# BuckEYE Impact

Special Edition

The Ohio State University
Department of Ophthalmology & Visual Sciences

*Dear Colleagues,*

There truly is *no place like home* serving at my alma mater, The Ohio State University. We are working to make a BuckEYE Impact with the OSU Wexner Medical Center and College of Medicine in this exciting period of transformative growth.

Enjoy learning how we are training the next generation of ophthalmologists and embracing innovation to make discoveries to better serve patients and advance our complex field.

Sayoko E. Moroi

Sayoko Moroi, MD, PhD

Ohio State's New University Hospital

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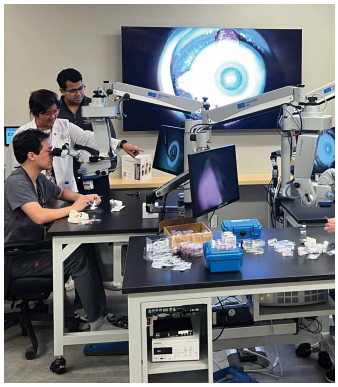

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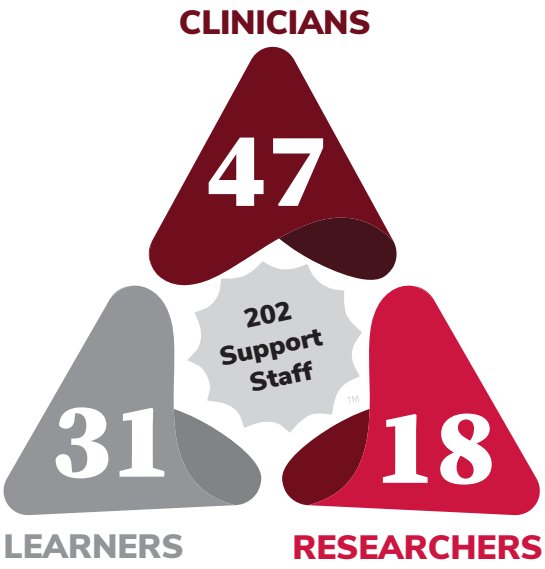
# Ohio State BuckEYEs at a Glance

Fiscal Year (FY) 2025




**129,432**

Annual Patient Visits

**7,580**

Surgical Cases

## 9 Subspecialties

- Cornea
- Comprehensive
- Glaucoma
- Neuro-Ophthalmology
- Oculofacial
- Oncology
- Optometry
- Pediatric
- Retina

### Competitive Residency Program

**763+**

Yearly Applicants

## Research Funding

**$7,102,747**


**46**

Peer-Reviewed Publications

## Campus Collaborations

### College of Arts & Sciences
- Psychology

### College of Engineering
- Biomedical
- Center for Design & Manufacturing Excellence
- Chemistry & Biomolecular
- Computer Science
- Electrical and Computer
- Integrated Systems
- Mechanical & Aerospace

### College of Medicine
- Biological Chemistry and Pharmacology
- Biomedical Informatics
- Cardiac Surgery
- Family Medicine
- Human Genetics
- Neuroscience
- Neurology
- Obstetrics & Gynecology
- Surgery

### College of Optometry

### College of Veterinary Medicine

# Transformative Research

## National Institutes of Health Awards

### NEI RO1

**Nagaraj Kerur, DVM, PhD** received a 5-year grant from the National Eye Institute (NEI) to study the cGAS-STING oxidative stress pathway in age-related macular degeneration. Understanding this pathway will identify new molecules to disrupt oxidative retinal damage.

### NEI R61/R33

**Sayoko Moroi, MD, PhD,** Marco Brocanelli, PhD, and team received a 5-year NEI R61/R33 grant to develop "VisionWay" a customized mobile map designed as a smart phone app to help people with visual impairment safely navigate sidewalks and crossings.

### NEI K08

**Thomas Mendel, MD, PhD** received a 5-year NEI K08 training grant with an all-star mentor team in the OSU Gene Therapy Institute and Department of Neuroscience. Dr. Mendel will study the use of insulin to enhance gene therapy uptake in the retina to treat inherited retinal diseases.

# Ohio State Vision Science

## Research Impact

Dr. Sayoko E. Moroi secured a **New Chair Challenge Grant** from Research to Prevent Blindness (RPB) to support pilot studies, new research, and equipment for emerging eye research programs.

Dr. Thomas Mendel received a five-year **Career Development Award** from the Foundation Fighting Blindness (FFB) for his work on surgical and adjuvant-assisted retinal gene therapy.

The NIH/NEI **P30 Core Grant** established the Vision Sciences Research Core Program at Ohio State, enhancing collaboration and shared resources for campus-wide vision research.

Dr. Colleen Cebulla was awarded a $50,000 **Retina Society Grant** to explore phosphodiesterase inhibitors as neuroprotective therapies for degenerative retinal diseases.

Dr. Cynthia Roberts received an **NEI R21** subaward via University of Houston to study birefringence in the lamina cribrosa and posterior eye structures using advanced polarization-sensitive OCT imaging.

