

# Eyesight

**UNT Health**  
FORT WORTH  
**NORTH TEXAS EYE  
RESEARCH INSTITUTE**



## A Season of Growth, Opportunity, and Transformation

The North Texas Eye Research Institute (NTERI) is entering a season of growth, opportunity, and transformation. With a dedicated team, consisting of scientists, PhD students, and postdoctoral fellows, NTERI 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 program with emphasis 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

As we begin a new academic year, I'm delighted to welcome all new students joining us across campus. Your energy, curiosity, and ambition are at the core of our mission, and we look forward to supporting your journey in research, education, and personal growth.



I'm also pleased to extend a warm welcome to Dr. David Vumbaco, our new Director of Research for NTERI. With a distinguished record of scholarship and leadership, Dr.

Vumbaco brings a bold vision that I am confident will elevate our institute's profile—not only in research excellence, but also in educational innovation and community outreach. With Dr. Vumbaco's assistance, we anticipate exciting new initiatives, expanded partnerships, and a renewed commitment to translating knowledge into real-world solutions.

I am truly excited as we are entering a season of growth, opportunity, and transformation. I encourage each of you to engage fully, ask bold questions, and contribute to the dynamic spirit that defines NTERI.

Sincerely,

*Dimitrios Karamichos, BEng, MSc, Ph.D.*

# Whole Health Eye Symposium

NTERI will host the 2nd Whole Health Eye Symposium on **Oct. 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



<https://bit.ly/wholehealtheye>

# ENTERI INTERDISCIPLINARY SEMINAR SERIES (ISS)

## Upcoming Speakers



**Dr. Tonychris Nnaka**  
**November 20, 2025**



**Dr. Rebecca Cunningham**  
**December 4, 2025**

For more information, check our website:

<https://bit.ly/nteri-seminars>



# Scholars in Visual Sciences



On July 31, 2025, NTERI and Fort Worth Eye Associates held the Scholars in Visual Sciences event. Fifty participants were in attendance and heard presentations from clinicians, NTERI PhD students, residents and student interns from Fort Worth Eye Associates and the Community Eye Clinic.

We are thankful for the continued partnership with Fort Worth Eye Associates and look forward to next year's event. [Learn more](#) about the Scholars in Visual Sciences event.



On Sept. 22-26, 2025, NTERI celebrated Eye Health Week. This event brought UNT Health together to learn more about the importance of eye health and spotlight the vital research that NTERI is doing to improve eye health outcomes. This weeklong event featured opportunities to learn about the important research being done by the NTERI labs, a ScEYence Fair dedicated to showcasing eye related research being done by UNT Health students, a tour of the NTERI lab space and free eye exams and glasses for UNT Health faculty, staff and students.

We would like to thank the UNT Health leadership, UNT Health Marketing and Communications, UNT Health Institutional Advancement, Student Services, Facilities Team, the Division of Academic Innovation, OneSight EssilorLuxxotica Foundation, and volunteers for all of their support.



# TRAINEE SPOTLIGHT



**Nina Donkor**

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

- Presented her poster at the NTERI Eye Health Week
- Presented at the UNT Research Day on "The Impact of Inhibiting Histone Deacetylase 4/5 in a Mouse Model of Glaucoma."

**Peter Nsiah**

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

- Presented his poster at NTERI's Eye Health Week
- Peter defended his PhD research proposal on Oct. 6.



**Brenna Hefley**

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

- Presented her poster at NTERI's Eye Health Week.
- Publication:
  - PMID: 40762539



**Olivia Young**

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

- Presented her research poster at NTERI's Eye Health Week.





# TRAINEE SPOTLIGHT



**Calvin Brooks**  
Ph.D. student in  
Dr. Raghu Krishnamoorthy's Lab

- Presented his research poster at the Institute for Health Disparities' Scholars Research Day. Won Best Graduate Research poster.

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

- Presented his research poster at the NTERI Eye Health Week.
- Presented his research poster at the UNT Research Day on "Monocarboxylate Transporters (MCTs) Dynamics in Human Corneal Fibrosis and Hypoxic Responses to Diabetic Cornea."

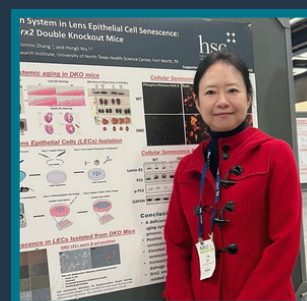


**Steve Mabry**  
Postdoctoral fellow in Dr. Dimitrios Karamichos' Lab

- Presented at the UNT Research Day on "Exploring the Combined Roles of Gonadotropins and TGF- $\beta$ 1 in Keratoconus"

**Ying Qin**  
Ph.D. student in Dr. Hongli Wu's Lab

- Successfully defended her PhD research proposal.
- Presented her research poster at NTERI's Eye Health Week.
- Presented her research poster at the UNT Research Day titled "Unraveling the Interplay Between Inflammaging and Oxidative Stress in Aging and Age-Related Cataracts (ARC)."





