



Eyesight



Advancing Vision Science: Exciting Growth on the Horizon

The North Texas Eye Research Institute (NTERI) continues to lead with impactful discoveries and initiatives. Our dedicated team, consisting of scientists, PhD students, and postdoctoral fellows, is engaged in pioneering research, ranging from innovative testing methods to the development of therapeutics poised for clinical trials. Faculty members regularly publish their findings in leading ophthalmology journals, affirming NTERI's leadership in the field.

Education remains a priority, with NTERI committed to training the next generation of scientists and clinicians through specialized programs, including a PhD in Visual Sciences. As we expand and innovate, NTERI remains devoted to addressing disparities in eye health and contributing to global advancements in eye research.

In this newsletter, you will find our latest achievements and publications, providing insights into our ongoing dedication to advancing the frontiers of visual sciences.

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EXECUTIVE DIRECTOR'S MESSAGE



Exciting Growth on the Horizon!

I'm thrilled to welcome you to our latest newsletter and share some exciting updates about our NTERI's continued growth! It's all thanks to our collective hard work and the impactful things we're doing every day.

We're excited to have recently hired a new faculty member, Dr. Sherry Liu, who'll be joining us in Fall 2025. She is going to bring some fantastic expertise to our institute and research portfolio. We're also actively looking for another great addition with an open faculty search currently underway. This is another chance to bring in top talent and make NTERI even stronger.

Of course, we have an open search for a Director of Research – a key leadership position as we try to diversify and grow our research impact.

And finally, because communication is key, we have added a senior communications specialist, Ms. Krystle Gabele, to our team. This role will be extremely important for getting the word out about our achievements and connecting with everyone more effectively.

Together, these new additions show how committed we are to growing, getting even better at what we do, and staying a leader in our field. I can't wait to see the impact they'll have!

Thanks for being such an important part of our journey.

Dimitrios Karamichos, BEng, MSc, Ph.D.

Whole Health Eye Symposium

NTERI will host the 2nd Whole Health Eye Symposium on October 10, 2025 from 11:30 a.m.-1 p.m. in IREB 250. Registration is now open. Scan the QR Code below for more details. We hope to see you there!

SEMINAR: Corneal Endothelium and Stem Cell Regeneration, Genetics and Gene Editing



KEYNOTE SPEAKER

Natalie Afshari, MD, FARVO
University of California, San Diego

- Stuart I. Brown MD Chair in Ophthalmology in Memory of Donald P. Shiley
- Professor of Ophthalmology
- Chief of Cornea & Refractive Surgery
- Vice Chair of Ophthalmology



GUEST SPEAKER

Jamboor Vishwanatha, PhD

- HSC Regents Professor and Vice President
- Founding Director, Texas Center for Health Disparities
- Principal Investigator, National Research Mentoring Network
- Principal Investigator, AIM-AHEAD Coordinating Center
- Principal Investigator, Texas CEAL Consortium
- HSC Institute for Health Disparities

Scan to Register



ENTERI INTERDISCIPLINARY SEMINAR SERIES (ISS)

FY2025 Summary



September 26, 2024

Dr. Oliver Gramlich

“Advancements and Drawbacks in Preclinical Optic Neuropathy Treatments: From Mesenchymal Stem Cells to Small Molecule Drugs”



October 31, 2024

Dr. Tom Cunningham

“Sex Differences in Blood Pressure Regulation to Intermittent Hypoxia: A Preclinical Model of Sleep Apnea”



November 14, 2024

Dr. Rebecca Sappington

“Cholesterol Pathway Defects: Impact on the Structure and Function of the Retina”



January 30, 2025

Dr. Ashok Kumar

“Ferroptosis mediated retinal cell death during ocular infections”



April 10, 2025

Dr. Caroline Rickards

“Pulsatile Perfusion Therapy: A Potential Treatment for Cerebral Hypoperfusion”



May 29, 2025

Dr. Carrie German

“Developing Synergistic Approaches to Understanding Ocular Phenomena in Disease and in Health”