# EyeFM Copilot Clinical Trial

## Results Featured in Nature Medicine

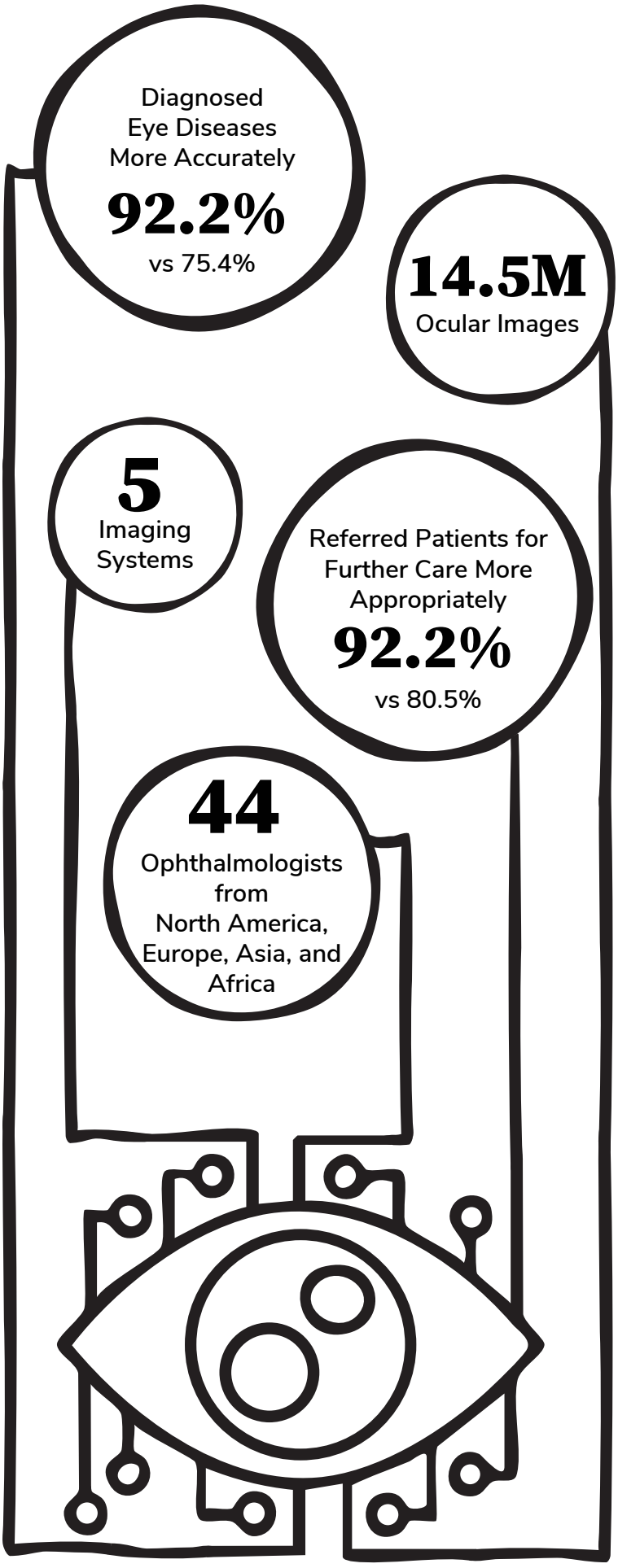
The eyecare foundation model (EyeFM) copilot clinical trial demonstrates how AI-assisted retinal imaging improved ophthalmologists' diagnostic accuracy from retinal images.

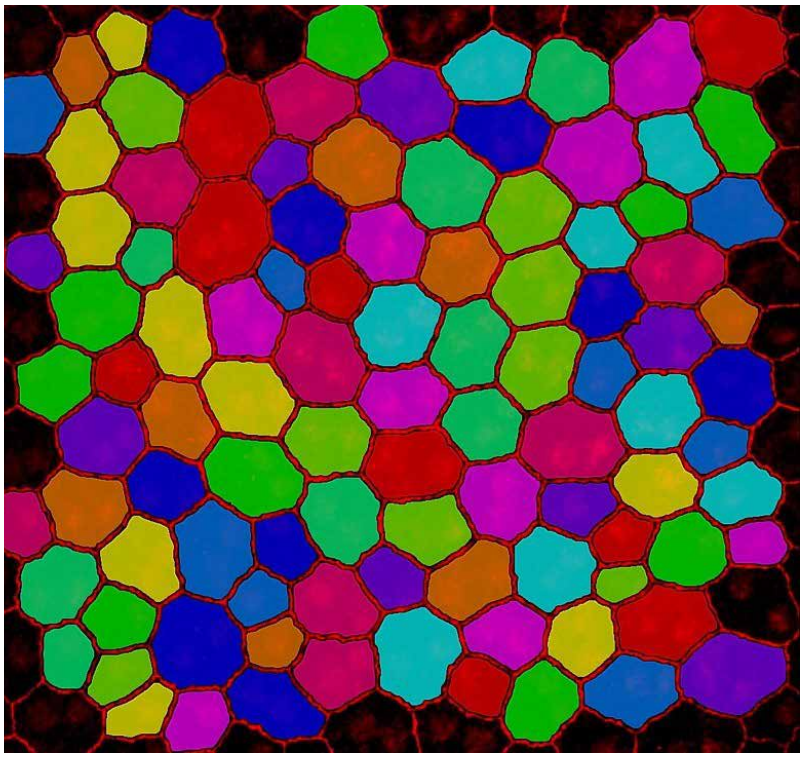
This landmark double-masked randomized controlled trial involved ophthalmologists and computer scientists representing 10 countries.