# TRAINEE SPOTLIGHT



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

- Publication
  - 1<sup>st</sup> Author: Therapeutic mRNA Delivery of CRISPR/Cas9 to the Trabecular Meshwork Reverses Ocular Hypertension in Myocilin Glaucoma in Molecular Therapy Methods and Clinical Development
  - 1<sup>st</sup> Author: Protocols for Performing CRISPR Gene Editing in Anterior Chamber Eye Cells in Research Protocols for Ophthalmic Disease Mechanisms and Therapeutics: Glaucoma - Ocular Hypertension.

**Usa Suwannasual**  
**Postdoctoral fellow in Dr. Denise Inman's Lab**

- Presented at the UNT Research Day on "Stretch strain shifts optic nerve head astrocyte metabolism to enrich the pentose phosphate pathway in glaucoma."

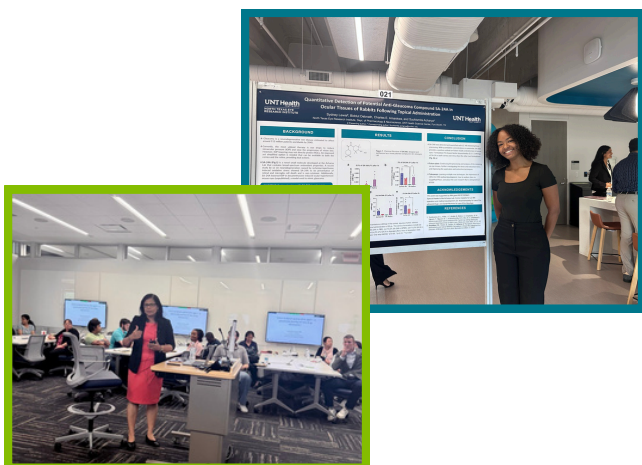


# FACULTY SPOTLIGHT & LAB HAPPENINGS



## »»» SUCHISMITA ACHARYA, PH.D.

- Our summer student, Sydney Lewis, from the University of Texas at Austin, completed her summer internship and presented a poster on August 17th.
- Dr. Acharya, along with Patrick Smale, CEO of ClearSight Therapeutics in Dallas, Texas, presented at our Interdisciplinary Seminar Series lecture on July 3, 2025, on the topic, "Clinic-to-bench and to clinic again- a passionate journey of new drug discoveries."
- Dr. Acharya was the PI and Corresponding Author for her recent publication in *BMC Neuroscience*, "Hybrid molecule SA-10 and its PLGA nanosuspension protect human and rodent retinal ganglion cells against neuronal injury."



## DENISE INMAN, PH.D.



- Nina Donkor and Dr. Usa Suwannasual presented their research work at the UNT Research Day on the UNT Denton campus. Nina's work is titled "The Impact of Inhibiting Histone Deacetylase 4/5 in a Mouse Model of Glaucoma." Usa's work is titled, "Stretch strain shifts optic nerve head astrocyte metabolism to enrich the pentose phosphate pathway in glaucoma."
- The Inman Lab has added Minh Le, Student Research Assistant, Maryam Nabavi, Student Intern, and Christy Dubinsky, PharmD student.



**DIMITRIOS KARAMICHOS, PH.D.**

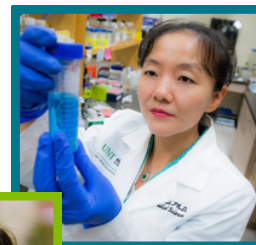
- Yasmin Moradi, a PhD student in the Karamichos Lab recently passed her Oral Qualifying Exams.
- Publications:
  - PMID 40762539
  - PMID 40614852

**RAGHU KRISHNAMOORTHY, PH.D.**

- Dr. Krishnamoorthy received the Faculty Achievement Award during the Spring 2025 semester.

**HONGLI WU, PH.D.**

- Pamela Mariscal, a MS-DDD student has joined the Wu lab for her research internship.
- Dr. Wu was awarded a grant through the National Institutes of Health (NIH) - Expanding the Facets of Multi-Functional Antioxidant Molecules Through Computational Design and Biological Tools. This is a collaborative research grant that focuses on the computational design and biological evaluation of multifunctional antioxidant molecules. The project integrates chemistry, computational modeling, and biological tools to explore novel strategies for antioxidant development. Dr. Wu is the co-investigator for the grant.

