

UMASS INSIGHT



UMASS MEMORIAL
EYE CENTER

News from the Department of Ophthalmology & Visual Sciences

Fall 2023



INSIGHT FROM THE INTERIM CHAIR

It is an honor to serve as Interim Chair of Ophthalmology since April and as Director of the Residency Program since June 2023. I appreciate everyone who works in the UMass Memorial Eye Center - technicians, staff, faculty and residents. I have the opportunity to make a difference by leading our team as we focus on positivity, team building, inclusiveness, and maximizing everyone's potential. I look forward to working together as we improve access to patient care, increase professional development, expand resident education, and grow our clinical faculty.

We have taken several steps to achieve these goals:

- Initiated and expanded protected didactic time for residents
- Appointed the first Associate Residency Program Director, Dr. Botsford
- Supported courses and conferences for residents to enhance education and prepare for ophthalmic knowledge assessment exams
- Established resident rotations to expand training and meet requirements for cataract surgery
- Added new off-site residency rotation to expand the program
- Improved equipment: Glaucoma lasers for Hahnemann and Northborough, supported replacement of nonworking optical coherence tomography machine, successfully renewed eye surgery simulator, purchased eye surgery instruments for residents
- Supported acquisition of new equipment for emergency surgeries at University Campus
- Increased efforts to recruit new faculty in various subspecialties
- Supported faculty compensation for on-call schedule changes

Johanna M. Seddon, MD, ScM, FARVO, FASRS

Professor and Interim Chair of Ophthalmology and Visual Sciences



Johanna M. Seddon, MD, ScM, FARVO, FASRS, was honored to receive the 2023 Founders' Award from The American Society of Retina Specialists (ASRS). The ASRS celebrated Dr. Seddon's contributions to the advancement of vitreoretinal surgery, treatment, research, and patient care. Dr. Seddon is a woman retina pioneer, and her research has led to seminal advances in managing AMD as well as understanding its pathophysiology. The Founders Award ceremony was held on July 29, 2023.

<https://www.asrs.org/annual-meeting/awards/the-founders-award>. Dr. Seddon was also elected to the Academia Ophthalmologica Internationalis membership in June 2023. AOI is an international organization committed to excellence in education, research, and to preserving and restoring vision around the world.

INSIGHTS IN THIS ISSUE

RESIDENTS

Ophthalmology
Graduating Residents and
Current Residents

SEMINAR SERIES CALENDAR YEAR 2023-2024

INVITED VISION SEMINAR GUEST SPEAKERS

Lucia Sobrin, MD, MPH
Guangping Gao, PhD
Nisha Acharya, MD, MS
Ron Adelman, MD

RESIDENTS DAY SYMPOSIUM SPEAKER

Eric Alper, MD, CCIO

ARVO MEETING, VISION FOR THE FUTURE

Researchers present cutting-edge presentations

WELCOME NEW DOCTORS TO UMASS MEMORIAL EYE CENTER

Topal Patel, OD
Marez Megalla, MD

JUNE 29, 2023 OPHTHALMOLOGY RESIDENTS DAY SYMPOSIUM

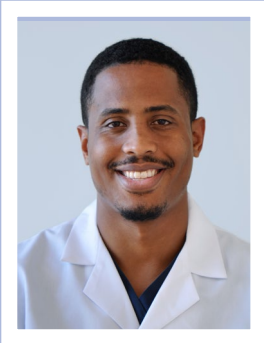
Find us online for the latest, research, publications, faculty updates & more at www.umassmed.edu/ophthalmology

