

## Saving sight today and tomorrow

### Iowa Lions Eye Bank a leader in transplantation and research



The University of Iowa has one of the largest collections of donated eye and tissue samples in the U.S., which allows research into the pathological approaches of a variety of eye diseases.

Since 1961, more than one million men, women, and children have had their sight restored through corneal transplantation. Despite the large number, the needs for transplants and waiting lists are ever-present. Iowa's answer to the medical need is the Iowa Lions Eye Bank, or ILEB. Affiliated with the UI Department of Ophthalmology and Visual Sciences, the ILEB has been an innovative leader providing quality tissue, education, research, and support to those who serve the sight-impaired.

#### Restoring vision through transplant

The cornea is the clear tissue that covers the front of the eye, acting as its main focusing mechanism. A corneal transplant replaces a segment of a cornea impacted by disease, injury, or infection with a similarly shaped segment from a healthy donor cornea. It is one of the most common and least invasive transplant procedures, with more than 95 percent of all operations successfully restoring the recipient's vision.

The Iowa Lions Eye Bank is the only eye bank that provides every type of tissue preparation used in transplantation. Surgeons who perform penetrating keratoplasty, endothelial keratoplasty, and lamellar keratoplasty can obtain the specific tissue they need through the ILEB. This multitude of options means surgeons have optimal choices for their patients needing a transplant.

#### Role in eye banking

Staying on top of medical innovation requires continual improvement and collaboration. The ILEB plays an active role in the Eye Bank Association of America (EBAA), the nationally recognized accrediting body for eye banks. Staff members participate and lead EBAA committees focused on certification, development, and advocacy related to eye banks. ILEB



Restoring vision and promoting research since 1955

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Department of Ophthalmology  
and Visual Sciences

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## Expanded eye care at Iowa River Landing

The UI Health Care – Iowa River Landing (IRL) location in Coralville offers a convenient alternative to those seeking primary and subspecialty eye care.

Patients have more options for eye care at IRL, including:

- State-of-the-art laser vision correction and refractive surgery
- Custom contact lens fittings
- A new dry eye service
- Saturday morning and Wednesday evening hours for eye exams
- Plus, professional staff from UI Optical at IRL are available for eyewear needs



Learn more at [uihealthcare.org/IRL](http://uihealthcare.org/IRL)

## UI improves parking options

UI Hospitals and Clinics recently implemented reduced fees for patient parking. Changes include increasing the “first 15 minutes free” to “first 30 minutes free” for quick in/out visits; reducing the first hour of parking from 90 cents to 60 cents; reducing the maximum daily parking ramp fee with validation from \$18 to \$10; and offering other discounted and longer-term parking options.

Changes stem from listening to patient and family advisory groups, as well as a review of other academic medical centers in similar circumstances conducted by UI Parking and Transportation Services.



## ONLINE EXTRA

A patient of pediatric ophthalmologist **Arlene Drack, MD**, is featured in a UI Children’s Hospital documentary. Watch the story of a young boy dealing with achromatopsia, a genetic eye condition that typically refers to the inability to perceive color and see clearly at high light levels. Only 1 in 33,000 people are diagnosed with the condition.

Visit [youtube.com/user/UIChildrens](https://youtube.com/user/UIChildrens) and search for “Xavier’s story”

## University of Iowa to host family support groups

Two separate groups that support families impacted by pediatric eye disease will be gathering in Iowa City to discuss research and treatment for their respective conditions.

A group of families impacted by persistent hyperplastic primary vitreous (PHPV) and congenital cataracts will meet June 9. Pediatric ophthalmologist **Scott Larson, MD**, and other staff will share information on the latest treatments, research, and strategies for dealing with the eye condition, which affects babies born prematurely.

The 2014 Bardet Biedl Syndrome (BBS) Family Association Conference will be held June 26-28. Patients and families impacted by BBS - a rare genetic disorder that includes vision loss - will learn about the latest in research, treatment, and therapies. Participants will also learn about exciting BBS research taking place at the UI Stephen A. Wynn Institute for Vision Research under **Val Sheffield, MD, PhD**, and **Arlene Drack, MD**.

More at [bardetbiedl.org](http://bardetbiedl.org)

## Clinical trial involving collagen cross-linking launched

UI physicians recently started an exciting clinical research trial that investigates the safety and effectiveness of a new treatment for patients with progressive keratoconus and patients with corneal ectasia after refractive surgery. The study involves the Avedro KXL system with VibeX for accelerated corneal collagen cross-linking, a technique which uses UV light and a photosensitizer to strengthen chemical bonds in the cornea.

The treatment seeks to halt progressive and irregular changes in corneal shape, known as ectasia. These changes, typically marked by corneal thinning and an increase in the anterior and/or posterior curvatures of the cornea, often lead to high levels of myopia and astigmatism. The study is under the direction of **Mark Greiner, MD**, and **Kenneth Goins, MD**, of the Cornea and External Diseases Service.