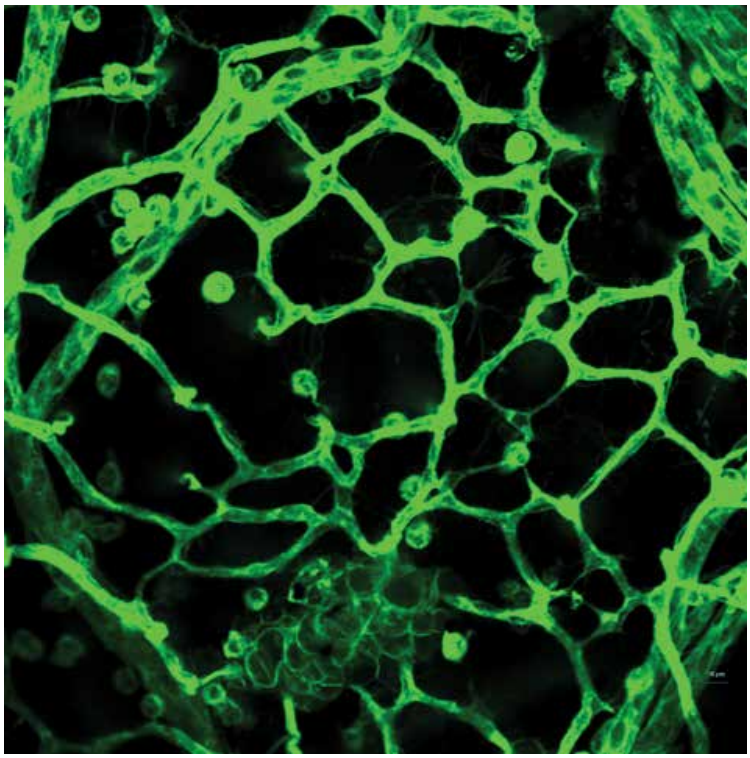
In the US, there were three sites that participated: Ohio State University, University of Florida, and Oregon Health and Science University. At OSU, the following clinicians and computer scientists participated: Drs. Mona Adeli, Peter Chen, Frederick Davidorf, Joshua Evans, Alan Letson, Thomas Mendel, Sayoko Moroi, Changchang Yin, and Ping Zhang.

**The study emphasizes Ohio State's role in advancing AI-driven eye care and shaping the future of clinical decision support with AI tools in ophthalmology.**

**Read the Article in** nature medicine







# Ohio State Research Growth

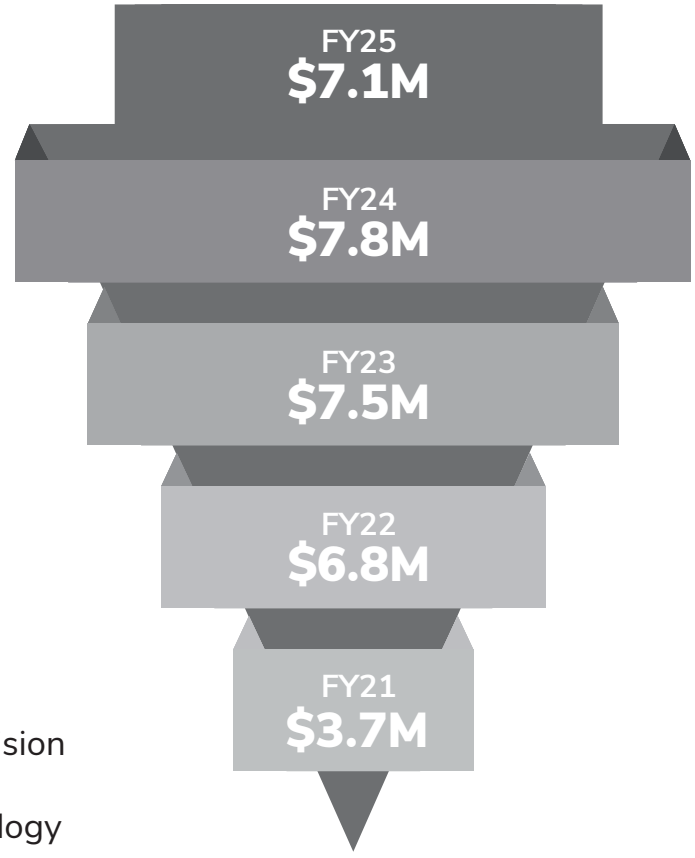
## Vision Science Funding

Over the past five years, OSU's Department of Ophthalmology & Visual Sciences has seen growth in research funding, highlighted by securing its first NIH/NEI P30 Core Grant.

This milestone has expanded shared resources, boosted interdisciplinary collaboration, and positioned OSU as an emerging national leader in vision science research.

**Grants have been awarded from the Department of Defense, Foundation Fighting Blindness, Research to Prevent Blindness and NIH/NEI.**

Our collaborations across the medical center and campus have increased investigators interest in vision sciences research. All researchers are invited to participate in the Vision Sciences and Ophthalmology Research (ViSOR) seminars and Buckeyes in Science.




Photos by Nagaraj Kerur, DVM, PhD
Left: Retinal pigment epithelium flatmount in animal model. Right: Retinal blood vessel network in animal model.

Nelli Galoyan, MD; Maggie Casey, MD; June Zhang, MD, PhD; Hersh Varma, MD

# Neuro-Ophthalmology Patient Care

## Midwest Leaders

The Neuro-Ophthalmology Division at The Ohio State University Wexner Medical Center has emerged as a regional and national leader. It offers **one of the largest and most specialized programs in the Midwest.**

Our team of four highly trained physicians provide their expertise in a subspecialty that is often underserved throughout the world. The division exemplifies a multidisciplinary approach. They integrate neurology, pediatrics, and ophthalmology to deliver comprehensive care for complex and unique visual disorders involving the optic nerve, brain, and autoimmune diseases.

