



Eyesight



Breaking New Grounds in Visionary Discoveries: NTERI's Latest Frontiers

In our latest endeavors, the North Texas Eye Research Institute (NTERI) continues to pioneer impactful discoveries and initiatives. Our dedicated team, including scientists, PhD students, and postdoctoral fellows, is actively engaged in groundbreaking research, from innovative testing methods to the development of therapeutics destined for clinical trials. Faculty members consistently share their findings in top ophthalmology journals, reinforcing NTERI's leadership in the field.

Education remains paramount, with NTERI committed to training the next generation of scientists and clinicians through focused programs, including a PhD in Visual Sciences. As we grow and innovate, NTERI remains dedicated to eliminating disparities in eye health and contributing to global advancements in eye research.

In this newsletter, you'll find the latest achievements and publications, providing insight into our ongoing commitment to advancing the frontiers of visual sciences.

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EXECUTIVE DIRECTOR'S MESSAGE

“As the year’s coming to end, I would like to thank you for all your hard work and best wishes in the new year. Over the last year, our team has accomplished so much together. Your dedication is unmatched, and your professionalism unquestionable. I believe we are all excited for having such a productive year. I am proud to see you all grow with our Institute and unlock potential you did not think you had in the first place. To our graduates, I know this past year has not been easy, but I wanted to offer my congratulations and well wishes for the future. Your perseverance and work ethics should be applauded, and you should be very proud of yourself for reaching each accomplishment. To our staff members, it is clear your teams have accomplished so much together. I want to personally thank each of you for your dedication and commitment to NTERI and HSC. To our faculty, your mentorship, enthusiasm, creativity, and productivity do not go unnoticed. With record-breaking publications and significant discoveries to your respective research areas, NTERI is elevated to new heights. Cheers to more challenges and milestones! Happy New Year to the people who have made this year a success – Happy New Year to you all!



Dimitrios Karamichos, BEng, MSc, Ph.D.

NTERI INTERDISCIPLINARY SEMINAR SERIES (ISS)

The inaugural year of the ISS NTERI Interdisciplinary Seminar Series has been a remarkable journey of intellectual growth and collaborative discovery, setting a new standard for academic excellence and interdisciplinary dialogue. We celebrate this milestone, acknowledging the dedication and insights of all participants who have made this series a beacon of knowledge and innovation.



Dr. Winston Kao, January 18th, 2024



Dr. Susmit Suvas, February 29th, 2024



Dr. Cynthia Carrol, April 25th, 2024

Upcoming Speakers



Dr. Tonia Rex, January 25th, 2024

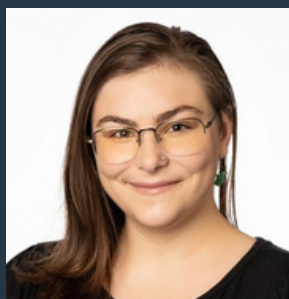


Dr. Joshua Dunaief, March 28th, 2024

STUDENT SPOTLIGHT

Charles Amankwa, Ph.D. candidate in Dr. Suchismita Acharya's Lab

1. Charles was awarded a travel grant by Sigma Xi to participate in the International Forum on Research Excellence (IFoRE) Conference.
2. Charles was one of the selected honorary associate members of Sigma Xi after delivering his oral talk on the mechanistic role of SA-2 as drug candidate in glaucoma therapy.



Gretchen Johnson, Ph.D. candidate in Dr. Dorota Stankowska's Lab

1. Gretchen Johnson attended the NDiSTEM conference, focusing on enhancing diversity in STEM fields.
2. Obtained Travel Award from the Society for the Advancement of Chicanos/Hispanics and Native Americans (SACNAS) to attend NDiSTEM.

Rajiv Rangan, Ph.D. candidate in Dr. Abe Clark's Lab

1. Was awarded a travel grant to attend an AOPT meeting in the Fall.
2. We are excited to share that Rajiv Rangan, a member of our team since 2020, has been featured on the Fisher Scientific website. His innovative research, greatly enhanced by the Thermo Fisher Aspire Program, has transformed a unique thesis idea into a successfully funded project.
3. Rajiv has successfully defended his Ph.D. proposal, marking a pivotal step forward in his academic and research career.



