. My research investigates retinal structural changes in neuro-ophthalmological disorders through computational modeling approaches, including deep learning, finite element modeling, and analysis of large-scale imaging datasets such as wide-field optical coherence tomography, structural magnetic resonance images (MRI) of the brain and orbit, and fundus photography. have developed Al-based segmentation and classification pipelines to identify retinal and orbital structures in 3D scans, enabling detection of changes associated with neurodegenerative disorders, including glaucoma and Alzheimer's disease. I also integrate orbit structural parameters from MRI with retinal measurements to study how orbit anatomy influences retinal ganglion cell axonal health.



Jared Ching

National Healthcare Group Eye Institute (Singapore)

Dr. Jared Ching is an Associate Consultant with the National Healthcare Group Eye Institute (NHGEI) at Tan Tock Seng Hospital.

Dr. Ching first completed a Master of Pharmacy at the University of East Anglia, investigating novel anti-tumour drugs under Professor Mark Searcey. After obtaining Membership of the Royal Pharmaceutical Society, he studied Medicine at the University of Bristol, while working as a Locum Pharmacist. He subsequently pursued a Research Fellowship at the Departments of Neurosurgery and Neurology at the University of Melbourne.

He was then appointed as an Academic Foundation Doctor at the Institute of Medical Sciences, University of Aberdeen and worked in the fields of neural stem cell and glioblastoma electric field cell migration under Professor Colin McCaig. He then took up a post as a Specialist Registrar in Ophthalmology in the East of England, before being awarded a NIHR Academic Clinical Fellowship at the University of Cambridge where he undertook further laboratory and animal research in the John Van Geest Centre for Brain Repair and MRC Mitochondrial Biology Unit.

Dr. Ching has completed Surgical Retina Fellowships in Norwich, Cambridge and The Bristol Eye Hospital. He has also completed an Ocular Oncology Fellowship at Moorfields Eye Hospital where he holds a research affiliation. Currently he is Co-Principle Investigator with Professor Zhong You, investigating novel ocular surgical devices at the University of Oxford. He is currently appointed as a Visiting Lecturer at Yokohama City University at the Department of Ophthalmology and Micro-technology under Professor Kazuaki Kadonosono having been awarded the Royal College of Ophthalmologists and Keeler Scholarship to travel to Japan and a research grant from the TFC Frost Charitable Trust to investigate Minimally invasive retinal surgery.

His research interests include minimally invasive surgery, cancer cell biology and regenerative medicine

Thanadet Chuangsuwanich

Emory University

I am a scientist in the Department of Ophthalmology at Emory University with expertise in ocular biomechanics, optic nerve head (ONH) imaging, and AI-driven phenotyping of optic neuropathies. My research focuses on understanding the structural and biomechanical underpinnings of glaucoma and related disorders using advanced imaging, computational modeling, and machine learning. I have developed novel approaches to quantify ONH strain, investigate microcapillary hemodynamics, and study deformation patterns associated with visual field loss.

Currently, I am building the first population-based 3D ONH atlas to enable more accurate disease phenotyping and risk stratification across optic neuropathies. My long-term goal is to integrate biomechanical, structural, and AI-derived biomarkers into clinical workflows to enhance early diagnosis and personalized management of blinding diseases.

Michaela Dunn

Pacific University and Devers Eye Institute

I received my BS in Neuroscience from Washington State University Vancouver in 2016, and | currently study in the Vision Science MS/PhD program at Pacific University. In 2021, I joined Brad Fortune's team at Discoveries in Sight Research Laboratories (Devers Eye Institute), where I have developed interest in the pathophysiology of glaucomatous optic neuropathy. My personal research interests also include the study of retinal ganglion cell dysfunction in experimental glaucoma using the electroretinogram under conditions which will help inform the extent to which dysfunction and cell subtype susceptibility impact other aspects of inner retinal circuitry.

Sana El-Hajji

University of Montreal (Canada)

I am a neuroscientist at the University of Montreal specializing in retinal regeneration and neuroprotection, with a particular focus on developing therapeutic strategies for glaucoma. During my PhD in Neuroscience, I investigated the mechanisms by which insulin promotes the survival of retinal ganglion cells after injury. My work also explored the neuroprotective role of islets of Langerhans transplanted into the eye, demonstrating their ability to secrete factors that help protect retinal ganglion cells in models of glaucoma. This research, published in Science Advances, has provided new insights into neuronal survival pathways and contributed to the development of ongoing clinical trials evaluating insulin as a potential therapy to prevent vision loss in glaucoma. I aim to bridge basic neuroscience with translational research, ultimately contributing to the development of effective treatments for neurodegenerative diseases of the eye. I am committed to advancing the field through innovative research and multidisciplinary collaboration.

Basem Fouda

University Hospital Dublin (Ireland)

Dr. Basem Fouda is an Ophthalmology SHO at Mater Misericordiae University Hospital Dublin and Special Lecturer at University College Dublin. He is a recent graduate of Trinity College Dublin, where he earned degrees in Medicine (M.B., B.Ch., B.A.O.) and Biomedical Engineering (M.Sc). As part of an academic track internship, he investigated 3D printing of a lamina cribrosa cell culture model as well as 24-hour home-based monitoring of ocular perfusion pressure. His current research focuses on computational modelling of fibrosis in glaucoma.