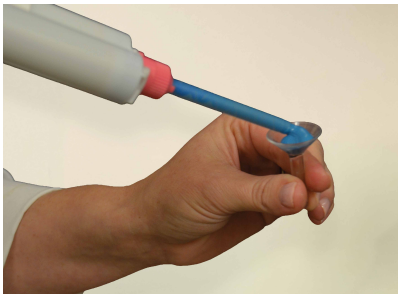
# Five Scleral Lens Technologies

## Offering the Best Options in the Nation

The Advanced Specialty Contact Lens Clinic offers five technologies in scleral contact lens fitting. Drs. Chantelle Mundy and Stephanie Pisano evaluate patients with complex eye histories and advanced conditions.

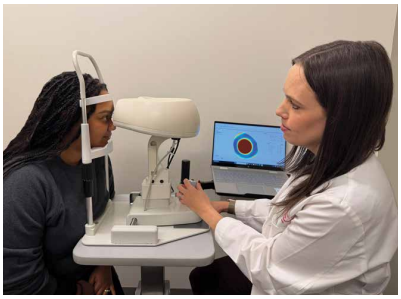
Scan to view online

**go.osu.edu/ScleralLens**



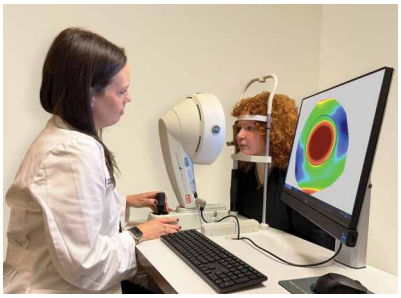
### EyePrint Pro Technology

Captures a physical mold of an individual's eye in clinic using impression material. The mold is scanned to produce a lens that precisely matches the eye's unique contours.



### iContour Eye Profiling

Uses quick, pain-free in-office scans of an individual's eye to create a 3D image. These scans are sent to the manufacturer to design a scleral lens tailored to an eye's shape.



### Pentacam CSP

Generates a detailed 3D map of the cornea and sclera using over 250 high-resolution images. It provides precise measurements critical for designing a comfortable and accurate scleral lens fit.

### PROSE

Prosthetic Replacement of the Ocular Surface Ecosystem employs advanced software to digitally design a custom scleral lens based on the eye's measurements. The design is sent to a manufacturer for production.

### WaveDyn Analyzer

Records a real-time video of an eye's optical system to measure complex vision issues, including Higher Order Aberrations. This data helps create highly personalized contact lenses.

# BAP1 & Ophthalmic Oncology Genetics Clinic

## International Leader in Innovative Care

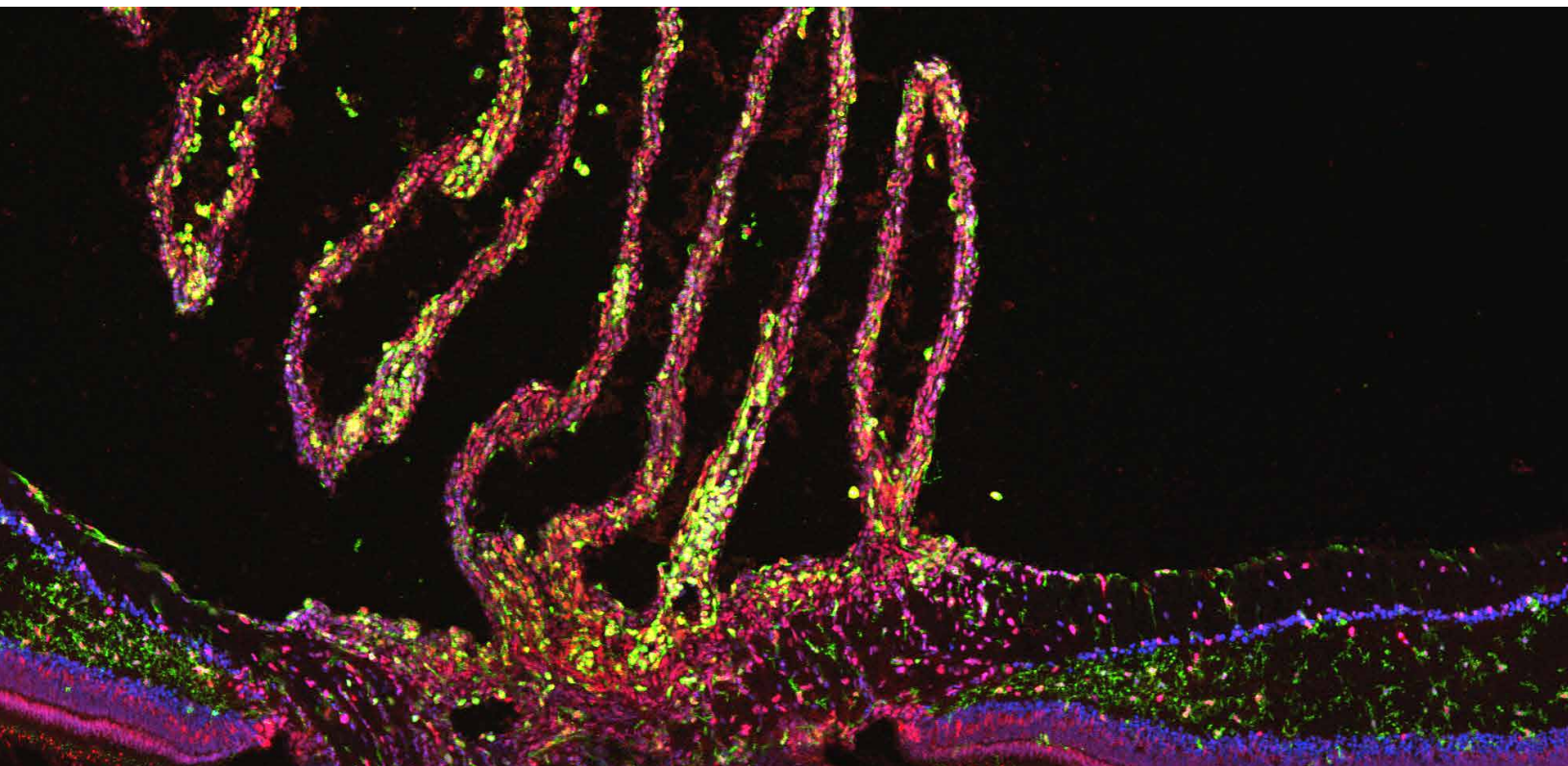
Led by experts **Colleen Cebulla MD, PhD**; **Mohamed Abdel-Rahman MD, PhD**, and **Kaylee Ramsey, PA-C**, the clinic combines ophthalmology, oncology, and genetics to deliver personalized treatment. OSU is an international leader in BAP1-Tumor Predisposition Syndrome research, helping patients understand hereditary eye and systemic cancer risks.