ENTERI INTERDISCIPLINARY SEMINAR SERIES (ISS)

Upcoming Speakers



**Dr. Suchismita Acharya
and Patrick Smale
July 3, 2025**



**Dr. Nicole Phillips
September 25, 2025**

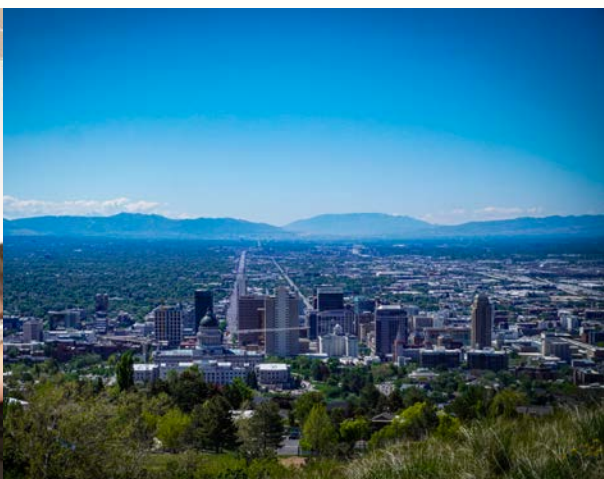


**Dr. Rafael Grytz
October 30, 2025**

For more information, check our website:

<https://www.unthsc.edu/north-texas-eye-research-institute/nteri-seminar-series/>





ARVO
2025
May 4 – 8
Salt Lake City, Utah

The NTERI Social Event in May at ARVO was a great success, with many distinguished guests in attendance.

Dr. Karamichos welcomed everyone and highlighted the numerous successes and achievements of NTERI.

We look forward to next year's event at ARVO.





As every year, NTERI has attended the WEAVR Luncheon. This year's theme featured a panel discussion on "Tips and Tricks for Successful Career Progression." The WEAVR Luncheon provides us the opportunity to network and have a presence at the event.

All proceeds from the WEAVR Luncheon support women in the visual sciences. Proceeds from the luncheon support travel grants and Developing Country Eye Researcher Travel Fellowships for female scientists to attend the ARVO Annual Meeting. Proceeds also underwrite the Women's Leadership Development Program.

TRAINEE SPOTLIGHT

Rajiv Rangan

Ph.D. candidate in Dr. Abe Clark's Lab

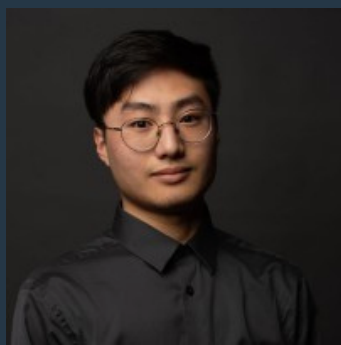
- Presented his research poster at ARVO.



Alexander Choi

M.S. student in Dr. Dimitrios Karamichos' Lab

- Alex graduated with his MS degree in May 2025.
- Alex's publication "Fabrication of a 3D Corneal Model Using Collagen Bioink and Human Corneal Stromal Cells" was published on JFB (Journal of Functional Biomaterials) and has also been selected to design and write the cover story for the JFB Volume 16, Issue 4.
- Presented his research poster at ARVO.



Nina Donkor

Ph.D. student in Dr. Denise Inman's Lab

- Awarded a PreDoctoral International Fellowship from the Neurobiology of Aging and Alzheimer's Disease T32 grant.
- Presented her research poster at ARVO.



Peter Nsiah

Ph.D. student in Dr. Dimitrios Karamichos' Lab

- Peter presented a poster at the GRC 2025 conference.