Nina Sara Fraticelli-Guzman

Georgia Institute of Technology

Nina Sara is a current Bioengineering PhD candidate at the Georgia Institute of Technology. She has a Bachelor of Science in Mechanical Engineering from MIT and a Master's in Bioengineering from Georgia Tech, and her current PhD work focuses on studying vision from a women's health perspective. Specifically, she studies the potential impact of early-onset menopause on the biomechanics and gene expression profile of the conventional outflow pathway for later glaucoma development.

Magdalena Gebert

University of Regensburg (Germany)

Magdalena is a postdoctoral researcher in the laboratory of Prof. Ernst R. Tamm at the Chair for Human Anatomy and Embryology, University of Regensburg, Germany. Her research focuses on identifying factors that influence susceptibility to primary open-angle glaucoma, with particular emphasis on cell type–specific TGF-β signaling and elements that may affect the biomechanical properties of the sclera and optic nerve head. In her current project, she investigates the role of macroglial intermediate filaments in intraocular pressure (IOP)- and age-related optic nerve damage. Magdalena earned her doctorate with a thesis on the role of Decorin in the pathogenesis of primary open-angle glaucoma.

Rajanya Ghosh

SUNY Upstate Medical University

I am Rajanya Ghosh, a PhD candidate in the laboratory of Dr. Samuel Herberg in the Department of Ophthalmology and Visual Sciences at the Center for Vision Research, SUNY Upstate Medical University. I am pursuing my PhD in Biochemistry and Molecular Biology. Prior to joining the PhD program, I completed my BS in Microbiology in 2018 and MS in Biochemistry in 2020 at the University of Calcutta, India.

My doctoral research focuses on understanding how the nuclear architecture and epigenetic landscape contribute to trabecular meshwork (TM) cell dysfunction in glaucoma. Additionally, I am also investigating how TM cells acquire information about their mechanical environment through temporal mechanical dosing (increased substrate stiffness) and retain a pathological glaucoma-like phenotype even after removal of dosing via a stored mechanical memory —ultimately contributing to the persistence of glaucomatous TM cell pathobiology.

My long-term goal is to pursue a career as a scientist in the biotechnology or pharmaceutical industry, where I can actively contribute to solving complex research problems in ocular disease. I am particularly driven to contribute to the development of innovative therapies that preserve and restore vision, integrating cutting-edge technologies to accelerate the translation of research into impactful treatments for patients affected by vision disorders.

Souvik Ghosh

SUNY Upstate Medical University

I am Dr. Souvik Ghosh, a Postdoctoral Research Associate in the Department of Ophthalmology and Visual Sciences at SUNY Upstate Medical University, where I work in Prof. Samuel Herberg's lab. I hold a PhD in Biosciences and Bioengineering from the Indian Institute of Technology Roorkee, as well as an MS in Biological Sciences from Presidency University and a BS in Zoology from Burdwan University, India.

My current research focuses on investigating the complex biomechanics of the anterior segment of the eye, with particular emphasis on understanding the mechanisms regulating aqueous humor outflow through the trabecular meshwork. The overarching goal of my project is to elucidate how cells within high- and low-flow regions of the trabecular meshwork sense and adapt to their microenvironment. Specifically, my work explores the dynamic interplay between cell-extracellular matrix interactions, cytoskeletal tension and nuclear architecture, aiming to uncover how these factors contribute to maintaining intraocular pressure homeostasis and how their dysregulation may lead to glaucomatous pathologies.

Looking forward, I plan to pursue a career in academia, where I can continue to explore the intersection of bioengineering, cell biology, and tissue mechanics. My goal is to develop innovative, multidisciplinary approaches to tackle major clinical challenges from tissue repair and regeneration to designing targeted biomaterials. Through my work, I aim to contribute to the design of new therapeutic strategies that could improve patient outcomes, ultimately integrating engineering principles with biological systems to address unmet clinical needs.

Cátia Gomes

Indiana University

As a neuroscience researcher, my main interest is to study the mechanisms underlying neurodegenerative diseases and investigate novel therapeutic strategies. The development and characterization of disease models are crucial steps for the discovery of novel and more effective therapies. I am particularly interested in approaches that combine different types of disease models, including animal models together with cells derived from patients. My PhD training reflects this interest since I have identified and characterized an abnormal population of toxic astrocytes in a Amyotrophic Lateral Sclerosis mouse model, and used directly converted astrocytes from ALS patients fibroblasts as a platform to characterize this population in humans and screen for potential therapeutic agents. During my Postdoctoral training, and currently as an Assistant Research Professor, I have been working in the development and establishment of disease models based on the use of patientderived hPSC, mainly to study mechanisms of neurodegeneration as well as neuron-glia interactions. I am very interested in the use of hPSC to develop new disease models and platforms for drug discovery projects, that will allow a more accurate screening of therapeutic agents for future translation into clinic.

Prakadeeswari Gopala Krishnan

University of California, Irvine

Dr. Prakadeeswari Gopala Krishnan is an Assistant Project Scientist in the Department of Ophthalmology at the University of California, Irvine, working under the mentorship of Prof. Gulab Zode (2023–present). She earned her PhD in Biomedical Science from Madurai Kamaraj University, India (2019), where she investigated molecular risk factors for pseudoexfoliation syndrome. Over the past decade, her research has focused on ocular genetics, gene therapy, and transcriptomics.