The Ohio State University's **ocular melanoma program is internationally recognized for its innovation and comprehensive care.** Our goal is early detection and treatment of cancer and individualized therapy.

Scan to learn more at
**go.osu.edu/OcularOncology**

Above: Clinic coordinator Kaylee Ramsey, PA-C; Colleen Cebulla, MD, PhD; and Mohamed Abdel-Rahman MD, PhD

Below: Optic nerve head & pecten in animal model




# Personalized IRD Treatments

## Gene Therapy Institute

The Ohio State University is advancing ophthalmic care through cutting-edge research in inherited retinal diseases (IRDs) and glaucoma. Led by **Thomas Mendel, MD, PhD** (pictured right), the team develops gene-agnostic therapies to restore vision in patients who have progressive retinal degeneration with novel surgical approaches to retinal gene therapy.

Collaborations with Drs. Sayoko Moroi, Raymond Gao, and Krishnakumar Kizhatil extend gene-based precision medicine to glaucoma, aiming to personalize treatment. The institute supports NIH-funded trials and industry partnerships, positioning Ohio State as a leader in translational eye research and clinical innovation.

**go.osu.edu/OSUGeneTherapy**


# Advanced Training Powerhouse

## The Power of Surgical and Clinical Simulations

The Surgery and Clinical Learning Center (SCLC) at The Ohio State University Department of Ophthalmology & Visual Sciences is a state-of-the-art educational facility designed to train future ophthalmologists. The SCLC integrates advanced technologies including virtual reality surgical simulators, slit lamp and indirect ophthalmoscope simulators, and wet lab stations.

The equipment, instruments, and tools provide a full spectrum of hands-on learning experiences in a risk-free environment to master surgical techniques and diagnostic observations. The center plays a vital role in recruitment, innovation, and interdisciplinary education, positioning Ohio State as a national leader in ophthalmic training and clinical excellence.

Above: Dr. Moroi guiding techniques with Residents in the SCLC

**Learn more at go.osu.edu/SCLC**

# Education Highlight Reel

## Honored Guests & Alumni

These experts headlined our recent annual CME events including: March Postgraduate Course, August Retina Case Forum, and October Fall Vision Forum.

Sophie Bakri, MD
Rochester, MN

Karine Bojikian, MD, PhD
St. Louis. MO

Valerie Biousse, MD
Atlanta, GA

Keith Carter, MD
Iowa City, IA

Chris Chambers, MD
Seattle, WA

Thuy Doan, MD
San Francisco, CA

Tamara Fountain, MD
Chicago, IL

Elena Geraymovych, MD
Reno, NV

Karl Golnik, MD
Cincinnati, OH

Paul Harton, MD, PharmD
Atlanta, GA

Leon Herndon, MD
Durham, NC

Anupama Horne, MD
Durham, NC

Tara McGehee, MD
Charlottesville, VA

Amy Miller, MD
Ripley, OH

Daniel Miller, MD, PhD
Cincinnati, OH

Daniel Moore, MD
Lexington, KY

Ken Morgenstern, MD
Philadelphia, PA

Faruk Örge, MD
Cleveland, OH

Jeff Pettey, MD, MBA
Salt Lake City, UT

Sarah Rodriguez, MD
Chicago, IL

Richard Rosen, MD
New York, NY

Erin Shriver, MD
Iowa City, IA

Carla Siegfried, MD
St. Louis, MO

Rishi Singh, MD
Boston, MA

Andrew Stacey, MD
Seattle, WA

Robert Wang, MD
Dallas, TX

Helen Wu, MD
Boston, MA

## There's No Place Like Home

We are proud to showcase our invited guests and alumni lecturers. Alumni are highlighted with red backgrounds above, a vibrant reminder of our lasting BuckEYE connections.