TRAINEE SPOTLIGHT

R. Max Petty

Ph.D. in Dr. Raghu Krishnamoorthy's Lab

- Max successfully defended his Ph.D. dissertation on April 23, 2025. Passed with distinctions.
- Publications:
 - 1st author: PMID 40248840
 - 1st author: PMID 40244133



Brenna Hefley

Ph.D. candidate in Dr. Dimitrios Karamichos' Lab

- Presented her research poster at ARVO and GRC.
- Publication:
 - PMID: 40095994

Calvin Brooks

Ph.D. student in

Dr. Raghu Krishnamoorthy's Lab

- Presented his research poster at ARVO.



Olivia Young

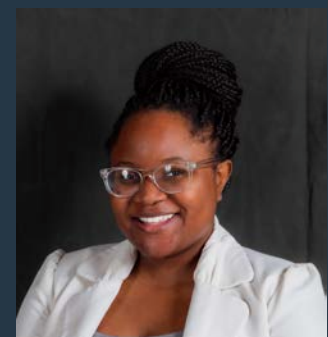
Ph.D. candidate in Dr. Denise Inman's Lab

- Presented her research poster at ARVO, and at the AGE Conference in Anchorage, AK.

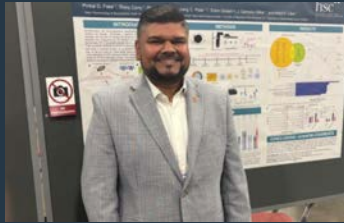
Kudaskwashe Murinda

Ph.D. candidate in Dr. Denise Inman's Lab

- Presented her research poster at ARVO.
- Awarded an Associate Fellowship from the Neurobiology of Aging and Alzheimer's Disease T32 grant.



TRAINEE SPOTLIGHT



Pinkal Patel
Postdoctoral fellow in Dr. Abe Clark's Lab
 • Presented his research poster at ARVO.

Pawan Shrestha
Ph.D. student in Dr. Dimitrios Karamichos' Lab

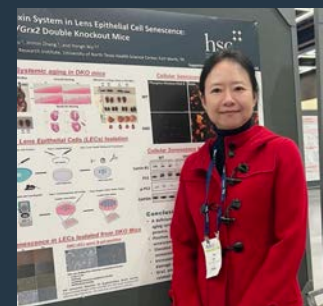
- Presented his research poster at ARVO.



Sam Yacoub
Ph.D. candidate in Dr. Abe Clark's Lab

- Presented his research poster at ARVO.

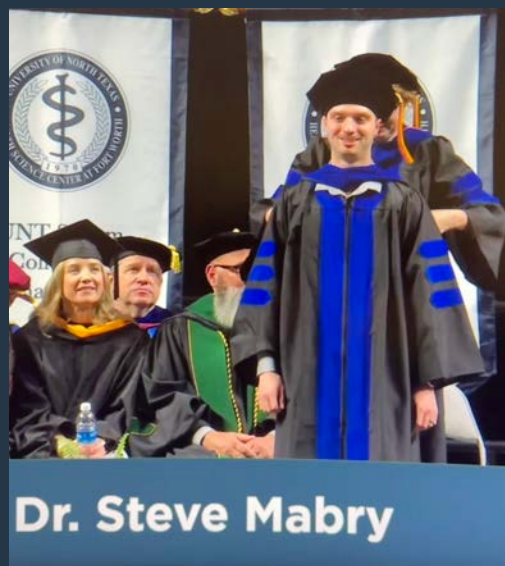
- Ying Qin**
Ph.D. student in Dr. Hongli Wu's Lab
- Dr. Ying Qin (PharmD) received a predoctoral fellowship through the Neurobiology of Aging and Alzheimer's Disease Training Program.
 - Received an award for 2nd place in the 2025 RAD poster competition.
 - Presented a poster at the Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting, 2025
 - Publication
 - 1st Author: PMID: 40006057



GRADUATION SPOTLIGHT



Steve Mabry with his PhD mentor, Dr. Rebecca Cunningham



Dr. Steve Mabry

Steve Mabry received his Doctor of Philosophy degree, and Alexander Choi graduated with his Master of Science degree during the May 2025 commencement ceremony at Dickies Arena. Congratulations to our graduates and best wishes for a bright future!