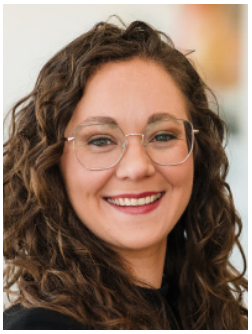
Dr. Krishnan completed her first postdoctoral fellowship with Prof. Dror Sharon at The Hebrew University–Hadassah Medical Center, Israel (2018–2022), focusing on therapeutic strategies for retinitis pigmentosa. She then pursued a second postdoctoral position at the University of Nebraska Medical Center (2022–2023), where she developed immunotherapeutics targeting pediatric brain tumors. Currently, at UC Irvine, she applies single-cell and single-nuclei RNA sequencing to elucidate the role of trabecular meshwork dysfunction in glaucoma pathogenesis and to identify novel therapeutic targets.

Her research contributions have resulted in numerous peer-reviewed publications and honors, including the 2025 ARVO Foundation Travel Grant and First Prize for Outstanding Poster at the 11th Annual Bench to Bedside Symposium. Dr. Krishnan aspires to establish an independent research program focused on translational vision science and ocular disease therapeutics.

Johanna Heimbucher

University of Regensburg (Germany)

Johanna Heimbucher received her PhD from the University of Regensburg, Germany. Since 2024, she has been working as a postdoctoral researcher at the Institute of Human Anatomy and Embryology, University of Regensburg, focusing on glaucoma and neurodegeneration. Her current research explores how alterations in the extracellular matrix of the sclera affect optic nerve viability. By investigating the molecular and structural mechanisms involved, she aims to better understand how extracellular matrix remodelling contributes to disease progression in glaucoma.



Shelby Hetzer

Indiana University

I am a second-year postdoctoral fellow studying glaucoma and neurodegeneration using human induced pluripotent stem cells (hIPSCs) in the lab of Dr. Jason Meyer at Indiana University. My doctoral research centered around mechanisms of axonal degeneration in the optic nerve using mouse models of traumatic brain injury. During this time, I found that retinal ganglion cells (RGC) respond to optic neuropathy in a compartmentalized manner corresponding with increasing endoplasmic reticulum stress closest to the site of axon breakage that dissipated retrogradely. Additionally, I discovered time-dependent fluctuations in astrocyte versus microglial phagocytosis and a role for glial endoplasmic reticulum stress that was previously undescribed in studies of Wallerian Degeneration. It was my foray into axon-glial cell interactions, though, that drives me toward my next scientific pursuits. Using hIPSCs, I am now creating a model of the optic system incorporating all of the relevant cell types including RGCs, astrocytes, oligodendrocytes, and thalamic neurons in a compartmentalized environment to recapitulate the physiological distribution and spatial orientation of these cells. Leveraging microfluidic platforms to do this will allow me to use this “optic system on a chip” to study how RCs and surrounding cells respond to and are involved in regeneration of the optic nerve. With my continued passion for optic system and glial cell neurobiology, I am excited to attend the ISER/Brightfocus Symposium for the first time to meet with experts and discuss current trends in the field.

Kamisha Hill

Georgia Institute of Technology

Kamisha Hill holds a B.S. in Biochemistry from Xavier University of Louisiana. She is currently a PhD candidate at Georgia Institute of Technology in the Lieberman Lab, where she focuses on protein variant characterization of myocilin-associated mutations through examination of cellular protein misfolding, localization, and trafficking.

Aliénor J. Jamet

Dalhousie University (Canada)

Aliénor is a PhD candidate in the Retina and Optic Nerve laboratory at Dalhousie University, Canada, under the supervision of Dr. Balwantray C. Chauhan. She has a broad scientific background, having completed her Bachelor of Science in Biology at Grenoble Alpes University in France, with a thesis conducted at Nagoya University in Japan. She then pursued a Master's in Molecular Biology and Physiology at the Catholic University of Leuven, Belgium, completing her thesis in Dr. Lieve Moons' Neural Circuit Development and Regeneration Research Group.

Aliénor joined Dr. Chauhan's laboratory to pursue her PhD, where her research focuses on neuroprotection of retinal ganglion cells in glaucoma using novel AAV vector based gene therapy approaches. Her current work investigates the effects of mBDNF-TrkB signalling on retinal survival in adult and aging mice subjected to experimental glaucoma.

She has presented her work at national and international conferences and is passionate about translating fundamental research into early-stage therapeutic strategies for neurodegenerative eye diseases. Aliénor is honoured to receive this travel award to share her findings and connect with fellow researchers in the field.

Naoki Kiyota

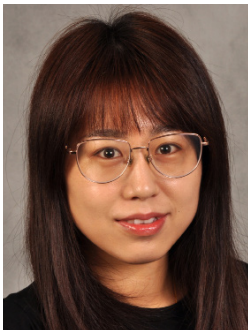
Northwestern University

Naoki Kiyota, MD, PhD is a research associate at the Feinberg Cardiovascular and Renal Research Institute, Northwestern University, and a certified ophthalmologist affiliated with the Department of Ophthalmology at Tohoku University in Japan. His research focuses on ocular blood flow, axon regeneration, and Schlemm's canal biology to better understand the pathophysiology of glaucoma.

Daniel Labbe

Northeastern University

Daniel Labbe is a second-year PhD student in the Department of Bioengineering at Northeastern University, working in the Vahabikashi Lab. He investigates how increased substrate stiffness alters the mechanobiology of Schlemm's canal and trabecular meshwork cells. Using atomic force microscopy, traction force microscopy, and confocal imaging, he quantifies changes in cellular stiffness, contractility, morphology, and protein localization to understand how healthy and glaucomatous cells adapt to disease-like conditions.