**ABE CLARK, PH.D.**

- Presented his poster at NTERI's Eye Health Week
- Dr. Clark will be on the Program Committee and Moderator at the 2025 International Society for Eye Research / BrightFocus Foundation Glaucoma Fast Tract Meeting in Atlanta, Ga.
- Sam Yacoub, a PhD student being co-mentored by Dr. Clark and Dr. Gulab Zode, had his first author publication approved to be published in *Molecular Therapy Methods and Clinical Development*.



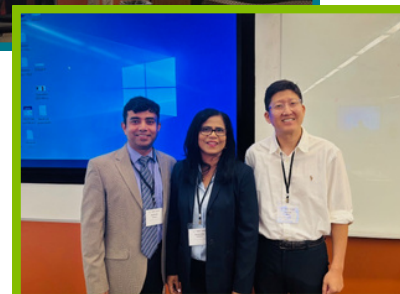


## >>> CAMERON MILLAR, PH.D.

- Dr. Millar recently published an chapter in *Research Protocols for Ophthalmologic Disease Mechanisms*. The chapter, co-authored with Dr. Wei Zhang, is titled “Protocol for Assessment of Aqueous Humor Dynamics in the Living Mouse.”

## JAYOUNG KIM, PH.D. <<<

- Dr. Kim served as a session chair (session title: Nanomedicine and Drug Delivery) at the Southern Biomedical Engineering Conference, held at UTTyler on Sept. 12-14, 2025.
- Anna Arredondo (3<sup>rd</sup> year PhD student in the lab) has successfully defended her thesis proposal entitled “Exposomic Impacts on Nanoparticle Delivery” on Oct. 1.
- The Kim lab had two poster presentations at the UNT Research Day by Anna Arredondo (3<sup>rd</sup> year PhD student), “Nanoparticle Corona Composition Differs Due to Lifestyle Factors”, and Changhyun Kim, Ph.D. (postdoctoral research associate), “Shear Stress-Driven Platform for Site-Specific Nanoparticle Delivery”
- The Kim lab had a poster presentation at the Biomedical Engineering Society conference by Changhyun Kim, Ph.D.





# HIGHLIGHTS

## DR. DIMITRIOS KARAMICHOS NAMED AS AN ADVOCATE FOR HEALTHCARE



On Sept. 4, Dr. Dimitrios Karamichos, Vice President for Research and Graduate Studies at UNT Health and Executive Director, NTERI, was honored as a member of the 2025 Class of Advocates for Healthcare by The Business Press. Advocates for Healthcare are selected through nominations by peers, clients and members of the business community. The program honors professionals who demonstrate innovation, leadership and compassion in serving patients and advancing the field.

You can read more about Dr. Karamichos' honor [here](#).

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## NTERI RECEIVES GRANT FROM SOUTHERN DAMES OF AMERICA

On July 17, 2025, NTERI received a \$2,000 grant from the Southern Dames of America to support its work in eye research.

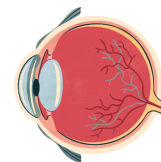
The Southern Dames of America's primary purpose is to support eye programs through contributions for ophthalmic research, grants to eye banks and assistance to individuals who are visually impaired. Every four years, the Southern Dames of America's National Assembly votes to award the Ophthalmic Research Grants to state societies and institutions. Recipients must be a research institution dedicated to eye research.

NTERI was selected for this award because of its reputation in vision sciences and focus on eye diseases, such as glaucoma. This marks the first time that NTERI has received this honor.





## EYESIGHT PUBLICATIONS, 2025



Liang W, Huang L, Clayton JM, Nicholas SE, Hefley BS, Ma JX, Karamichos D. Exploring the Therapeutic Potential of Salivary Exosomes in Corneal Epithelial Wound Healing. *Invest Ophthalmol Vis Sci*. 2025 Aug 1;66(11):8. doi: 10.1167/iov.66.11.8. PMID: 40762539; PMCID: PMC12338374.

Liang W, Vasini B, Clayton J, Ma JX, Karamichos D. Investigating prolactin-induced protein and its role in modulating the metabolic state of the keratoconus microenvironment. *Exp Eye Res*. 2025 Sep;258:110507. doi: 10.1016/j.exer.2025.110507. Epub 2025 Jul 2. PMID: 40614852.

Pham, J.H., Zhang, W., Le, K.T. et al. Hybrid molecule SA-10 and its PLGA nanosuspension protect human and rodent retinal ganglion cells against neuronal injury. *BMC Neurosci* 26, 51 (2025). <https://doi.org/10.1186/s12868-025-00971-7>

Yacoub, S., Amankwa, C. E., & Zode, G. (2025). Protocols for Performing CRISPR Gene Editing in Anterior Chamber Eye Cells. In *Research Protocols for Ophthalmic Disease Mechanisms and Therapeutics: Glaucoma - Ocular Hypertension* (pp. 550–564). essay, Bentham Science.