Alexander Choi received his MS Degree.

FACULTY SPOTLIGHT & LAB HAPPENINGS



>>> SUCHISMITA ACHARYA, PH.D.

- Sydney Lewis, a undergraduate student from the University of Texas at Austin, has been selected to conduct her summer internship in my lab and is working diligently to contribute to our small molecule-based drug development program, with a primary focus on ocular biodistribution studies.
- Dr. Acharya, along with being a Board member, was also selected to chair the Abstract and Award committee for the upcoming International Biennial symposium for the Association for Ocular Pharmacology and Therapeutics (AOPT) that will be held in Bangalore, India, on November 9th-12th, 2025.
- Dr. Acharya was invited by the School of Pharmacy here at UNTHSC to deliver a lecture on Feb 14th, 2025, titled "Novel small molecules and delivery strategies for preventing and treating eye and brain neurodegenerative diseases."

ABE CLARK, PH.D.



- The Clark Lab had presentations at the 2025 ARVO Meeting in Salt Lake City, UT (May 4-8th).
- Dr. Clark, along with Dr. Tara Tovar-Vidales and Dr. Pinkal Patel, worked on a community outreach project at a local high school. Dr. Clark and team set up one of their science labs to perform two experiments demonstrating how potential (stored) energy is converted to kinetic energy (energy of motion).



>>> DENISE INMAN, PH.D.

- Dr. Inman has become Interim Chair of the Department of Pharmaceutical Sciences on June 1, 2025.
- Usa Suwannasual, PhD; Kudakwashe Murinda, Nina Donkor, and Olivia Young each presented a poster at the recent Association for Research in Vision and Ophthalmology Annual Meeting in Salt Lake City, UT from May 3-8, 2025.

DIMITRIOS KARAMICHOS, PH.D. <<<

- ARVO Meeting abstracts presented by: Alexander Choi, Brenna Hefley, Pawan Shrestha, Brenda Vasini, Sarah Nicholas, and Steve Mabry.
- Alexander Choi graduated with his MS.
- Publications:
 - PMID 40095994
 - PMID 40139640
 - PMID 39891225



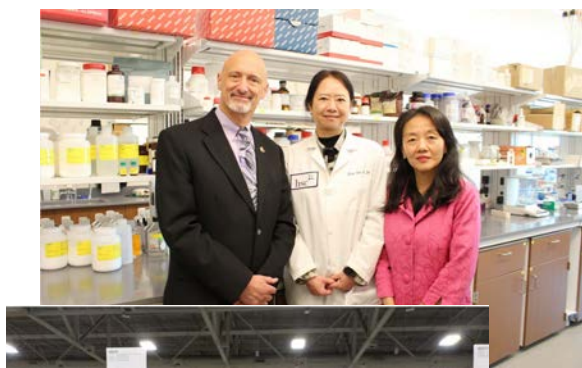
>>> RAGHU KRISHNAMOORTHY, PH.D.

- Dr. Krishnamoorthy received the Faculty Achievement Award for 2025.
- The Krishnamoorthy lab presented two posters at the ARVO annual meeting in Salt Lake City in May. Calvin Brooks presented his work on mitophagy changes in response to endothelin-1 increases during glaucoma, and Max Petty presented a portion of his dissertation research on the biodistribution of rHDL nanoparticles in the eye. While there, we went to the botanic garden and experienced the great views.
- Max Petty successfully defended his PhD dissertation and passed with distinction.
- Publications:
 - PMID: 40248840
 - PMID: 40001522