2025 Fall Vision Forum speakers and course co-directors

# Global Visionaries

## Advancing Eye Care Across Continents


## Dominican Republic

**Christine Martinez, MD,** headed to Elías Santana Hospital in Santo Domingo. She looks forward to using her skills to help restore vision loss from cataracts, keratoconus, and cross cultural education.


## Honduras

**Mona Adeli, MD, Amit Tandon, MD,** and a team of clinicians performed 35 cataract surgeries and conducted 98 eye exams over five days. Dr. Tandon hopes to make Honduras a regular location for life changing work to restore sight and improve quality of life.

## Jamaica

**Amit Tandon, MD** and Naina Gupta, MD, OSU alumni went to Jamaica with Mission of Sight where they performed approximately 45 cataract surgeries to restore vision.

## Nepal

**Bivek Wagle, MD,** '25 alumnus, traveled on a outreach trip rooted in compassion and shaped by personal experience. Dr. Wagle returned to rural villages in his home country of Nepal to deliver

## India

**Raj Vadhul, MD,** '25 alumnus, returned to his birthplace to provide eye care and cataract surgeries in local rural villages in South India.

## Ukraine

**Raymond Cho, MD,** an oculofacial surgeon made multiple visits to Ukraine with Face the Future Foundation. Dr. Cho was instrumental in providing critical reconstructive surgeries for 33 soldiers and civilians affected by conflict.

Scan to view online

**go.osu.edu/GlobalOutreach**

# The Power of Alumni
## Endowment Legacy

We are grateful for our alumni, grateful patients, and community leaders who share our mission to: “Restore, Preserve, and Enhance Vision to Improve Lives for All.” They have established endowments and current use funds to support our mission.

Endowments create a meaningful legacy and fuel innovation and discovery. Our clinicians and researchers, holding these prestigious positions, create innovative studies to give our patients the best care with the latest techniques.

Scan to learn more
**go.osu.edu/EyeEndowments**

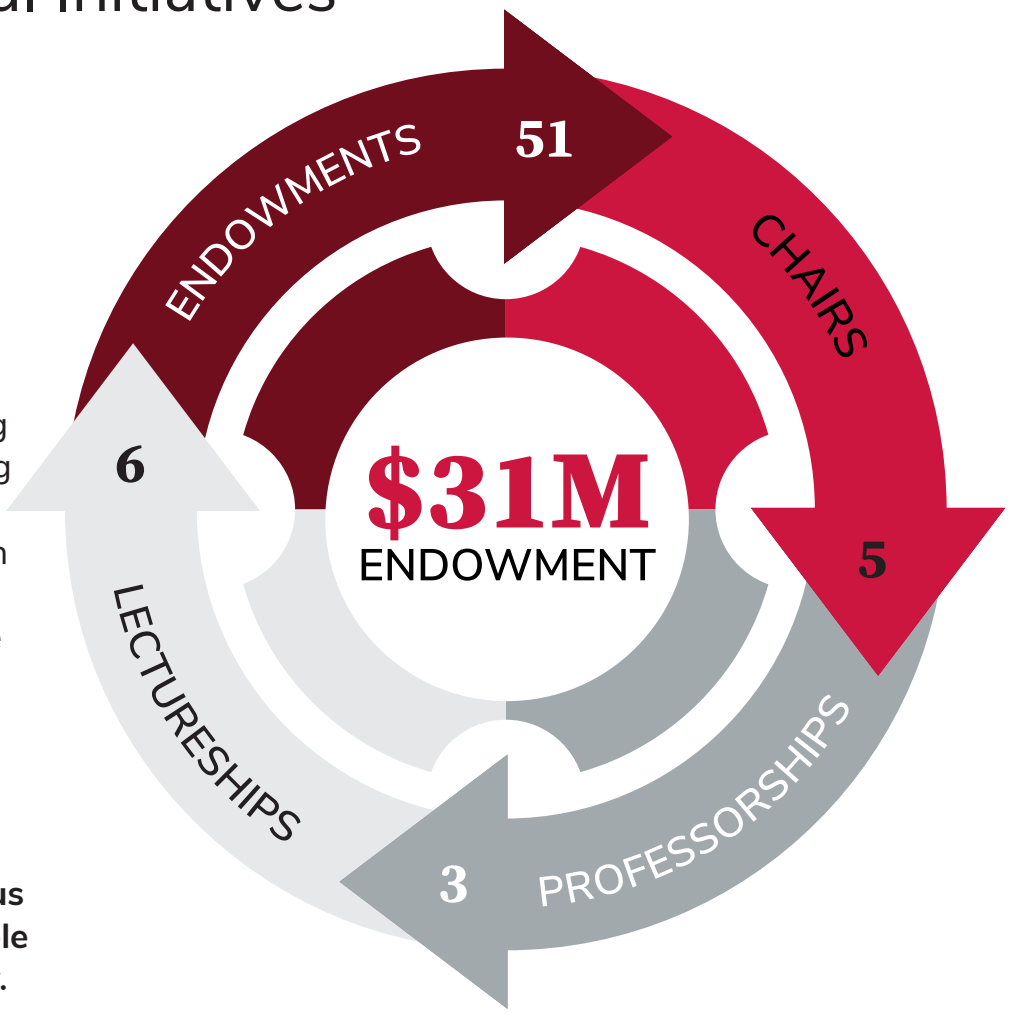
# Grateful Patients and Alumni

## Funding Impactful Initiatives

Thanks to recent donations from grateful patients, we continue to offer a wide range of new technologies, resident education opportunities, and updated equipment.