# A patient's perspective: Mother shares story of eye care for her newborn son

“Our son Jaxon was born in Des Moines and transferred to the University of Iowa Children’s Hospital. We spent 17 days in the NICU as doctors tried to figure out what was wrong with his little eyes. He was born with bilateral corneal opacity. We are so happy that we were transferred to UIHC. Upon arrival, Jaxon’s father and I were so happy to see a team of doctors and nurses surrounding his crib, trying to figure out what they could do for our little man.”

“Jaxon sees Dr. Susannah Longmuir in the children’s ophthalmology clinic, we love her! Jax had a cornea transplant when he was 4 months old; his surgeon is Dr. Goins. We love seeing him and Dr. Rixen in the Cornea clinic! We are more than happy with the level of care and service we receive at the U of I. Words can’t even begin to explain how thankful we are for all of the doctors and nurses there. Jaxon has a long medical journey ahead of him, but we feel an overwhelming sense of comfort that he is in the best place he could possibly be in. Thanks again! The comfort and confidence provided by your staff is unbeatable. Go Hawks!” – Alyssa Hallman, Jaxon’s mom.



UI eye specialists performed numerous tests and ultrasounds on Jax’s eyes before diagnosing him with Peters Anomaly. He received a corneal transplant and his improving vision is closely monitored.

## CLINICAL RESEARCH AT UI

The University of Iowa is active in clinical research with potential impacts on patients in our Eye Clinic and beyond. A sample of current activities includes:

### **A Phase I Dose Escalation Safety Study of Subretinally Injected RetinoStat in Patients With Advanced Neovascular Age-Related Macular Degeneration (Oxford GEM Study)**

Purpose is to study a single subretinal injection of RetinoStat in AMD with active choroidal neovascularization. A dose confirmation phase will follow where the maximum tolerated dose will be examined. Study is ongoing but not recruiting.

Principal Investigator: Elliott Sohn, MD  
IRB# 201304769  
ClinicalTrials.gov Identifier: NCT01301443

**For more information, contact Barbara Taylor at 319-356-0453 or [barbara-taylor@uiowa.edu](mailto:barbara-taylor@uiowa.edu)**

### **Structure-Function Relationships of the Retina**

Purpose is to study methods for computer-assisted analysis of images of the retina and optic nerve in subjects with glaucoma compared to normal subjects

Principal Investigators: Michael Abramoff, MD, PhD; Young Kwon, MD, PhD; Milan Sonka, PhD  
IRB# 200905780

**For more information, contact Teresa Kopel at 319-353-8573 or [teresa-kopel@uiowa.edu](mailto:teresa-kopel@uiowa.edu)**

*Research studies are designed to answer important questions about eye disease by testing their safety and effectiveness in patients. Before new medicines, devices, or diagnostic tests can be approved for public use, they are all tested in these types of clinical trials.*

# Rotation partners help residents

New resident physicians have much to learn while pursuing their specialty training in ophthalmology at the University of Iowa. In addition to all the ophthalmic knowledge and skills, there are a new hospital environment, medical record system, colleague names, and city to navigate.

The first year of residency training is spent in a combination of comprehensive ophthalmology service and subspecialty clinics. The year is arranged to allow residents to acquire skills in complete ocular examination and refraction of ophthalmic patients. Residents also rotate through subspecialty clinics with the intent of learning the vocabulary, examining techniques, and equipment used in each area.

To help them through this transition, first-year residents are paired with more experienced second-year residents for several weeks of overlapping training. This period of time allows the first-year student to gain from the experiences of an older peer, not to mention build personal bonds with classmates.

These bonds strengthen throughout residency training and often continue for years to come. **Erin Shriver, MD, FACS ('06R)**, recalls, "Sudeep (Pramanik) was a great mentor to me and spent a lot of time at night and on the weekends working with me. I vividly remember him teaching me how to do a retrobulbar injection using a skull as a model. I still call him for advice and really value his input."

**Have a favorite memory of your residency or fellowship training at Iowa? Drop us a line at [iowaeyecare@uiowa.edu](mailto:iowaeyecare@uiowa.edu)**

**Philip Niles ('16R)**



**Justin Risma ('14R)**



**Bradley Sacher ('15R)**



**Meredith Saylor ('13R)**



Bradley Sacher, MD ('15R) (left) and rotation partner, Philip Niles, MD ('16R), discuss a surgical case while at the Iowa City VA Medical Center.

"Having a second-year buddy has been a tremendous benefit to me. Brad (Sacher) has been like my older brother since starting residency. He looks out for me and pushes me to go further. When I do a procedure for the first time, it's often Brad who is coaching me through it."