Haiyan Li

Emory University and Georgia Institute of Technology

Dr. Haiyan Li is a postdoctoral fellow in Dr. C. Ross Ethier's lab in the Department of Biomedical Engineering at Georgia Tech and Emory University. Her research focuses on the mechanobiology of Schlemm's canal (SC) and trabecular meshwork (TM) cells and their roles in modulating intraocular pressure in glaucoma. She is a recipient of the BrightFocus Foundation Postdoctoral Fellowship (2024–2026) and has co-authored multiple peer-reviewed publications.

Dr. Li earned her PhD from SUNY Upstate Medical University under the mentorship of Dr. Samuel Herberg, where she developed 3D ECM-based hydrogels to model SC and TM cell microenvironments. At Georgia Tech, she has contributed to studies on TRPV4 channel function in SC cells, CLAN formation in TM cells, and transcellular pore formation using a novel in vitro platform. Her expertise includes ocular biomechanics, cell mechanobiology, and glaucoma pathophysiology.

Sean Lydon

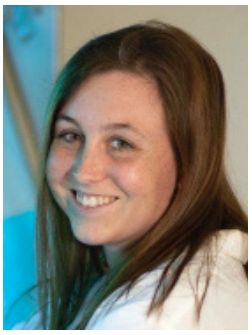
University of Rochester

Sean Lydon completed a B.S. in Psychology in 2017 at Washington University in St. Louis. Then he worked as a clinical research coordinator at the University of Pennsylvania on studies targeting cognitive neurodegenerative diseases, where he also completed a post-bacc program. Sean joined the Neuroscience Graduate Program at the University of Rochester in 2021 and joined the Libby Lab in 2022. His research is focused on the functions of glial cells in mouse models of glaucoma.

Shubham Maurya

University of California, Berkeley

Dr. Shubham Maurya is a Postdoctoral Fellow in Dr. Karsten Gronert's Lab at the Herbert Wertheim School of Optometry & Vision Science, University of California, Berkeley. His research focuses on understanding neuroinflammatory mechanisms in glaucoma, with an emphasis on microglial responses in the optic nerve. Dr. Maurya's postdoctoral work has identified a novel disease-associated microglial phenotype regulated by the lipid mediator Lipoxin Bi, uncovering a new therapeutic target for neuroprotection. He earned his PhD from the Indian Institute of Technology (IT) Kanpur, India, where he developed AAV-based gene therapy platforms for retinal and systemic diseases, resulting in several patents and publications. Dr. Maurya has extensive expertise in single-cell transcriptomics, lipidomics, and advanced imaging, and his work spans both basic and translational science. He has received funding from BrightFocus Foundation, mentored graduate and undergraduate students, and has been recognized for his contributions through competitive travel awards and invited talks.



Lucy Grace Moore

University of California, Davis

My name is Lucy Grace Moore and I am a rising fourth year graduate student at the University of California, Davis. Prior to pursuing my PhD, I attended Saint Mary's College of California and received my bachelors degree in biology with a minor in psychology. Throughout my undergraduate career, I was unaware of research that is conducted behind the headlines of novel therapeutics, and I realized this is where I wanted to make my mark. Specifically, I had an affinity with regenerative therapeutics due to my interest in neurodegenerative diseases that too many individuals succumb to, sadly including my grandmother and uncle. After the completion of my undergraduate research, I became increasingly passionate about regenerative medicine, and I wanted to become highly expert and contribute to the collective body of knowledge. With this goal, I decided to pursue my PhD at the University of California, Davis, under the mentorship of Dr. Nicholas Marsh-Armstrong, whose lab is primarily focused on the cellular and molecular mechanisms crucial to the development of glaucoma.

Specifically, my research is centered on the genes and pathways responsible for the degeneration and regeneration of the optic nerve and retinal ganglion cells, two systems that when injured lead to the onset of neurodegenerative diseases, including glaucoma.

Mi-Hyun Nam

University of Colorado Anschutz Medical Campus

Throughout my career, I have dedicated extensive efforts to neuroprotection for retinal ganglion cells (RGCs), particularly within the context of preclinical studies on glaucoma. Given the central role of RGC degeneration in glaucoma-related vision impairment, my research has focused on exploring potential interventions. Specifically, I have conducted in-depth investigations into the efficacy of peptide-based therapies and adeno-associated virus serotype 2 (AAV2)-mediated gene therapies in a well-established experimental model in collaboration with Dr. Dorota Stankowska. Notably, these therapeutic strategies have demonstrated promising outcomes, indicating the potential of these strategies to mitigate RGC degeneration.

To bridge the translational gap between experimental models and clinical applications, I have been collaborating closely with Dr. Mina Pantcheva in our department, a clinician specializing in glaucoma and cataracts. Our efforts aim to provide a clinical perspective on the relevance of animal experiments to human scenarios, enhancing the potential for these therapies to be applied in clinical settings.

Caroline Nelson

University of Utah

My research focuses on elucidating the role of extracellular vesicles in trabecular meshwork remodeling of the extracellular matrix and cytoskeleton, and more broadly, intraocular pressure homeostasis. I am a second year PhD candidate in Dr. Fiona McDonnell's lab, in the University of Utah's Department of Pharmacology and Toxicology. From my hometown of Raleigh, North Carolina, I moved to Utah to attend the University of Utah's Medical Scientist Training Program (MD-PhD). As an aspiring physician-scientist, it is my goal use these formative years in my training to develop the skills necessary to establish an active career as both an ophthalmologist and principal investigator, so that I may use my clinical experiences to guide translational, patient-focused research.