DOROTA STANKOWSKA, PH.D. <<<

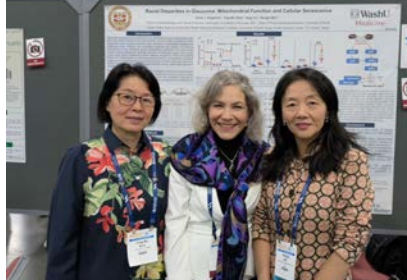
- Feris Weheba was hired as a Research Assistant in Dr. Stankowska's lab.
- Dr. Wei (Julie) Zhang joined the Stankowska Laboratory as a Research Scientist in 2019 and remained an integral member of our team until June 6, 2025. Her extensive training in ophthalmology and retinal biology enabled her to contribute advanced expertise in rodent ocular disease models, pattern electroretinography, optical coherence tomography, slit-lamp biomicroscopy, fundus imaging, and intraocular drug delivery. Dr. Zhang established and refined models of glaucoma, retinal degeneration, and uveitis, executed precise tissue dissections, and performed comprehensive functional assessments that directly strengthened our neuroprotection studies. We would like to thank Dr. Zhang for her years of dedicated service, scientific rigor, and valuable insight, and we wish her every success in her future endeavors.
- Publications:
 - PMID 40001522
 - PMID 39827971





>>> HONGLI WU, PH.D.

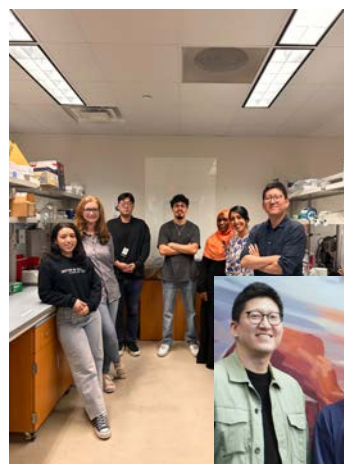
- Dr. Ying Qin, Phd student in Dr. Wu's lab, received 2nd place poster award of the 2025 RAD.
- Congratulations to PhD student Dr. Ying Qin on being selected for a predoctoral fellowship through the NIH T32 Neurobiology of Aging and Alzheimer's Disease Training Program for the 2025–2026 award cycle!
- Dr. Wu's collaborative project with Dr. Siegfried at Washington University was featured as a Hot Topic at the ARVO meeting.
- Dr. Wu participated in the AACP Mid-Career Faculty Recharge Program from June 3–6 as part of her professional development.



JAYOUNG KIM, PH.D.



- Oral presentation at ARVO conference by postdoctoral fellow Dr. Shadi Moshayedi, entitled Fabrication of Customized 3D-printed Contact Lenses for Corneal Cross-linking: Optimization using Design of Experiment.
- Publication:
 - PMID 40278226



HIGHLIGHTS

>>> NTERI AND OPHTHALMOLOGY INTEREST GROUP LAUNCH COLLABORATIVE PARTNERSHIP



NTERI recently announced a collaboration with UNTHSC's Ophthalmology Interest Group. This partnership will help broaden the avenues and experiences for both hands-on clinical learning and fundamental scientific research within the field of ophthalmology.

We hope through this partnership that we develop a strong network where students can offer mutual support, share their knowledge and learn from each other's experiences as they advance in their careers in eye care and research.

>>> MARITZA MORALES JOINS THE NTERI TEAM



Maritza Morales joined the NTERI Team in January 2025 as the Project Coordinator. The NTERI Newsletter team asked her a few questions:

- Why did you join the NTERI team?
 - I joined the NTERI team because I have a passion for programs that help educate and improve health literacy within our community.
- So far, what are you enjoying the most about your role?
 - I enjoy the people the most. The NTERI faculty staff and students are all great people, it's nice to always see a smiling face in the hall!

Welcome to the team, Maritza!