STUDENT SPOTLIGHT

Jennifer H. Pham, Ph.D. candidate in Dr. Dorota Stankowska's Lab

1. Participated in the Association for Ocular Pharmacology and Therapeutics Conference, Indianapolis
2. Received a travel award from the BrightFocus Foundation to attend AOPT meeting



Brenna Hefley, Ph.D. candidate in Dr. Dimitrios Karamichos' Lab

Has triumphantly completed the defense of her Ph.D. proposal, signifying a major achievement in her academic path.

Katelynn Sepke, M.S. student in Dr. Denise Inman's Lab

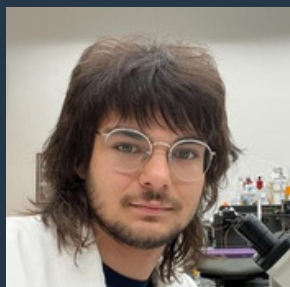
Has successfully defended her M.S. proposal, marking a significant milestone in her academic journey.



Autumn Morgan, Ph.D. student in Dr. Denise Inman's Lab

Voted as 1st year Traditional PhD/Masters Representative

STUDENT SPOTLIGHT



**R. Max Petty, Ph.D. candidate in
Drs. Stankowska and Krishnamoorthy's
Lab**

- 1. Max Petty attended the NDiSTEM conference, focusing on enhancing diversity in STEM fields.
- 2. Received Travel Award to attend NDiSTEM conference.

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

Publications: PMID: 37996657
PMID: 38001960



FACULTY SPOTLIGHT & LAB HAPPENINGS



»»» SUCHISMITA ACHARYA, PH.D.

- Charles Amankwa, a Ph.D. student from Acharya lab received a Sigma Xi travel grant for the IFoRE Conference.
- Charles became honorary associate member of Sigma Xi post-talk on SA-2 in glaucoma therapy.

ABE CLARK, PH.D. <<<

- Rajiv Rangan, member of Dr. Clark's Lab, has been awarded a travel grant to attend an AOPT meeting this Fall. Rajiv successfully defended his Ph.D. proposal, marking a pivotal step forward in his academic and research career.
- Publications:- PMID: 37887296, PMID: 37558962



»»» DENISE INMAN, PH.D.

- Inman's lab recently achieved Platinum Status in the Lab Efficiency Action Program (LEAP), the Sustainability Committee program that supports labs committing to sustainable practices that can reduce our carbon footprint.
- Inman's lab just had a paper accepted in Scientific Reports titled, "Long-term HIF-1 α Stabilization Reduces Respiration, Promotes Mitophagy, and Results in Retinal Cell Death," Nana Yaa Nsiah, Autumn B. Morgan, Nina Donkor, Denise M. Inman.
- This represents the second first-author publication from Nana Yaa Nsiah, who is currently a scientist at Genentech in South San Francisco.

DIMITRIOS KARAMICHOS, PH.D. <<<

- Appointments: Dr. Dimitrios Karamichos: Interim Dean of SBS
- Publications: PMC10487450, PMID: 37944849
- Students' milestones: Brenna Hefley defended her Ph.D. proposal.

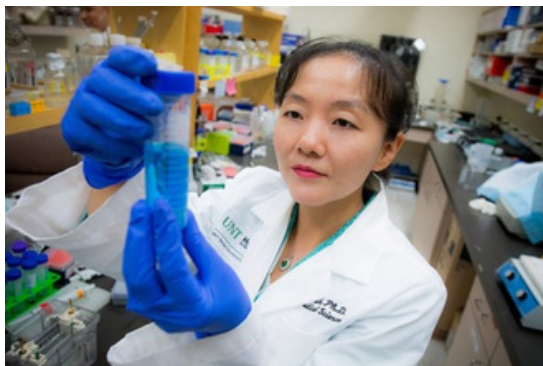


>>> RAGHU KRISHNAMOORTHY, PH.D.