Mohammed Omer

Mayo Clinic Graduate School of Biomedical Sciences

I am a predoctoral student in the Molecular Pharmacology & Experimental Therapeutics Track at the Mayo Clinic Graduate School of Biomedical Sciences, Rochester, MN. Under the mentorship of Gavin W. Roddy, MD, PhD, in the department of ophthalmology, our research studies cellular disease mechanisms in glaucoma to understand its pathophysiology and develop new treatments. We are investigating the receptor binding of a novel biological therapeutic called Stanniocalcin-1, discovered in the laboratory. Understanding how the molecule activates signaling cascades to reduce intraocular pressure may lead to the discovery of novel downstream molecules that can be studied as potential therapeutic targets.

Shruti Patil

Indiana University

Dr. Shruti Patil is a Postdoctoral Fellow in Dr. Jason Meyer's laboratory at the Indiana University School of Medicine, where her research focuses on modeling retinal ganglion cells (RGC) degeneration in glaucoma and optic pathway gliomas. By combining stem cell biology with bioengineering approaches, her work seeks to uncover mechanisms that drive vision loss in these disorders. During her PhD at North Texas Eye Research Institute, Dr. Patil investigated how trabecular meshwork dysfunction and genetic variants contribute to glaucoma, developing strong expertise in ocular disease modeling. Building on this foundation, her current work leverages advanced stem-cell derived models to recreate neuron-glia interactions and biomechanical stiffness in the optic nerve.

At the ISER/BrightFocus Symposium, she will present a compartmentalized iPSC-derived microfluidic model that spatially separates RGC somas and axons to dissect how patient-derived astrocytes and altered extracellular environments contribute to axonal degeneration. Her long-term goal is to develop physiologically relevant stem cell models to uncover mechanisms of optic nerve disease and guide new therapies.

Heberto Quintero

University of Montreal (Canada)

Heberto Quintero, PhD, MSc, is a research associate in Dr. Adriana Di Polo's laboratory at the Neuroscience Division of the University of Montreal Hospital Research Center (CRCHUM). He earned both his PhD and MSc in Neuropharmacology and Experimental Therapeutics from the Center for Research and Advanced Studies of the National Polytechnic Institute (CINVESTAV) in Mexico.

Throughout his career, Dr. Quintero has focused on retinal neurobiology, with a particular interest in the complex interactions between glia, vascular cells, and neurons. His current research aims to unravel the mechanisms driving mitochondrial dysfunction in retinal ganglion cells (RGCs), a key contributor to axonal and neuronal degeneration in glaucoma.

His goal is to identify innovative pharmacological and genetic strategies to improve mitochondrial health, enhance metabolic balance, and boost the resilience of RGCs, ultimately working toward restoring visual function. In the long term, his research seeks to uncover new metabolic targets to develop therapies for neuroprotection and regeneration in glaucoma and other optic neuropathies.

Walker Radford

Georgia Institute of Technology

Walker Radford graduated from the Georgia Institute of Technology in Spring 2024 with a Bachelor's in Biochemistry. He is currently pursuing his PhD at the Georgia Institute of Technology at the Lieberman lab, which he joined in Spring 2025. Currently, he is researching myocilin-induced glaucoma in the Lieberman lab, using yeast models to identify possible genes and drugs associated with the pathogenesis of myocilin. By utilizing genetic knockout screens, Walker has identified leads of which proteins are contributing to cytotoxicity seen with aggregation-prone mutant myocilin.

Srimathi Raghavan

Indiana University

Skills

- Venom studies
- Molecular Biology
- Microbiology
- Analytical techniques
- Tissue culture
- Nano studies
- In-vivo experiments
- Histopathological investigations
- Bioinformatic tools

Anjali Rai

University of Wisconsin–Madison

I earned my Bachelor of Pharmacy (B.Pharm) from Manipal College of Pharmaceutical Sciences (Manipal, India) in 2022. During my undergraduate education I developed strong foundational training in pharmaceutical sciences. With this background, I pursued MS in Pharmaceutical Sciences from Creighton University (Omaha, NE) where my thesis focused on examining the IOP-lowering efficacy of novel hydrogen sulfide releasing compounds in ocular hypertensive rodent model of Primary Open Angle Glaucoma (POAG). This experience motivated me to build an academic career in vision sciences, specifically understanding the pathophysiology of glaucoma and identifying novel therapeutic targets to improve clinical outcomes. Currently, I am a PhD student in Dr McLellan's lab at University of Wisconsin Madison. Our lab has previously established spontaneous, recessively inherited feline congenital glaucoma model carrying LTBP2 mutation. Currently, my work focuses on in vitro characterization of trabecular meshwork (TM) cells from this feline model of glaucoma as well as investigating effects of LTBP2 mutation on TM function including proliferation, migration and mitochondrial changes. In parallel, I am also interested in developing gene therapies using CRISPR-Cas9 for genetic mutations associated with glaucoma.