>>> KRYSTLE GABELE JOINS THE NTERI TEAM



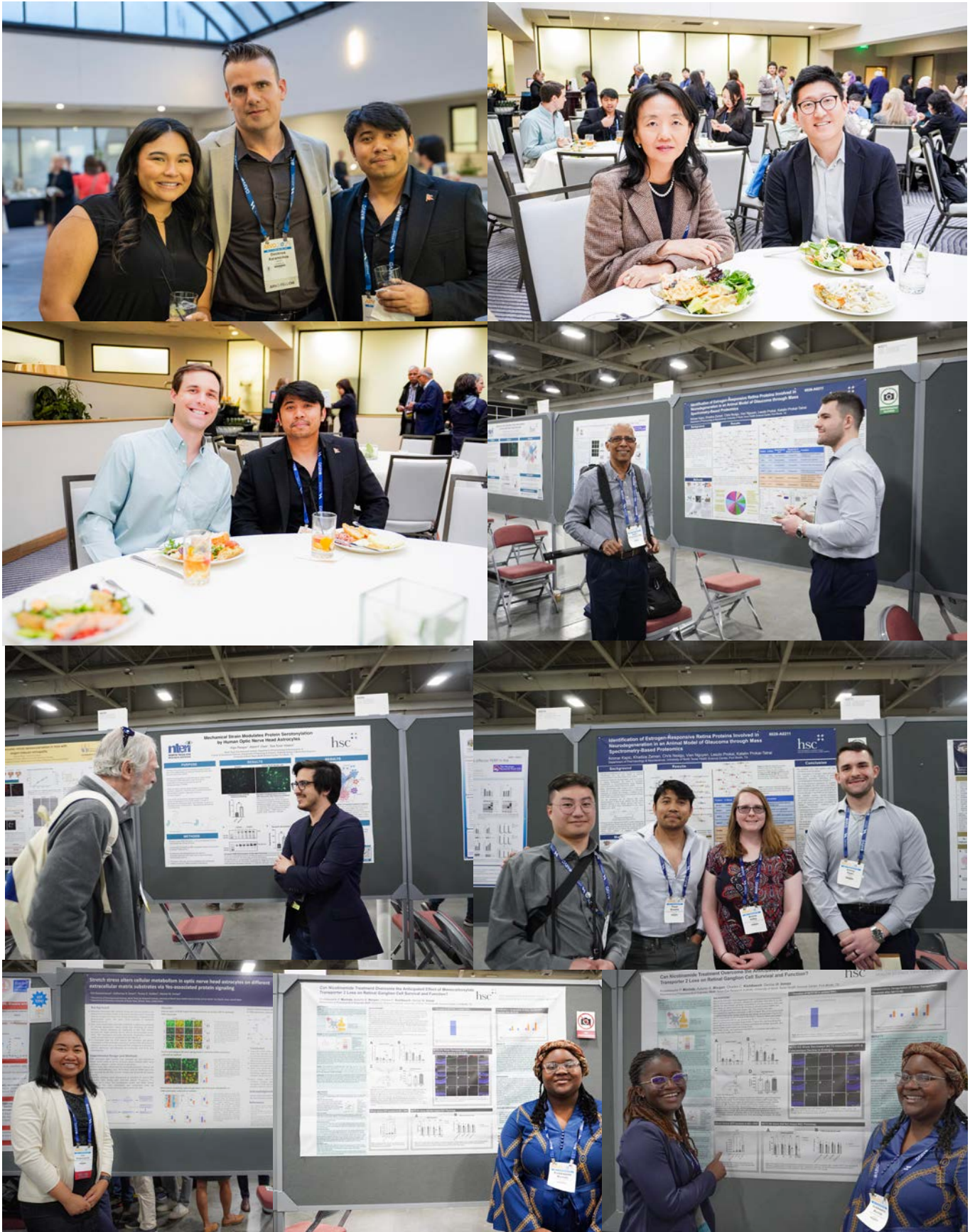
Krystle Gabele joined the NTERI Team in June 2025 as the Senior Communications Specialist. The NTERI Newsletter team asked her a few questions:

- Why did you join the NTERI team?
 - I joined the team because I have always admired the research that NTERI has done for eye health. I wanted to bring my communications expertise to bring more awareness to our research.
- So far, what are you enjoying the most about your role?
 - I enjoy working on developing communications plans to increase our outreach efforts in the community.