Exciting new additions include Optain Health cameras providing rapid, non-dilated retinal imaging in primary and specialty care settings, enabling early detection of retinal and vascular diseases. Another advancement tool is the head-mounted display offering accessible, accurate visual field testing for patients unable to sit upright for traditional exams.

**We appreciate gifts that allow us to offer innovative and accessible care to our growing community.**




**Artificial Intelligence**

**Data Science**

**Gene Therapy**

**Glaucoma**

**Global Outreach**

**Imaging**

**Macular Degeneration**

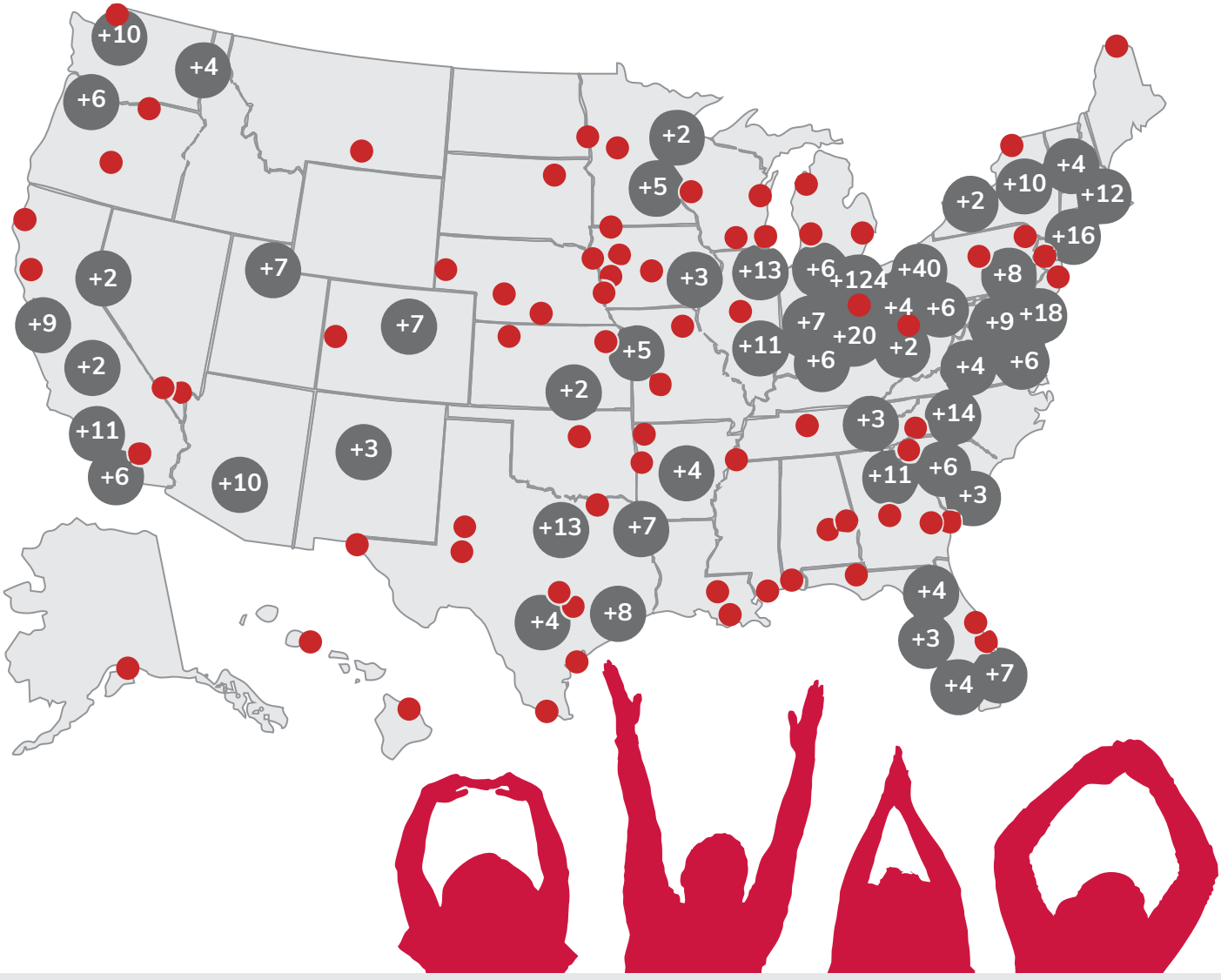
**Ocular Melanoma**

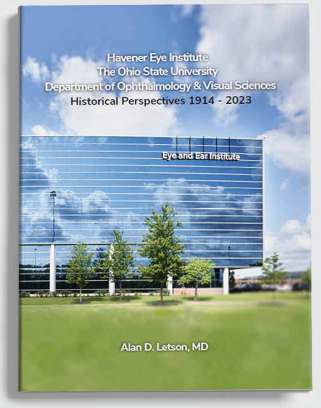
**Resident Education**

# Ohio State Alumni Across the Nation

## Connect with Us

Over 600 Ohio State Eye Alumni are practicing across the country. The cities with Ohio State Ophthalmology Alumni are highlighted below. **Visit go.osu.edu.**




**Historical Perspectives 1914–2023**
Discover the ophthalmology legacy at Ohio State. Written by alumnus and emeritus retina faculty Alan D. Letson, MD, this 400-page book chronicles the evolution of the department through leadership, innovation, and personal stories.