Jaclyn Rittershaus

SUNY Upstate Medical University

Jaclyn Rittershaus is an MD/PhD student in her 3rd year of the Neuroscience Graduate Program at the SUNY Upstate Medical University Center for Vision Research. Under the mentorship of clinician-scientist Dr. Preethi S. Ganapathy, she studies the mitochondrial response of optic nerve head (ONH) astrocytes to biomechanical strains with the goal of understanding how glaucoma interferes with the ability of these cells to support the ONH tissue metabolically. So far, Jaclyn has found that tensile strains induce mitochondrial fragmentation in ONH astrocytes. In parallel with her tensile strain studies, she is interested in learning the role of the mechanosensitive channel, Piezo1, in transducing these mechanical stimuli into mitochondrial responses. Jaclyn aspires to become a clinician-scientist in the field of ophthalmology and vision research to enhance patients' visual health while developing more effective therapies and furthering our understanding of the mechanisms of incurable diseases such as glaucoma.

Gabriela Sanchez Rodriguez

Georgia Institute of Technology

Gabriela completed her undergraduate studies at Universidad Carlos Ill de Madrid, earning a BSc in Biomedical Engineering. She later earned an MS in Computer Science with a specialization in Machine Learning from the Georgia Institute of Technology. Gabriela is currently a PhD student at the Georgia Institute of Technology under Dr. Andrew Feola, where her research focuses on merging artificial intelligence, computational mechanics and RNA sequencing to gain more insights into the role of tissue mechanics in glaucoma.

Tania Sharmin

University of Wisconsin-Madison

Currently, I am a PhD candidate at UW-Madison in the laboratory of Dr. Colleen McDowell and my research focus is to understand the molecular mechanisms involved in trabecular meshwork damage and intraocular pressure (IOP) regulation in developing glaucoma. I use human trabecular meshwork cells and transgenic mice models for my study. I have a background in biology with specific training in biochemistry and molecular biology techniques and have five years of experience workingas a scientific officer in a research organization of Bangladesh. During this time, I successfully administered projects, collaborated with other researchers, and produced peer-reviewed publications.

Yukihiro Shiga

University of Montreal (Canada)

Dr. Shiga is a distinguished clinician-scientist specializing in glaucoma and visual neuroscience. He earned his MD from Yamagata University Faculty of Medicine and completed glaucoma fellowship training at Tohoku University in Japan, where he built a solid clinical foundation. He obtained his PhD from Tohoku University, focusing on the genetic and vascular mechanisms of primary open-angle glaucoma and the molecular basis of retinal ganglion cell degeneration.

More recently, Dr. Shiga completed postdoctoral training in the Department of Neuroscience at the University of Montreal (Quebec, Canada), under the mentorship of Prof. Adriana Di Polo. His work was supported by the prestigious Canadian Institutes of Health Research (CIHR) Postdoctoral Fellowship Award. In October 2025, he joined the Department of Ophthalmology at the University of Montreal as an Assistant Professor.

Dr. Shiga's research program aims to elucidate the cellular and molecular mechanisms underlying neuronal, glial, and neurovascular dysfunction in glaucoma and related neurodegenerative diseases. His goals are to identify early biomarkers of disease and to develop novel therapeutic strategies that enhance neuroprotection and promote functional recovery.

He has authored 84 peer-reviewed publications, including 16 as first author, in high-impact journals such as Cell Reports Medicine, Science Advances, PNAS, Journal of Clinical Investigation, Progress in Retinal and Eye Research, Cell Reports, Nature Communications, Nature Genetics, and Ophthalmology.

His contributions to vision science have been recognized with several prestigious awards, including the top-ranked Fonds de recherche du Québec – Santé (FRQS) Postdoctoral Fellowship Award (2019) and the Uehara Memorial Foundation Postdoctoral Fellowship Prize (2020).

Anusha Shivashankar

Indiana University

I am a third-year PhD candidate in Medical Neuroscience in Dr. Pattabiraman's lab at Indiana University. My research focuses on the focal adhesion protein Tensin3 and its role in exacerbating extracellular matrix accumulation and inducing actin contractility, leading to elevated intraocular pressure in glaucoma. I am also exploring therapeutic strategies to target TNS3. I have received including, the best oral presentation award, the ARVO Foundation Travel Award, the ISER BrightFocus Glaucoma Symposium Travel Award, and was a finalist for the Members-in-Training Outstanding Poster Competition. I have co-authored multiple publications and presented my work at several conferences.

McKenna M. Somerville

University of Alabama at Birmingham

McKenna M. Somerville is a doctoral candidate in the Graduate Biomedical Sciences Program, Immunology Theme, at the University of Alabama at Birmingham, co-mentored by Dr. Alecia K. Gross, PhD, and Dr. Christopher A. Girkin, MD. Her research explores how inflammasomes, cellular senescence, mitochondrial bioenergetics, and oxidative stress drive innate immune activation in response to elevated intraocular pressure—a major risk factor for glaucoma. Using both murine and in vivo human models, she aims to identify molecular signatures of neuroinflammation that could serve as early biomarkers or therapeutic targets. Passionate about translational approaches to neuroinflammation and ocular disease, McKenna is pursuing a career in academic research.

Markus Spurlock

University of Utah

My first laboratory research experience was through the Lois Pope neuroscience summer research program at UM, during which I worked on the analysis of spinal cord tissue from a rat model of neuropathic pain in the laboratory of Dr. Jacqueline Sagen. This early work helped to set my interest in understanding neural pathology. Through this volunteer experience, I was recommended to the lab of Dr. Ross Bullock, where I continued volunteering my senior year and worked as a lab technician after graduating. During this time, I participated in projects on hypothermia and reperfusion in subdural hematoma and inflammation and stem cell transplantation in multiple traumatic brain injury (TBI) models. Through this research, I collaborated with many people across neuroscience labs at the University of Miami, at the Walter Reed Army Institute of Research, and other public and private institutions. That experience helped me better understand the brain's complexities and pathomechanisms of neuronal loss following injury. Furthermore, I gained experience in analyzing potential treatments to address such loss of neurons.