*First-year resident Phillip Niles, MD ('16R)*

# nts learn the ropes

ther Hong ('12R)



Nandini Gandhi ('10R)



Jason Friedrichs ('08R)



Erin Shriver ('06R)



Emily Birkholz ('11R)



Arpitha Muthialu ('09R)



Christopher Robinson ('07R)



Sudeep Pramanik ('05R)

## ALUMNICORNER

The American Academy of Ophthalmology recognizes several University of Iowa alumni for their contributions to the academy and specialty. Recent awards include:

- ❖ **Life Fellow Membership**
  - **Raymond A. Bell, MD, FRCS(C)** ('77F)
  - **Jonathan E. Chua, PhD, MD** ('73R)
  - **Gerhard W. Cibis, MD** ('76R)
  - **Constance C. Grignon, MD** (Adjunct Clinical Associate Professor)
- ❖ **Achievement Award**
  - **Cynthia L. Grosskreutz, MD, PhD** ('89MD/PhD)

Congratulations to each of our alumni and colleagues!

### OTHER ALUMNI NOTES

- ❖ **Richard A. Lewis, MD** ('83F), was named chair of the scientific advisory board for Aerie Pharmaceuticals.
- ❖ **Bruce E. Spivey, MD, MS, MEd** ('59MD, '64R), transitioned leadership of the International Council of Ophthalmology (ICO) to Hugh R. Taylor, AC, MD. Dr. Spivey served as president and secretary general of the ICO for 20 years.

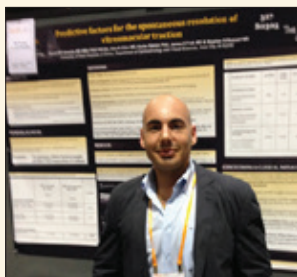
If you receive a special award or distinction, let us know. Email us at [iowaeyecare@uiowa.edu](mailto:iowaeyecare@uiowa.edu)

### REMEMBRANCES

- ❖ **Richard "Dick" Claussen, MD** ('70MD, '75R), passed away in Dubuque, Iowa, on April 15, 2014.
- ❖ **Stacy L. Thompson, MD** ('96MD, '00R), of Iowa City, died on April 11, 2014.
- ❖ **John R. Lynn, MD** ('61R, '62F), of Garland, Texas, died on March 25, 2014.
- ❖ **Melvin L. Rubin, MD** ('61R), passed away in Gainesville, Fla., on February 23, 2014.
- ❖ **C. Neal Jepson, MD** ('59MD, '63R), died on January 13, 2014 in Colorado Springs, Colo.



Thank you to the alumni and Iowa ophthalmologists who have renewed their Iowa Eye Association membership. We appreciate your support of our training and continuing education activities through association dues!



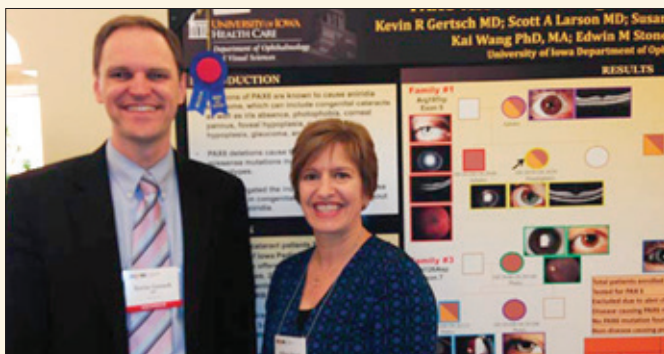
## Poster Awards

The Association for Research in Vision and Ophthalmology held its 2014 annual meeting in Orlando, Fla. During the meeting, the organization recognizes Members-in-Training (MIT) First Authors of the top five scored abstracts scheduled as poster presentations from each scientific section and cross-sectional group.

**Mark Christopher**, a graduate student in biomedical engineering, received the MIT Outstanding Poster Award in the glaucoma section. The poster, titled, “Automated Discovery of Optic Nerve Head Structural Features from Image and Genetic Data,” was authored by Christopher, Li Tang and Drs. John Fingert, Todd Scheetz, and Michael Abràmoff. Christopher is co-supervised by Drs. Todd Scheetz and Michael Abràmoff.

**David Almeida, MBA, MD, MRCOphth** (‘14F), (pictured above), had his poster selected as an MIT Outstanding Poster Award Finalist. The poster, titled, “Factors associated with spontaneous release of vitreomacular traction,” was authored by Almeida and Drs. Eric Chin, Karim Rahim, James Folk, and Stephen Russell.

**Kevin Gertsch, MD** (‘14F), (below left), presented a poster at the American Association for Pediatric Ophthalmology and Strabismus Annual Meeting that won “Best of Show.” The poster, titled, “PAX6 Associated Congenital Cataracts without Aniridia,” was co-authored by Drs. Scott Larson, Richard Olson, and Susannah Longmuir, with Dr. Arlene Drack (below right) as the senior author.



## And the Scobee Award goes to...

**Cheyenne Lester, CO** (‘13 alumnus) (right), received the 2013 Richard G. Scobee Memorial Award for Excellence in Orthoptic Studies and Certification Exams, a national honor given to the orthoptist receiving the highest score on his or her national board exams.