 **UMass Memorial Health**
UMASS MEMORIAL MEDICAL CENTER

 **UMass Chan**
MEDICAL SCHOOL



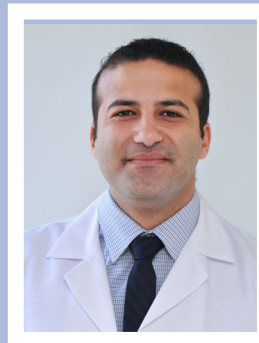
CONGRATULATIONS GRADUATES



ARON SAMPSON, MD
ADMINISTRATIVE CHIEF
RESIDENT
PGY-4

Aron Sampson, MD, graduated from Oakwood University in 2008 with a bachelor's degree in biology. He then completed medical school at Chicago Medical School in 2018. After graduating medical school, he

did an ocular pathology fellowship at the University of Iowa and an internal medicine internship at Advocate Lutheran General Hospital in Illinois. In 2020, Dr. Sampson started as an ophthalmology resident at UMass Chan Medical School and served as the administrative chief resident from 2022-2023. In October he started as a comprehensive ophthalmologist at Adventist Health Ukiah Valley in California.



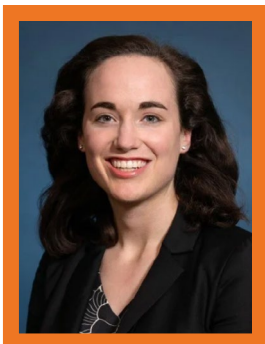
OMAR HELMY ABDELMEGID, MD
RESIDENT
PGY-4

Omar Helmy Abdelmegid, MD, earned his medical degree from Ain Shams University in Cairo, Egypt in 2012. After graduation he completed a general medicine internship at Ain Shams University Hospital, was a research

scholar at the University of Louisville and a postdoctoral research associate at UMass Chan Medical School until 2019. In 2019, Dr. Helmy A. completed a general surgery internship at Harbor UCLA Medical Center in California and then joined the UMass Chan Ophthalmology residency program in 2020. In September he started as a comprehensive ophthalmologist at Marshfield Clinic in Beaver Dam, Wisconsin.

OUR RESIDENTS 2023-2024

PGY-4



LAUREN COLWELL, MD
ADMINISTRATIVE CHIEF
PGY-4 RESIDENT

Dr. Colwell graduated from Brown University in 2015 with a degree in public health. She completed medical school at UMass Chan medical school in 2020. After graduating medical school, she completed an internal medicine internship at Newton Wellesley

Hospital. She joined the UMass Chan Ophthalmology Residency in 2021 and currently serves as the administrative chief from 2023-2024.



LUKE NAMAN, MD
PGY-4 RESIDENT

Dr. Naman graduated from Dartmouth College in 2015 with a degree in philosophy. He then completed medical school at University of Southern California Keck School of Medicine in 2020. After graduating, he completed an internal medicine internship at UMass Chan Medical School.

Dr. Naman joined the UMass Chan Ophthalmology Residency in 2021.

UMASS INSIGHT

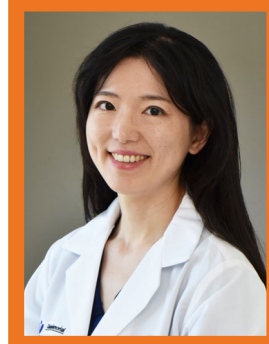
News from the Department of Ophthalmology & Visual Sciences

PGY-3



DEREK METCALFE, MD
PGY-3 RESIDENT

Dr. Metcalfe graduated from Tufts University in 2016 with a degree in biopsychology. He then completed medical school at Tufts University School of Medicine in 2021. After graduating medical school, he started his training with the UMass Chan Ophthalmology Residency Program, which included an integrated internship.



SU JEOUNG (CHRIS) KIM, MD
PGY-3 RESIDENT

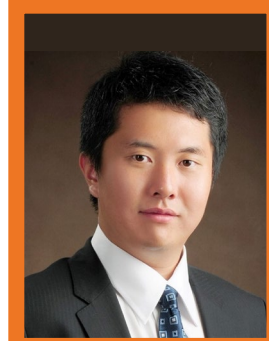
Dr. Kim graduated from Wellesley College with a bachelor's degree in biochemistry and a Master's degree in biomedical engineering from UCLA. She earned her medical degree at Boston University School of Medicine. She then completed her integrated internship and has been continuing her residency training at the UMass Chan Ophthalmology Residency Program.