Scan to request your copy
**go.osu.edu/BookRequest**

# 97 Years of Discovery & Change

## Highlights from Our Nine Chairs

2026

**Sayoko Moroi, MD, PhD** (2020–Present)
Awarded the first NIH P30 Core Grant, first Research to Prevent Blindness Chair Grant, and developed a strong vision science research program.

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**Matthew Ohr, MD** (2018–2020)
First ophthalmology PI for gene therapy clinical trials and started the collaborative teleophthalmology program within the community.

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**Thomas Mauger, MD** (2005–2018)
Established a free clinic in partnership with Physicians Care Connection and led numerous surgical outreach trips to Ghana, Nicaragua, and India.

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**Paul Weber, MD** (1988–2005)
Modernized medical student ophthalmology curriculum, became College of Medicine Dean of Education, and started NEI glaucoma clinical trials at OSU.

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**William Havener, MD** (1954–1961; 1972–1988)
Wrote the first edition of *Ocular Pharmacology* and introduced the new Zeiss xenon arc lamp photocoagulator that changed retina care at Ohio State.

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**Torrence Makley, MD** (1953–1954; 1961–1972)
Developed a premier ophthalmic pathology lab at Ohio State and trained under Lorenz Zimmerman, MD at the Armed Forces Institute of Pathology (AFIP).

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**Arthur Culler, MD** (1947–1953)
Visionary leader who founded the ophthalmology residency program and developed one of the first microbiology labs in ophthalmology.

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**Claude Perry, MD** (1945–1947)
Advocated for public health, notably helping pass the 1934 Fireworks Law to reduce childhood blindness caused by fireworks accidents.

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1929

**Albert Frost, MD** (1929–1945)
First chair of the new standalone Ophthalmology department and played a pivotal role in defining its mission, culture, and lasting identity.

THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

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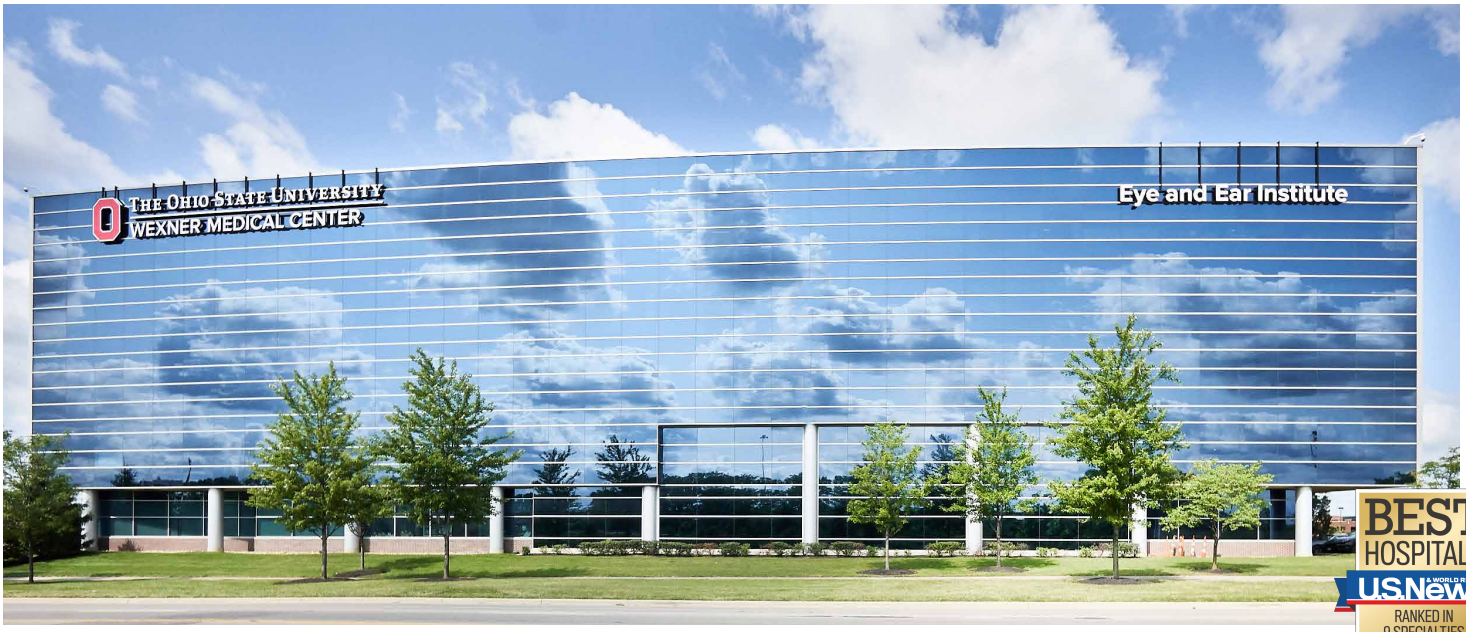
Columbus, OH 43212-3154



*To receive future publications, please send your name and address to* ***eye@osumc.edu***

# Vision Champions Making a BuckEYE Impact

## OSU Department of Ophthalmology & Visual Sciences




BEST HOSPITALS U.S.News & WORLD REPORT RANKED IN 9 SPECIALTIES 2025-2026

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