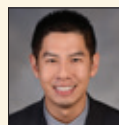
The University of Iowa Orthoptics Training Program has produced 13 Scobee Award winners since 1978, including seven times in the past decade. Past winners include current orthoptics program director **Tara Bragg, CO** (‘10 alumnus) (left).

Orthoptics is an allied health profession pertaining to the study of eye movements. Orthoptists use specialized examination techniques to evaluate, diagnose, and manage strabismus and amblyopia.

More about the program at [medicine.uiowa.edu/eye/orthoptic-training/](http://medicine.uiowa.edu/eye/orthoptic-training/)



**Jordan Rixen, MD** (‘13R, ‘14F), was recognized with the Best Paper Award at the Fall Educational Symposium of the Eye Bank Association of America (EBAA) for his presentation, “Does Diabetes Make DMEK Tissue Preparation More Difficult?” The award was sponsored by SightLife and presented to Dr. Rixen (pictured with plaque) by EBAA, Cornea Society, and SightLife for the best paper presented during the session by a resident or fellow. Image courtesy of Eye Bank Association of America



**Eric Chin, MD** (‘14F), received a research grant from the VitreoRetinal Surgery Foundation for his research evaluating the efficacy of oral mineralocorticoid antagonists for the treatment of central serous chorioretinopathy.

## Strabismus training enhanced with wet lab activity

Pediatric ophthalmology faculty noticed a large variation in strabismus surgery times for residents. They were interested in why the gap existed and how such a variation might be reduced, so a committee was formed to develop a new strabismus training curriculum utilizing the Iowa Ophthalmology wet laboratory.

Several faculty members, residents, and the pediatric ophthalmology fellow participated in the effort, including **Drs. Susannah Longmuir, Reid Longmuir, Anna Kitzmann, Tom Oetting, Rick Olson, Scott Larson, Brad Sacher, and Kevin Gertsch**, with **Trish Duffel** as web consultant. The hands-on element of the curriculum using new head and practice eyes was used with a web-based component also under development.



Above: Dr. Johanna Dijkstra ('16R) takes a turn with one of the basic squint eyes used in the training.

Below: Dr. Scott Larson demonstrates a surgical technique with resident physician Dr. Phillip Niles.



## Staying connected through Morning Rounds

**Richard Allen, MD, PhD, FACS**, associate professor of ophthalmology, recently completed a visiting professorship at St. Erik's Eye Hospital at the Karolinska Institute in Stockholm, Sweden. While he was there, Allen managed to stay connected with the University of Iowa. Allen (waving in image) and residents in Sweden participated in a Morning Rounds presentation given by **Angie McAllister, MD ('14R)**.



# Learning to perform refractive surgery

Several dozen ophthalmology residents from seven different institutions and the University of Iowa recently gathered for the department's Resident Refractive Surgery Course. Led by **Anna Kitzmann, MD**, the Saturday course taught residents about refractive surgery and provided hands-on experience simulating refractive surgery.

For the first time, the course was held at the UI Health Care – Iowa River Landing eye clinic location. Guest instructors included alumni **Alex Cohen, MD, PhD ('10R, '11F)**, **Matthew Rauen, MD ('05MD, '09R, '10F)**, and **Travis Rumery, DO ('10F)**, as well as **Sarah Nehls, MD, Jean Hauscheer, MD, and Stephen Wexler, MD**. Former faculty member **John Sutphin, MD**, also attended.



is also a member of Vision Share, a 19-member group of eye banks focused on effective cornea processing and distribution. Combined efforts are leading to improved standards and increased efficiencies in industry practices.

The ILEB actively cooperates in other ways, as well. One example is a partnership with Vision Share members, Midwest Eye Banks, and Saving Sight Eye Bank on a project focused on evaluation and standardization of procured tissue. Another project involves using an infectious disease expert to help validate a donor’s cause of death. This project seeks to increase the number of usable corneas while reducing the time it takes from tissue procurement to tissue use – a real benefit to transplant success rates. “We strive to be as efficient and effective as possible, making certain that all donated tissue is used to meet a need,” states **Cynthia Reed, RN, PhD**, executive director of the Iowa Lions Eye Bank.

### Efficiencies and advances

Since its earliest days of working out of a single office, the size and scale of activities have increased dramatically. Reorganization in 2008 improved daily workflows and created new collaborative opportunities. Then in 2013, the ILEB moved to new and expanded space in the University of Iowa Research Park. According to Reed, “Moving into the new space has allowed us to focus even more on technology and the benefits we can provide on the research side.”

Cornea tissue research is indeed expanding as a result of the move. Eye bank technicians have streamlined and increased their abilities to evaluate tissue quality and prepare tissue for surgeon use. They have also expanded their efforts with vision researchers in the UI Stephen A. Wynn Institute for Vision Research.