PGY-2



DELANEY CURRAN, MD
PGY-2 RESIDENT

Dr. Curran graduated from The University of Vermont in 2018 with a degree in biology. She then completed medical school at University of Vermont College of Medicine in 2022. After graduating, she started her training with UMass Chan Ophthalmology Residency Program, which included an integrated internship.



YANHAN REN, MD
PGY-2 RESIDENT

Dr. Ren graduated from The University of Rochester in 2014 with a degree in molecular genetics and Boston University School of Medicine in 2016 with a master's degree in medical science. He graduated from Chicago Medical School in 2022. After medical school, he started his training with the UMass Chan Ophthalmology Residency Program, which included an integrated internship.

PGY-1



ELIZABETH ESHUN, MD
PGY-1 RESIDENT

Dr. Eshun graduated from The University of Tennessee, Knoxville in 2019 with a bachelor's degree in nutrition science. She also completed medical school at the University of Tennessee in 2023. Since graduating medical school Dr. Eshun has started her integrated

internship here at UMass Chan and as part of her intern year, she will join our Ophthalmology Department in April 2023 (three months before officially starting her PGY-2).



DAVID SANTOS, MD
PGY-1 RESIDENT

Dr. Santos graduated from Georgetown University in 2019 with a bachelor's degree in psychology. He then completed medical school at the University of Puerto Rico in 2023. Since graduating medical school, Dr. Santos started an integrated internship at UMass

Chan and as part of his intern year, he will join our Ophthalmology Department in April 2023 (three months before officially starting his PGY-2).



UMASS MEMORIAL
EYE CENTER

2023-2024 Academic Calendar In-person Vision Seminar Series

Seminar Series – 6:00 pm to 7:00 pm
Lazare Auditorium, S1-607

Medical School Building, University of Massachusetts Chan Medical School, Worcester, MA

| | | |
|------------------------------|---|---|
| September 21 2023 | Ron Adelman, MD, MPH, MBA, FACS <i>Professor of Ophthalmology and Visual Sciences, Director of Retina and Macular Service, Department of Ophthalmology, Yale School of Medicine, New Haven, CT</i> | Specialty: Retina |
| October 19 2023 | Meredith S. Gregory-Ksander, PhD <i>Massachusetts Eye and Ear, Associate Scientist, Harvard Medical School, Assistant Professor of Ophthalmology</i> | Specialty: Ocular Inflammation |
| November 16 2023 | Andrew W. Taylor, PhD, FARVO <i>Associate Dean for Research, Professor & Vice-Chair for Research, Department of Ophthalmology, Boston University Chobanian & Avedisian School of Medicine, 72 East Concord Street, Room L915, Boston, MA 02118</i> | Specialty: Immunology |
| December | No Seminar - Winter Break | |
| January 18 2024 | Kevin E. Houston, OD, MSc, FAAO <i>Departments of Neurology and Ophthalmology, University of Massachusetts Chan Medical School</i> | Specialty: Neuro-Optometry |
| February 15 2024 | Michael V. Boland, MD, PhD <i>Associate Professor, Harvard Medical School, Medical Director of Practice Innovation, Department of Ophthalmology, Massachusetts Eye and Ear</i> | Specialty: Glaucoma |
| March 21 2024 | Deeba Husain, MD <i>Massachusetts Eye and Ear, Associate Scientist, Harvard Medical School, Associate Professor of Ophthalmology, Co-Director, AMD Center of Excellence</i> | Specialty: Retina |
| April 18 2024 | Terri L. Young, MD, MBA, FARVO, FAOS <i>Chair, University of Wisconsin Department of Ophthalmology and Visual Sciences, Peter A. Duehr Distinguished Professor of Ophthalmology, Professor of Pediatrics, Professor of Medical Genetics, Member, McPherson Eye Research Institute</i> | Specialty: Pediatric Ophthalmology |
| May 23 2024 | UMass at ARVO <i>Participants of ARVO meetings and residents of UMass Chan Medical School, Ophthalmology, present their study findings. ARVO Meeting,</i> | |
| June 20 2024 | Darren Lee, PhD <i>Associate Professor, Department of Ophthalmology and Visual Sciences, University of Massachusetts Chan Medical School</i> | Specialty: Ocular Inflammation |
| July - August | Break | |