- Dr. Bindu Kodati from Krishnamoorthy's lab presented their research at the AOPT conference, supported by travel awards from the BrightFocus Foundation.
- Dr. Krishnamoorthy hosted North Texas high school student in his laboratory this summer, providing them with hands-on research experience and insights into biomedical science careers.
- Appointments: Dr. Raghu Krishnamoorthy: Director of Traditional Graduate Programs

DOROTA STANKOWSKA, PH.D. <<<

- Conferences attended by lab members:
- AOPT: Jennifer Pham presented, travel award by BrightFocus Foundation
- NDISTEM: Gretchen Johnson & Max Petty attended, hosted by SACNAS, received travel awards to attend NDISTEM.
- Appointments: Dr. Dorota Stankowska: Director of Specialized Master's Programs
- Publications: PMID: 37965225, PMID: 37928737, and DOI=10.3389/fopht.2023.1185755



>>> HONGLI WU, PH.D.

- Dr. Wu has received several notable recognitions and invitations:
- Invited as the guest editor for two prestigious journals, overseeing the following special issues: Antioxidants (Impact Factor: 7.675)
- Special Issue Title: Oxidative Stress and Cataract: Mechanisms and Therapies Pharmaceuticals (Impact Factor: 4.6)
- Special Issue Title: Emerging Drug Candidates and Therapeutic Approaches for Ocular Disorders
- Graduate student Jinmin Zhang has authored two first-author papers published in JoVE and Experimental Eye Research.
- Dr. Hongli Wu has been honored with the SCP Outstanding Research Award.
- Dr. Wu has been awarded the Professor of the Year Teaching Award for the Class of 2026 (PY2).
- Dr. Hongli Wu has been invited to be a seminar speaker at the Department of Ophthalmology & Visual Sciences, Washington University School of Medicine in St. Louis, in December 2023.

HIGHLIGHTS



DR. KARAMICHOS NAMED HSC SCHOOL OF BIOMEDICAL SCIENCES INTERIM DEAN



We are excited to announce that Dimitrios Karamichos, Ph.D., has been appointed as the interim dean of The University of North Texas Health Science Center at Fort Worth School of Biomedical Sciences, effective September 15, 2023.

Dr. Karamichos, who continues to serve as the Executive Director and Endowed Chair of the North Texas Eye Research Institute (NTERI) at HSC, brings a wealth of experience and expertise to this significant role.

In addition to his new responsibilities, Dr. Karamichos will maintain his tenure as a professor, with faculty appointments in both the School of Biomedical Sciences' Department of Pharmacology and Neuroscience and the College of Pharmacy's Department of Pharmaceutical Sciences.

Dr. Karamichos will continue to lead and contribute to our community in these multifaceted roles, ensuring a dynamic and innovative environment for education and research.



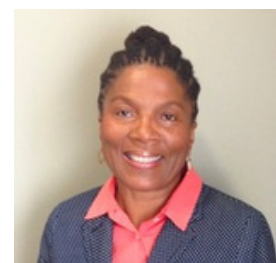
DR. KRISHNAMOORTHY

We are pleased to announce that Dr. Raghu Krishnamoorthy, Ph.D., was appointed as the Director of Traditional Graduate Programs at the University of North Texas Health Science Center. In this vital role he will bring his extensive expertise and leadership to the forefront of our graduate programs.

Dr. Krishnamoorthy is a Professor in the Department of Pharmacology and Neuroscience and a key member of the North Texas Eye Research Institute.

DR. STANKOWSKA

Dr. Dorota L. Stankowska, Ph.D., has been appointed as the Director of Specialized Master's Programs at the HSC School of Biomedical Sciences, where she will report to the Assistant Dean of Specialized Master's Programs. In addition to her role as an Assistant Professor in the Department of Microbiology, Immunology, and Genetics, Dr. Stankowska also serves as the Associate Director of Strategic Communications at the North Texas Eye Research Institute (NTERI).



DR. ELLIS

Dr. Ellis has recently been appointed as a Strategy Officer at the College of Pharmacy. As an Associate Professor in Pharmaceutical Sciences at the System College of Pharmacy and a member of the North Texas Eye Research Institute (NTERI), Dr. Ellis brings a wealth of knowledge and strategic insight to this pivotal role, further enhancing the college's vision and direction.