**Robert Mullins, PhD**, associate professor of ophthalmology, has worked with the ILEB for many years. As a result, he has acquired one of the largest collections of donated eye and tissue samples in the U.S. – a wonderful resource for exploring the pathological approaches to a variety of eye diseases. Since researchers know very little about the anatomical development of a section in the back of the eye called the fovea, Mullins is also partnering on an infant globe recovery program to explore why the fovea fails to develop in some children.

The Iowa Lions Eye Bank prepares and provides tissue to surgeons locally, nationally, and internationally.



Another exciting activity, dubbed the Seahorse Project, involves testing a new high-tech instrument to assess cellular function in corneal tissue. **Mark Greiner, MD**, assistant professor of ophthalmology, is measuring the effectiveness of mitochondrial cell oxygen and sugar consumption using the Seahorse XF extracellular flux analyzer. Made possible through a generous donation from a grateful cornea recipient, the project seeks to come up with a predictive measure of the effectiveness of the transplanted cornea’s ability to function – a benefit to both surgeon and recipient alike.

### Making it possible

Of course, performing corneal transplants and conducting vital research depends on one thing: the availability of donated corneas and tissue. The ILEB maintains an extensive network of hospitals, EMT/first responders, and other organizations involved in organ, eye, and tissue donation. The Iowa Donor Network serves as the state’s organ procurement organization and works with the ILEB for eye and cornea tissue donation. Additionally, the Lions Clubs of Iowa play a major role in the ILEB’s efforts. Lions raise awareness statewide of the need for donation and provide countless hours of volunteer service by transporting donated corneas and tissue across Iowa to the ILEB.

Staff members constantly seek opportunities to raise awareness about donation across Iowa. April is observed as National Donate Life Month, perhaps the busiest time of year for recognition and awareness ceremonies statewide. These events bring attention to the transformative power of organ, eye, and tissue donation, something the Iowa Lions Eye Bank embraces every day.

**For more information, contact 319-335-4888 or [Cynthia-reed@uiowa.edu](mailto:Cynthia-reed@uiowa.edu). View stories about the Iowa Lions Eye Bank and the impacts of donation at [youtube.com/user/iowaLionsEyeBank1](https://youtube.com/user/iowaLionsEyeBank1)**



The Iowa Lions Eye Bank initially relied on the Iowa State Patrol to retrieve and deliver donated eye and tissue. This critical step in the donation process is now facilitated by Lions Club of Iowa members across the state who generously volunteer through the Iowa Lions Eye Transport Program.



# University of Iowa physicians, researchers, and trainees extend academic mission abroad



## Traveling the globe

Clinical assistant professor of ophthalmology **Khadija Shahid, OD**, traveled to Marangu, Tanzania, with Volunteer Optometric Services to provide eye care to people who cannot afford or access care. Dr. Shahid and her medical team treated approximately 2,800 patients in four days and dispensed nearly 2,000 pairs of eyeglasses.



## Resident pursues international opportunities

Last summer, **Jonathan Hager, MD** ('15R), (above center), had the opportunity to go to Peru for 10 days and work alongside a missionary who was serving people in the Peruvian Amazon jungle.

Hager saw around 90 patients per day and gave out nearly 350 pairs of glasses that he had collected from University of Iowa Hospitals and Clinics and the Iowa Lions Eye Bank. He was able to diagnose and treat many ocular diseases while there. This summer, he plans to go to Leon, Mexico, on a similar week-long mission trip where he will deliver glasses, ocular medications, and surgical supplies for minor procedures.

## Expanding access in remote Nepal

The country of Nepal has about the same number of ophthalmologists as the state of Iowa. This lack of trained eye specialists contributes to the limited access to eye care in the mountainous country of more than 26 million people.

Researchers at the University of Iowa are partnering with colleagues in Nepal to expand and improve access to eye care through the use of innovative screening tools and modern technology. **Chris Johnson, PhD**, professor of ophthalmology and director of the UI Visual Field Reading Center, is working with Nepalese eye care specialists to develop a software application for the iPad that provides a screening test of an individual's visual fields, or peripheral vision. Visual field loss can be found in diseases such as glaucoma, stroke, multiple sclerosis, and diseases of the retina.

The app uses a supra-threshold method of testing to detect abnormalities in the visual field. It offers a portable, affordable, and instant test that is easier to use when testing at-risk populations in undeveloped and remote areas. Results of testing are initially transmitted to staff at the Tilganga Institute of Ophthalmology (TIO) for validation and diagnosis. Those results are then shared with Dr. Johnson for analysis and further refinements of the screening tool.

"We continue to test how well the app performs and how we can improve the sensitivity and specificity, but for now the findings are very encouraging," states Dr. Johnson.

**"Nepal" continues on page 10**



UI researchers are developing a software application for the iPad that measures peripheral vision. The application is being used by ophthalmic technicians in remote areas of Nepal as a form of telemedicine.