Also Streamed on Zoom at <https://umassmed.zoom.us/j/92726699266> Password: 569686

VISION SEMINAR SERIES - 2023 GUEST SPEAKERS

LUCIA SOBRIN, MD, MPH

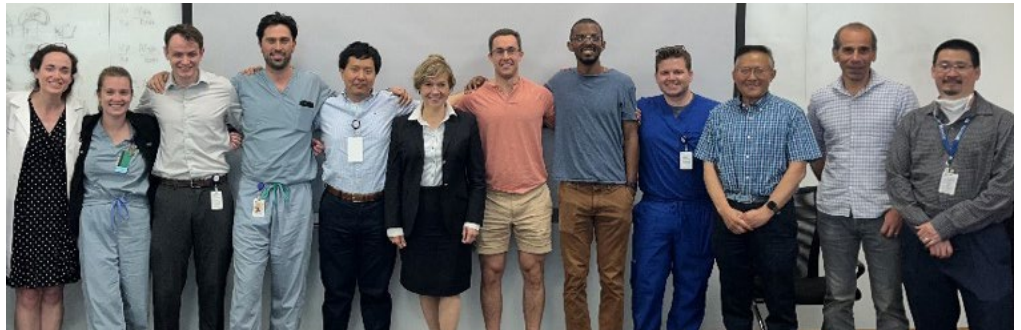
Dr. Lucia Sobrin, Professor of Ophthalmology at the Massachusetts Eye and Ear Infirmary spoke about “Tackling the Challenges in Diagnosis and Treatment of Autoimmune Retinopathy.” There are few biomarkers of the disease. Dr. Sobrin explained how other possible diagnosis must be ruled out and spoke about the pitfalls to avoid in diagnosing this condition, as it relates to anti-retinal antibody testing.

NISHA ACHARYA, MD, MS

Dr. Nisha Acharya, Professor of Ophthalmology, University of California, is the Director of the Uveitis and Ocular Inflammatory Disease Service and Uveitis Fellowship at the F.I. Proctor Foundation. Her clinical expertise is infectious and inflammatory eye diseases. Dr. Acharya presented “COVID-19 and Ocular Inflammation Lessons from Big Data.” She discussed Covid-19 vaccination and non-infectious uveitis, showing that the vaccine does not increase the risk of non-infectious uveitis.

GUANGPING GAO, PHD

Dr. Guangping Gao, PhD, Professor of Microbiology and Physiological Systems, and Director of the Gene Therapy Center at UMass Chan Medical School presented a seminar on the “Regulation and Translation of Human Gene Therapy.” Dr. Gao gave his perspective of where the field stands, challenges ahead, and how they can be overcome.



RON ADELMAN, MD, MPH, MBA, FARVO

Dr. Ron Adelman, Professor, Vice Chair, and Director of the Retina Center, Department of Ophthalmology at Yale School of Medicine, presented a multifaceted seminar that spanned three topics. Dr. Adelman discussed the clearance of retinal embolisms from blood vessels, and then summarized clinical trial data about two drugs that were recently approved by the FDA for treatment of patients with geographic atrophy, an advanced dry form of age-related macular degeneration. Finally, he presented results of an international collaboration that assessed which retinal surgical procedures had better outcomes, including retinal detachment surgery. His presentations were inspiring to the many medical students, residents and faculty who attended the seminar. Many thanks to Heidelberg Engineering for helping to support our Vision Seminar Series.