Ana Strat

SUNY Upstate Medical University

Ana Nicolle Strat is a postdoctoral fellow in the laboratory of clinician-scientist, Dr. Preethi S. Ganapathy, at the Center for Vision Research, SUNY Upstate Medical University, where she also previously earned her PhD in Neuroscience. In her graduate work, she has been studying the mechanobiology of optic nerve head astrocytes and their responses to glaucomatous biomechanical strains. To this end, she has developed a novel 3D ECM hydrogel system to better mimic the native astrocyte morphology and matrix interactions. This work identified key alterations in nuclear/cell architecture in response to biomechanical strain with changes in morphology, cell cycle, inflammation, metabolism, and ECM-related molecular pathways observed in a time-and strain-dependent manner. More recently as a postdoctoral fellow, she is investigating how mechanosensitive channel Piezo1 regulates the morphology-function axis of optic nerve head astrocytes and their responses to biomechanical strain. Her career goals are to become an independent investigator in vision research, advancing the mechanistic understanding of pathologic biomechanical strain and cellular pathology in glaucoma and related neurodegenerative disorders.

Ryan G. Strickland

University of Alabama at Birmingham

Ryan G. Strickland is a doctoral candidate in the Graduate Biomedical Sciences Program, Neuroscience Theme, at the University of Alabama at Birmingham, co-mentored by Dr. Alecia K. Gross, PhD and Dr. Christopher A. Girkin, MD. He previously gained foundational training in vision research under the mentorship of Machelle T. Pardue, PhD and Anand Swaroop, PhD. His current research investigates how acute elevation in intraocular pressure induces macroglial reactivity in the human macula and optic nerve head. Using a living human eye model, he hopes to elucidate early glial responses that may guide the development of future therapeutic targets. Ultimately, Ryan seeks to further understand glial contributions to ocular disease and pursue a career in academic research.

Chenna Kesavulu Sugali

Indiana University

My long-term interests are establishing myself in the field of glaucoma and becoming an independent investigator and leader in the scientific community. My academic training and research experience have provided me with an excellent background in addressing research questions. My training in cell biology, molecular biology, imaging, and handling animal models gives me a unique advantage in understanding disease at the molecular level. During my doctoral training at the University of Hyderabad, India, I worked on miRNA and their role in the regulation of the TGFß2 signaling pathway in the trabecular meshwork cells. Currently, as a postdoctoral fellow at Indiana University School of Medicine, I am working on multiple projects that aim at addressing the questions in understanding the pathobiology of trabecular meshwork and glaucoma. I have more than 10 years of research experience in vision research. I have 14 publications published papers, plus 2 manuscripts under revision and 2 under preparation. I am also actively involved in professional activities including serving major journals (Current Eye Research, BMC Genomics and Frontiers in Cell and Developmental Biology) as a reviewer.

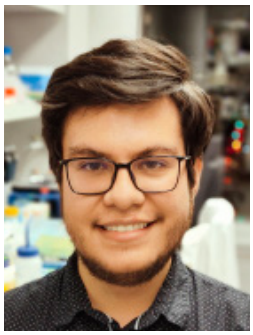
Mi Sun Sung

Duke University

Mi Sun Sung is an associate professor in the department of ophthalmology at Chonnam National University Medical School in Gwangju, Korea. Since August 2024, she has been serving as a visiting scholar in the laboratory of Paloma B. Liton at Duke University, receiving advanced training in experimental glaucoma research. Her earlier research has focused on the clinical and imaging-based investigation of glaucoma, with particular emphasis on understanding its pathogenesis in highly myopic eyes. Through these studies, she has explored the structural and biomechanical alterations of the optic nerve head and peripapillary tissues that may predispose myopic eyes to glaucomatous damage.

Under the mentorship of Prof. Liton, she is now expanding her expertise to include laboratory-based investigations of the molecular and cellular mechanisms regulating aqueous humor outflow. Her current training focuses on understanding how autophagy and cellular senescence influence trabecular meshwork function and intraocular pressure regulation. This hands-on research experience is providing her with essential experimental skills and mechanistic insights that will support her future independent research in glaucoma.

By integrating her clinical background with newly acquired laboratory expertise, Dr. Sung aims to establish a translational research program that will bridge clinical observations with fundamental discoveries, ultimately contributing to earlier detection and improved management of glaucoma.



Isaac Alejandro Vidal Paredes

University of Montreal (Canada)

Isaac Alejandro Vidal Paredes, MSc, is a doctoral candidate in the Neurosciences program at Université de Montréal and a member of Dr. Adriana Di Polo's laboratory at the Neuroscience Division of the University of Montreal Hospital Research Center (CRCHUM). He earned his M.Sc. in Biomedical Sciences and BSc in Biosciences from Tenologico de Monterrey (ITESM) in Mexico.

His research focuses on how vascular dysfunction contributes to early retinal ganglion cell (RGC) loss in glaucoma, with a particular interest on the disruption of the blood-retina barrier driven by altered mitochondrial dynamics in endothelial cells. By combining molecular biology, imaging, and in vivo models, he investigates how mitochondrial impairment affects tight junction integrity, promotes neuroinflammation, and accelerates neuronal damage.