Suman Thapa, MD, PhD, director of Nepal Glaucoma Eye Clinic at the TIO is the key collaborator on the ground in Nepal. Thapa is working to build glaucoma awareness and screening programs in the remote regions of the country. He recently traveled to Iowa City as a visiting professor of ophthalmology, where he delivered a morning rounds presentation about the challenges of providing eye care in the Himalayas. While there, he was able to meet with glaucoma researchers and tour the laboratories and clinic.

In addition to the development of telemedicine technology, Drs. Johnson and Thapa are exploring options to collaborate on glaucoma genetic studies, as well as educational and training opportunities for resident physicians.

Dr. Chris Johnson (left) compares visual field test results with Dr. Suman Thapa.



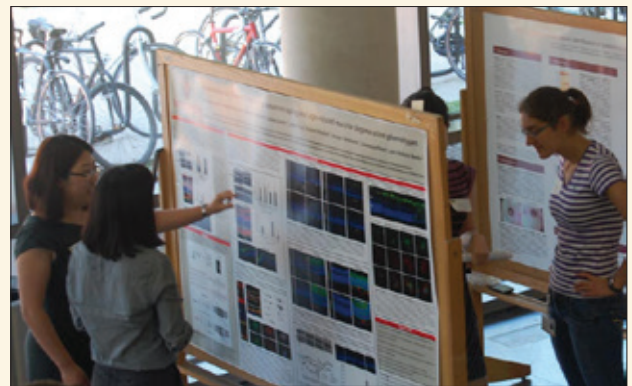
## Educational and collaborative opportunities for vision researchers

The University of Iowa Stephen A. Wynn Institute for Vision Research is pleased to offer two opportunities for individuals interested in sharing research findings and developing professional contacts.

The **6th Annual Midwest Eye Research Symposium (MERS)** will take place on Aug. 8 at the Medical Education and Research Facility at the UI. This meeting provides a regional forum for scientists in vision-related fields to present their research and facilitate collaborative opportunities.

Also, for the first time and in conjunction with MERS, a **Visual Sciences Workshop** will be held Aug. 4-7. The workshop aims to educate current researchers, inspire young scientists to pursue a career in vision research, and foster interdisciplinary approaches to vision research.

For more information, email [stewart-thompson@uiowa.edu](mailto:stewart-thompson@uiowa.edu) or visit <http://webeye.ophth.uiowa.edu/eig/MERS.html>



## Glaucoma Foundation funds genetics research



Associate professor of ophthalmology **John Fingert, MD, PhD**, received a \$40,000 research grant from The Glaucoma Foundation for his project, “Stem-cell based studies of Retina; Ganglion Cells, the TBK1 gene, and Normal Tension Glaucoma.”

Some of Fingert’s relevant papers may be viewed on Pubmed: <http://1.usa.gov/1egC6uc>

## Fingert lab awarded NIH grant to study genetic causes of glaucoma

Glaucoma is a common disease of the optic nerve that affects more than 60 million people worldwide and is a leading cause of blindness and visual disability in the United States. The biological pathways that lead to the disease, however, are not well understood and thus hinder efforts for early detection and treatment.

Researchers at the University of Iowa are working to clarify the causes of glaucoma at the molecular level. Under the direction of **John Fingert, MD, PhD**, associate professor of ophthalmology, the UI Glaucoma Genetics Laboratory is investigating new genes that cause glaucoma and genetic pathways that lead to the disease. The lab previously identified a new glaucoma gene, TANK binding kinase 1 (TBK1),

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“Research conducted with these grant funds will allow us to take important steps toward developing new classes of medicines and treatments for glaucoma that occurs at low eye pressure.”

*John Fingert, MD, PhD*

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and discovered that duplication of the TBK1 gene is associated with glaucoma. The National Institutes of Health/National Eye Institute awarded the lab a \$1.8 million grant to further the study of the genetic causes of normal tension glaucoma. Researchers expect to begin to characterize the biological pathway by which defects in TBK1 lead to glaucoma, validate an animal model of glaucoma, and begin to translate discoveries into new approaches to diagnosis and treatment of disease.

For more, visit [iowaglaucoma.org](http://iowaglaucoma.org)



UI researchers engineered mice to carry the same genetic defect in the TBK1 gene that causes glaucoma in human patients. New NIH grant funding is allowing them to study how TBK1 gene defects lead to glaucoma and vision loss in these mice as a first step towards developing new therapies for patients with glaucoma that occurs at low eye pressure.

## Iowa receives continued funding from RPB

Research to Prevent Blindness (RPB) awarded a grant of \$110,000 to the University of Iowa Department of Ophthalmology and Visual Sciences for ongoing research into the causes, treatment, and prevention of blinding diseases.

UI vision researchers are focused on areas of great promise for restoring vision, including genetic testing, gene therapy, and patient-derived stem-cell research. “We are pleased to receive sustaining support from a leading organization such as Research to Prevent Blindness. Their organization shares our mission of preventing and eliminating human blindness from common diseases such as macular degeneration and glaucoma, as well as rarer, inherited eye diseases,” states **Keith D. Carter, MD**, department chair and executive officer.