Welcome to the team, Krystle!



ENTERI SNAPSHOTS: CAPTURING MOMENTS AND MEMORIES





EYESIGHT PUBLICATIONS, 2025



Amankwa CE, DebNath B, Pham JH, Johnson GA, Zhang W, Ranjan A, Stankowska DL, Acharya S. Optimized PLGA encapsulated SA-2 nanosuspension exhibits sustained intraocular pressure reduction in the mouse microbead occlusion model of ocular hypertension. *Eur J Pharm Sci.* 2025 Mar 1;206:107016. doi: 10.1016/j.ejps.2025.107016. Epub 2025 Jan 17. PMID: 39827971.

Bradshaw JL, Vasini B, Mabry S, Hefley BS, Wilson EN, Gardner JJ, Cunningham RL, Karamichos D. Chronic intermittent hypoxia modulates corneal fibrotic markers and inflammatory cytokine expression in a sex-dependent manner. *Exp Eye Res.* 2025 Jun;255:110358. doi: 10.1016/j.exer.2025.110358. Epub 2025 Mar 24. PMID: 40139640.

Choi AJ, Hefley BS, Strobel HA, Moss SM, Hoying JB, Nicholas SE, Moshayedi S, Kim J, Karamichos D. Fabrication of a 3D Corneal Model Using Collagen Bioink and Human Corneal Stromal Cells. *J Funct Biomater.* 2025 Mar 28;16(4):118. doi: 10.3390/jfb16040118. PMID: 40278226; PMCID: PMC12028034.

Hefley BS, Shrestha P, Vasini B, Sharma P, Karamichos D. Characterizing Extracellular Vesicles from Biological Fluids. *J Vis Exp.* 2025 Feb 28;(216). doi: 10.3791/67699. PMID: 40095994.

Johnson GA, Krishnamoorthy RR, Nagaraj RH, Stankowska DL. A Neuroprotective Peptide Modulates Retinal cAMP Response Element-Binding Protein (CREB), Synapsin I (SYN1), and Growth-Associated Protein 43 (GAP43) in Rats with Silicone Oil-Induced Ocular Hypertension. *Biomolecules.* 2025 Feb 3;15(2):219. doi: 10.3390/biom15020219. PMID: 40001522; PMCID: PMC11852426.

Mabry S, Bradshaw JL, Gardner JJ, Wilson EN, Sunuwar J, Yeung H, Shrestha S, Cunningham JT, Cunningham RL. The impact of chronic intermittent hypoxia on enzymatic activity in memory-associated brain regions of male and female rats. *Biol Sex Differ.* 2025 Jan 31;16(1):5. doi: 10.1186/s13293-025-00688-6. PMID: 39891225; PMCID: PMC11786371.

Qin Y, Liu H, Wu H. Cellular Senescence in Health, Disease, and Lens Aging. *Pharmaceuticals (Basel).* 2025 Feb 12;18(2):244. doi: 10.3390/ph18020244. PMID: 40006057; PMCID: PMC11859104.

Petty RM, Ceresa L, Alexander E, Pham D, Sabnis N, Fudala R, Lacko AG, Krishnamoorthy RR, Gryczynski Z, Gryczynski I. Fluorescence Resonance Energy Transfer for Drug Loading Assessment in Reconstituted High-Density Lipoprotein Nanoparticles. *Int J Mol Sci.* 2025 Apr 1;26(7):3276. doi: 10.3390/ijms26073276. PMID: 40244133; PMCID: PMC11989292.

Petty RM, Rangan RS, Curry S, Brooks CD, Sabnis N, Clark AF, Lacko AG, Krishnamoorthy RR. (2025) Biodistribution of Reconstituted High-Density Lipoprotein Nanoparticles for Targeted Delivery to Retinal Ganglion Cells. *J Ocul. Pharmacol. Ther.* 41(5):281-289. doi: 10.1089/jop.2024.0191. Epub 2025 Apr 18. PMID: 40248840.