RESIDENTS DAY SYMPOSIUM GUEST SPEAKER

ERIC ALPER, MD



Dr. Eric Alper, MD, Chief Clinical Informatics Officer, Senior Vice President and Chief Quality Officer introduced the

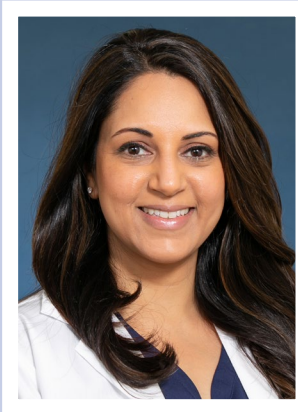
new capabilities of the Epic database and patient management system to our residents at the annual Residents Day Symposium. The new tool, Epic “Cosmos”, can query data from over 200 million patients from the United States making it the largest data set available to perform data driven research on different health and disease questions. The tool is available to all UMass Memorial clinicians and researchers making it an attractive platform for residents to conduct eye related research.



WELCOME NEW DOCTORS TO UMASS MEMORIAL EYE CENTER

TORAL PATEL, OD, INSTRUCTOR

Toral Patel, OD, recently joined the Department of Ophthalmology & Visual Sciences in December 2022. Dr. Patel was born and raised in Toronto, Canada. Her love for medicine and eye care started as a young child, as



both her parents were in the optical industry. Dr. Patel says “eye care was just part of my life growing up, so it was easy to follow in their footsteps.”

Dr. Patel earned a bachelor’s degree at the University of Waterloo in 2002. She then obtained an optometry degree from the University of Waterloo School of Optometry and Vision Science in 2006. She

graduated with a doctorate in optometry with honors distinction. Her training was completed at Houston Eye Associates in Houston, TX. She then completed an externship at the Codman Square Community Health Center in Dorchester, MA. In 2021, Dr. Patel obtained postdoctoral certification in glaucoma.

Dr. Patel started her optometry career close to home in Belleville, Canada in private practice. She then moved to Massachusetts with her family. Shortly after, she joined an ophthalmology and optometry practice that provided her with the strong medical training required to practice in an academic setting.

As an instructor at the UMass Memorial Eye Center, Dr. Patel has the opportunity to teach in a clinical setting. “Helping people see better, whether by detecting and treating eye conditions or prescribing glasses and contact lenses is the most rewarding part of my day,” says Dr. Patel. With a special interest in dry eye and ocular surface disease, Dr. Patel provides excellent medical care to the community of Worcester.

MAREZ MEGALLA, MD, ASSISTANT PROFESSOR

Marez Megalla, MD recently joined the Department of Ophthalmology and Visual Sciences in summer 2023. She is excited to serve such a diverse population of patients in the Worcester and Northborough clinics, working alongside top-class colleagues, and teaching and mentoring the residents and medical students.



Dr. Megalla graduated with a bachelor’s degree from Rutgers, The State University of New Jersey and earned her medical degree from Rutgers-Robert Wood Johnson Medical School. She completed an ophthalmology residency at Yale University followed by

fellowships in vitreoretinal surgery at Yale University and ocular inflammation and immunology at Massachusetts Eye and Ear Infirmary, a teaching hospital of Harvard Medical School.

She has an active interest in research and medical education and has presented her work at numerous conferences. Dr. Megalla looks forward to continuing her research in retinal disease and uveitic pathology. She is honored to be a member of the UMass Memorial Eye Center team serving patients in the community.



Dr. Seddon met with technicians and staff at our successful Northborough Crossing Eye Center Clinic in June, 2023

ARVO MEETING, VISION FOR THE FUTURE

The Association for Research in Vision and Ophthalmology (ARVO) 2023 conference was a prominent global forum for eye and vision research. Our Vision Seminar Series covered the newest advancements in the field, including artificial intelligence for the early detection of ocular diseases, innovative therapies for macular degeneration, new models to predict future progression of macular degeneration and more. The conference aligned with UMass Memorial Eye Centers' commitment to nurturing the next generation of vision science pioneers by uniquely spotlighting novel ophthalmologic technologies and innovative diagnostic tools.