RPB is the world’s leading voluntary organization supporting eye research. Since it was founded in 1960, RPB has channeled hundreds of millions of dollars to medical institutions throughout the United States for research into all blinding eye diseases. This includes grants totaling more than \$4.3 million to the UI.

For more information, go to [rpbusa.org](http://rpbusa.org)

## Knights Templar Eye Foundation awards UI vision researchers

Two scientists from the University of Iowa Stephen A. Wynn Institute for Vision Research received a valuable boost to their research efforts from the Knights Templar Eye Foundation.

**Gulab S. Zode, PhD**, was awarded a competitive renewal grant for his research into the treatment for juvenile-onset open angle glaucoma. Zode previously received a career-starter grant from the organization and is one of only eight individuals in the country to receive a renewal award.

Another award recipient was **Anurima Majumder, PhD**, who received a 2013-2014 Career-Starter Grant. This type of award is particularly useful as it allows early-career researchers with pilot funding to explore novel avenues in vision research. Majumder’s line of research involves “Structural Analysis of AIPL1 and Its Interaction with Phosphodiesterase PDE6: Implications for Leber’s Congenital Amaurosis.”



# Lectureship supports the exchange of knowledge

Teaching is one of our department's core missions - teaching not only our trainees, but also our faculty and other ophthalmologists. One important way of doing this is through endowed lectureships, which fund annual lectures by leaders in ophthalmology.

We are fortunate to have several such series at the University of Iowa, including the Mansour F. Armaly Lectureship. Established by a generous gift from Dr. Armaly, his wife, Aida, and their family, the lectureship honors an extraordinary clinician-scientist who has devoted his or her career to the study of and care for patients with glaucoma.

“Dr. Armaly was such a respected and beloved leader in our field that everyone who we have invited to give this lecture has accepted with enthusiasm. The lectureship is a way of bringing the top glaucoma specialists to Iowa to share their knowledge with us.”

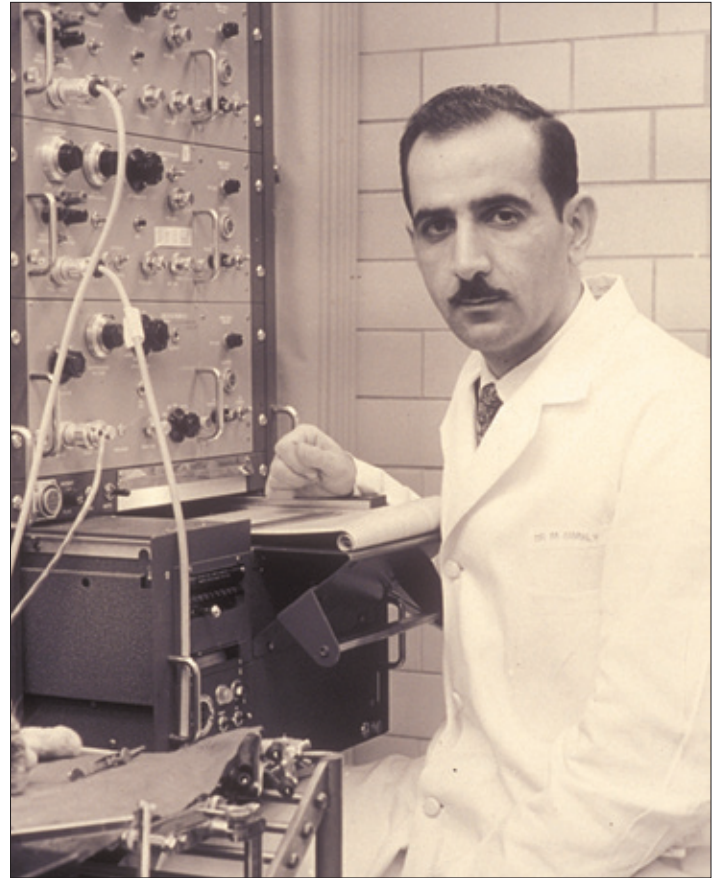
*Lee Alward, MD*

Recruited to the UI in 1958, Dr. Mansour Armaly was founder and director of the glaucoma service. He served as a distinguished member of Iowa's faculty until 1970 when he left to become chairman of the Department of Ophthalmology at George Washington University, a position he held until 1996.

“Dr. Armaly was one of the leading glaucoma specialists of the 20th century. He made seminal contributions in the epidemiology and inheritance of glaucoma, the mechanisms of steroid-induced glaucoma, and the field of perimetry,” comments current service director, **Dr. Lee Alward**.

This year's lecture will be delivered at the Iowa Eye Annual Meeting on June 20 by renowned glaucoma specialist Harry A. Quigley, MD, from the Wilmer Eye Institute.