His work aims to identify genetic and pharmacological approaches that preserve vascular health, reduce inflammation, and protect RGCs. His goal is to develop targeted therapies that slow or prevent vision loss in glaucoma and related optic neuropathies, improving outcomes for those at risk of irreversible blindness.

Xinyue Wang

University of Pittsburgh

Dr. Xinyue Wang earned her Bachelor of Clinical Medicine (equivalent to an MD in the USA) from Sun Yat-sen University in 2021, followed by a Master of Ophthalmology and completion of residency training at the Zhongshan Ophthalmic Center in 2024. Her previous research focused on protecting retinal ganglion cells and preventing vision loss. She is currently a researcher in the Lab of Ocular Biomechanics at the University of Pittsburgh, where she studies optic nerve head imaging under the mentorship of Dr. Ian Sigal.

Susannah Waxman

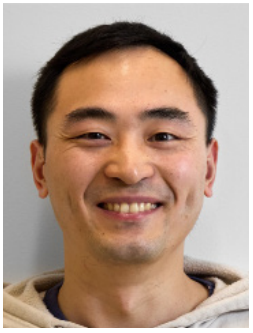
University of Montreal (Canada)

Dr. Susannah Waxman is a Postdoctoral Researcher with Dr. Adriana Di Polo's laboratory at the University of Montreal. She earned her PhD in Cellular and Molecular Pathology from the University of Pittsburgh with Dr. Ian Sigal's Laboratory of Ocular Biomechanics. Over approximately the last decade, her research has primarily centered around uncovering imaging-based insights into early sites of dysfunction in glaucoma, including the aqueous humor outflow tract and optic nerve head. Specific focus has been dedicated to astrocytes and optic nerve head vasculature, with the aim to contribute structural and functional insights into glaucoma's underlying mechanisms.

Cydney Wong

Emory University and Georgia Institute of Technology

Cydney Wong earned her BS in Biological Engineering from the Massachusetts Institute of Technology in 2020. She is currently a PhD candidate in Biomedical Engineering at Georgia Institute of Technology and Emory University, working in Dr. Ross Ethier's lab. Her research investigates trabecular meshwork biomechanics and transcriptomics to better understand primary open-angle glaucoma. Specifically, she studies biomechanical and molecular differences between segmental outflow regions in the trabecular meshwork, using both mouse models of ocular hypertension and human donor tissue.

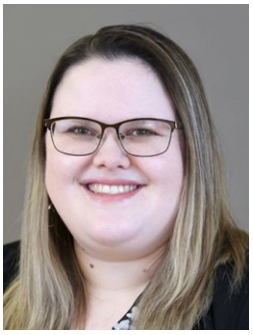


Wenjin Xu

University of Virginia

I am interested in studying how the visual circuits are affected by different eye diseases. Glaucoma, characterized as progressive retinal ganglion cell (RGC) loss, is a leading cause of blindness worldwide. Besides vision loss, glaucoma patients often suffer sleep disturbances and mood disorders, but much remains to be investigated about the underlying mechanisms. Prof. Provencio's early work on melanopsin led to the identification of intrinsically photosensitive retinal ganglion cells (iRGCs), which play a key role in a wide range of non-visual photoreceptive functions. Co-mentored by Prof Liu and Prof Provencio, I focus on understanding how the differential loss of target-specific ipRC subtypes leads to non-visual behavioral impairments in a mouse glaucoma model.

My lab established an experimental glaucoma model in mice using laser photocoagulation surgery at the corneal limbus to induce elevated intraocular pressure. I am examining the impact of glaucoma on ipRC projections in the brain and assessed the survival of target-specific ipRC subtypes in the retina through stereotaxic injections. Using the conditional tamoxifen-induced Opn4Cre-ERT2/+; R26Syp-tdT/+ mouse line, I can track the circuit changes with glaucoma development and progression. Importantly, I am currently analyzing the impact of glaucoma on non-image-forming behaviors, including circadian photoentrainment, light-induced mood alterations, and light-induced photosomnolence in mice.



Sarah Yablonski

University of Rochester

Sarah graduated from St. Lawrence University with a BS in neuroscience in 2019. During her undergraduate years, Sarah had the opportunity to conduct research with Dr. Yutao Liu (Augusta University), Dr. Valerie Bolivar (Wadsworth Center), and Dr. Ana Estevez (St. Lawrence University), investigating topics from keratoconus to neurodegenerative disease. Following her undergraduate training, Sarah joined the Neuroscience Graduate Program at the University of Rochester in 2019. She then joined the lab of Dr. Richard Libby in 2021, where she currently studies the cell signaling mechanisms behind retinal ganglion cell axonal maintenance and degeneration.

Alexandra Zamitalo

University of South Florida

Alexandra (Ally) Zamitalo is a PhD candidate in Biomedical Engineering at the University of South Florida, where she studies the physiological mechanisms underlying intraocular pressure (IOP) variability, with an emphasis on circadian changes and aqueous humor dynamics. Using a rodent model and custom sensing systems, she quantifies high-resolution pressure fluctuations to identify pathways that drive daily changes in IOP, with the goal of understanding the role of the circadian OP rhythm on ocular health. In parallel, she develops wearable devices for rats that enable concurrent measurement of paired IOPs or OP and intracranial pressure (ICP), as well as head-mounted pupillometry systems for tracking pupil size in freely moving animals. She is currently seeking a postdoctoral position that will enhance her research capabilities and support the integration of complementary methods to advance understanding of circadian influences on ocular physiology.