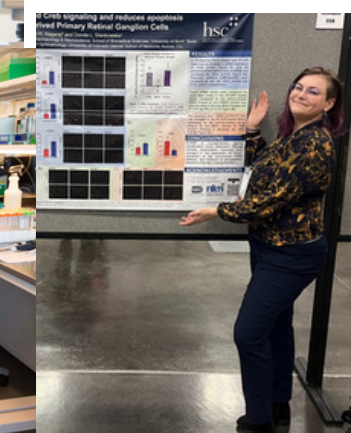
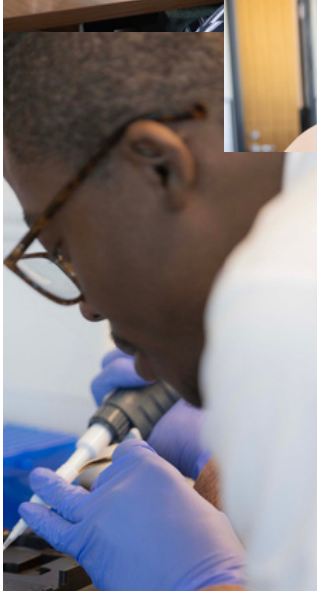
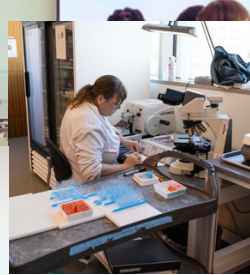


CONGRATULATION ON THE NEW NTERI FAMILY MEMBER - ISHAAN PINKAL AMBARAM

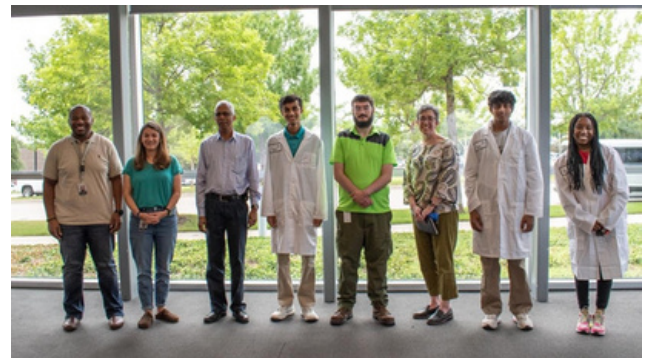
We are thrilled to extend our warmest congratulations to Pinkal Patel, Ph.D., a Postdoctoral Fellow in Dr. Clark's lab at NTERI, on the joyous arrival of a new family member, Ishaan Pinkal Ambaram. This delightful news adds a wonderful chapter to the Patel's family, and we wish Pinkal Patel and family abundant happiness and cherished moments with their newest addition.



ENTER SNAPSHOTS: CAPTURING MOMENTS AND MEMORIES

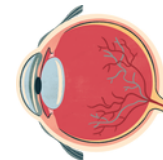


Alcus Foundation Travel Awardees AOPT 2023 Biennial Meeting





EYESIGHT PUBLICATIONS (AUG-DEC)



Amankwa CE, Kodati B, Donkor N, Acharya S. Therapeutic Potential of Antioxidants and Hybrid TEMPOL Derivatives in Ocular Neurodegenerative Diseases: A Glimpse into the Future. *Biomedicines*. 2023 Nov 1;11(11):2959. doi:10.3390/biomedicines11112959. PMID: 38001960; PMCID: PMC10669210.

Brooks CD, Kodati B, Stankowska DL, Krishnamoorthy RR. Role of mitophagy in ocular neurodegeneration. *Front Neurosci*. 2023 Oct 27;17:1299552. doi:10.3389/fnins.2023.1299552. PMID: 37965225; PMCID: PMC10641468.

Johnson GA, Krishnamoorthy RR, Stankowska DL. Modulating mitochondrial calcium channels (TRPM2/MCU/NCX) as a therapeutic strategy for neurodegenerative disorders. *Front Neurosci*. 2023 Oct 20;17:1202167. doi:10.3389/fnins.2023.1202167. PMID: 37928737; PMCID: PMC10622973.

Kodati B, McGrady NR, Jefferies HB, Stankowska DL, Krishnamoorthy RR. Oral administration of a dual ET_A/ET_B receptor antagonist promotes neuroprotection in a rodent model of glaucoma. *Mol Vis*. 2022 Aug 7;28:165-177. PMID: 36274816; PMCID: PMC9491150.