(Left to right) Jessica Eskander, MS4, Shun-Yun Cheng, PhD, Dikha De, MPH, Sean Teebagy, MS4, Evan Bilsbury, MS4

Sean Teebagy, MS4 **ChatGPT In Ophthalmology** **A Pilot Study**

Our study compared the performance of AI models ChatGPT-4 and ChatGPT-3.5 on the Ophthalmology Knowledge Assessment Program (OKAP) examination. ChatGPT-4 significantly outperformed its predecessor across most categories, indicating its potential use in medical education and clinical practice. However, performance in fundamental knowledge questions requires further improvement.

Jessica Eskander, MS4 **High Tarsal Approach: A Novel** **Technique Focused on Reducing** **Complications in Eyelid Margin** **Repair**

Eyelid margin repair traditionally involves sutures near the ocular surface, which has been shown to cause complications. A modified technique, the "high tarsal approach," minimizes complications and eliminates corneal irritation and ocular trauma. This study confirms its effectiveness.

Johanna M Seddon, MD, Dikha De, **PhD, and Bernard Rosner, PhD** **Family History of Age-related** **Macular Degeneration (AMD) and** **Genetic Variants Predict** **Progression to Advanced AMD,** **Adjusting for Baseline Macular** **Status, Demographic and Lifestyle** **Predictors**

The new predictive model demonstrated that a combination of genetic and non-genetic factors is associated with progression to advanced AMD and identifies eyes with higher risk, which is useful for screening, prevention and treatment of AMD.

Darren J Lee, PhD, and Adrien Brady, **BS, Research Assistant** **STING Expression in A2Ar-dependent** **TIGIT+ Anti-uveitic Tregs**

Regulatory T cells (Tregs) are involved in resolution of uveitis, the third leading cause of blindness. We found STING is expressed in TIGIT+ Tregs but other subsets of Tregs. This finding suggests multiple mechanisms to generate different Treg populations may be utilized as a therapeutic option.

Shun-Yun Cheng, PhD, and Claudio **Punzo, PhD,** **Modified siRNA Exhibit Robust,** **Safe and Long-term Gene Silencing** **in the Retina.**

siRNA is a tool to treat retinal degenerative diseases. Results suggest that siRNA may be used to treat many of the dominant mutations that cause blindness.

Evan Bilsbury, MS4 **The Continuing Impact of the** **COVID-19 Pandemic on Diabetic** **Retinopathy Screenings**

Our study highlights a notable drop in Diabetic Retinopathy (DR) screenings in central Massachusetts during the post-lockdown period following the COVID-19 pandemic that has persisted through 2022. This issue demands further investigation and increased awareness to ensure early disease detection and promote better health.

ARVO Abstract submissions for the 2024 Annual Meeting in Seattle, Washington will be accepted October 16 to December 8, 2023 (11:59pm ET).

UMASS INSIGHT

News from the Department of Ophthalmology & Visual Sciences

JUNE 29TH - OPHTHALMOLOGY RESIDENTS DAY SYMPOSIUM



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On June 29, 2023, the UMass Ophthalmology and Visual Sciences Department came together with faculty and staff to celebrate the accomplishments and promotion of the current residents, and the addition of our new residents to the team. The residents spoke about their research and other projects and their goals for the future. A special thanks to our guest speakers, Dr. Stacy Potts, Senior Associate Dean of Graduate Medical Education, and Dr. Andrew Karson, Interim President of the Medical Group, who joined the event to share their words of wisdom.

Dr. Eric Alper, Chief Clinical Informatics Officer, also gave a very insightful and timely talk on the electronic health record system and the advancements of AI.

Johanna M. Seddon, MD, ScM, FARVO, FASRS
Professor and Interim Chair of Ophthalmology and Visual Sciences, Residency Program Director



**DEPARTMENT OF OPHTHALMOLOGY &
VISUAL SCIENCES CONGRATULATES
OUR GRADUATES AND WELCOMES OUR
NEW INTERNS**

Find us online for the latest, research, publications, faculty updates & more at www.umassmed.edu/ophthalmology

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