Kodati Bindu, Zhang Wei, He Shaoqing, Pham Jennifer H., Beall Kallen J., Swanger Zoe E., Krishnamoorthy Vignesh R., Harris Payton E., Hall Trent, Tran Ashley V., Chaphalkar Renuka M., Chavala Sai H., Stankowska Dorota L., Krishnamoorthy Raghu R. The endothelin receptor antagonist macitentan ameliorates endothelin-mediated vasoconstriction and promotes the survival of retinal ganglion cells in rats. *Frontiers in Ophthalmology*. 2023, Vol 3. <https://doi.org/10.3389/fopht.2023.1185755>

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McKay TB, Emmitte KA, German C, Karamichos D. Quercetin and Related Analogs as Therapeutics to Promote Tissue Repair. *Bioengineering (Basel)*. 2023 Sep 25;10(10):1127. doi: 10.3390/bioengineering10101127. PMID: 37892857; PMCID: PMC10604618.

Millar JC, Sundaresan Y, Zode GS, Clark AF. Viral Vector-Induced Ocular Hypertension in Mice. *Methods Mol Biol*. 2023;2708:77-97. doi: 10.1007/978-1-0716-3409-7_9. PMID: 37558962.

Nsiah NY, Morgan AB, Donkor N, Inman DM. Long-term HIF-1 α stabilization reduces respiration, promotes mitophagy, and results in retinal cell death. *Sci Rep*. 2023 Nov 23;13(1):20541. doi: 10.1038/s41598-023-47942-8. PMID: 37996657; PMCID: PMC10667534.

Patel PD, Kodati B, Clark AF. Role of Glucocorticoids and Glucocorticoid Receptors in Glaucoma Pathogenesis. *Cells*. 2023 Oct 14;12(20):2452. doi: 10.3390/cells12202452. PMID: 37887296; PMCID: PMC10605158.

Priyadarsini S, McKay TB, Escandon P, Nicholas SE, Ma JX, Karamichos D. Cell sheet-based approach to study the diabetic corneal stroma. *Exp Eye Res*. 2023 Dec;237:109717. doi: 10.1016/j.exer.2023.109717. Epub 2023 Nov 7. PMID: 37944849.

Sundaresan Y, Yacoub S, Kodati B, Amankwa CE, Raola A, Zode G. Therapeutic applications of CRISPR/Cas9 gene editing technology for the treatment of ocular diseases. *FEBS J*. 2023 Nov;290(22):5248-5269. doi: 10.1111/febs.16771. Epub 2023 Mar 27. PMID: 36877952; PMCID: PMC10480348.

Youale J, Bigot K, Kodati B, Jaworski T, Fan Y, Nsiah NY, Pappenhagen N, Inman DM, Behar-Cohen F, Bordet T, Picard E. Neuroprotective Effects of Transferrin in Experimental Glaucoma Models. *Int J Mol Sci*. 2022 Oct 22;23(21):12753. doi: 10.3390/ijms232112753. PMID: 36361544; PMCID: PMC9659282.

Zhang J, Yu Y, Dang T, Lal K, Wu H. The impact of glutaredoxin 1 and glutaredoxin 2 double knockout on lens epithelial cell function. *Exp Eye Res*. 2023 Aug;233:109521. doi: 10.1016/j.exer.2023.109521. Epub 2023 Jun 3. PMID: 37277068.

Zhang X, Liu B, Lal K, Liu H, Tran M, Zhou M, Ezugwu C, Gao X, Dang T, Au ML, Brown E, Wu H, Liao Y. Antioxidant System and Endoplasmic Reticulum Stress in Cataracts. *Cell Mol Neurobiol*. 2023 Nov;43(8):4041-4058. doi: 10.1007/s10571-023-01427-4. Epub 2023 Oct 24. PMID: 37874455.

HAPPY HOLIDAYS

*It's been a busy year, but we
wouldn't have it any other way.*

As the holiday season unfolds, we, the North Texas Eye Research Institute Members, extend our warmest wishes to each of you in our cherished HSC community.

This time of year is a beautiful opportunity to reflect on the milestones we have achieved together and express our gratitude for the unwavering support and collaboration that make our community unique.

As we offer farewell to this year of 2023 and welcome the new 2024, let's cherish the moments of joy and learning we have shared. May this festive season bring you and your loved ones happiness, peace, and well-being. We look forward to continuing our journey together, fostering innovation and excellence in the year ahead.

Happy Holidays and a Prosperous New Year!

With warm regards,

The NTERI Team