**Read more about Armaly's legacy online at [medicine.uiowa.edu/eye/Armaly](http://medicine.uiowa.edu/eye/Armaly)**



Dr. Mansour Armaly early in his career.



Dr. Raya (left) and Aida (right) Armaly pose with David Greenfield, MD, who delivered the 2013 Mansour F. Armaly Lecture.

Philanthropic donations support our mission to prevent and treat blinding eye diseases. If you are grateful for the compassionate care you have received, the advanced research taking place, or the medical training that has advanced your career, please consider making a donation today.

## New optometrist joins department



**Tressa Larson, MA, OD, FAAO**, joins the department as a clinical assistant professor. Dr. Larson most recently was a contact lens specialist and optometrist for a cornea specialty practice in northern Virginia.

Dr. Larson specializes in contact lenses and the treatment of dry eye and corneal disease. She sees adult and pediatric patients in both the main hospital and UI Health Care – Iowa River Landing eye clinic locations.

## Faculty accolades



**Michael G. Anderson, PhD**, associate professor of ophthalmology, received the Charles D. Phelps Memorial Award. The award supports research and educational opportunities while honoring Dr. Phelps, a former faculty member and chair of the department (1971-1985).



**Anna Kitzmann, MD**, assistant professor of ophthalmology, received one of the 2013 Outstanding Medical Educator awards from the UI Carver College of Medicine. Awards seek to recognize excellence in the instruction of students in the field of medicine and the biomedical sciences.

## UI eye doctors chosen as Best Doctors in America

Nineteen eye doctors and faculty from the UI Department of Ophthalmology and Visual Sciences have been chosen as Best Doctors in America for 2014. Doctors are nominated by their peers with only about 5 percent of doctors in the U.S. receiving the distinction.



This year's list includes:

- Wallace L. M. Alward
- H. Culver Boldt
- Keith Carter
- Arlene Drack
- James Folk
- Kenneth Goins
- Karen Gehrs
- A. Tim Johnson
- Anna Kitzmann
- Young Kwon
- Randy Kardon
- Patricia Kirby
- Vinit Mahajan
- Thomas Oetting
- Stephen Russell
- Erin Shriver
- Steven Stasheff
- Edwin Stone
- Michael Wall

## Celebrating philanthropy

On May 1, the University of Iowa hosted the third annual “Phil’s Day” on campus. This special event celebrates “Phil” (short for philanthropy), a nickname for everyone who donates to the university, as well as all those who benefit from private philanthropic support.

Philanthropy plays a vital role in achieving our mission of patient care, vision research, and medical education. The Department of Ophthalmology and Visual Sciences celebrated the day with posters, ribbons, and stickers throughout the clinic and laboratories.

Information about Phil’s Day on the UI campus is at [uifoundation.org/PhilsDay](http://uifoundation.org/PhilsDay)





# Hawk-Eye Build

The UI Department of Ophthalmology and Visual Sciences proudly partnered with the Iowa Valley Habitat for Humanity to sponsor and build a home in Iowa City. The project, dubbed Hawk-Eye Build, was the first of its kind for a department within University of Iowa Health Care.

Donations from department staff funded building supplies, and staff members also worked side by side with the partner family, donating hundreds of volunteer hours to help construct the home.



## Iowa Eye Alumni Receptions

This year's Iowa Eye Alumni Reception during the AAO 2014 meeting will take place on Sunday, Oct. 19.



We will be back at the Swissôtel Chicago and hope to see all of our alumni colleagues there!



Last fall's alumni reception during the AAO meeting in New Orleans was a big hit! Images from the event may be found at <https://iowaeyealumni.shutterfly.com>

If you attend ARVO meetings, be sure to join us at our Iowa Eye Alumni receptions there, as well!

For more information, contact [joe-schmidt@uiowa.edu](mailto:joe-schmidt@uiowa.edu)

## IOWA VISION

IOWA VISION is published for alumni, colleagues, and friends of the Department of Ophthalmology and Visual Sciences at the University of Iowa.

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## Department news, events, and information:

www.medicine.uiowa.edu/eye



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## IOWA VISION UPCOMING EVENTS

### *The 2014-2015 Clinical Conference Series*

- |                     |  |
|---------------------|--|
| <b>Sep 12</b>       | <b>Neuro-Ophthalmology</b> - Janet C. Rucker, MD, Mount Sinai Hospital                 |
| <b>Nov 7</b>        | <b>Oculoplastics</b> - Jonathan J. Dutton, MD, PhD, FACS, University of North Carolina |
| <b>Mar 6, 2015</b>  | <b>Retina</b> - Cynthia A. Toth, MD, Duke Eye Center                                   |
| <b>Apr 10, 2015</b> | <b>Pediatric Ophthalmology</b> - M. Edward Wilson, Jr., MD, Storm Eye Institute        |

### *Other Events*

- |                   |   |
|-------------------|---|
| <b>June 6-7</b>   | <b>UI Carver College of Medicine Alumni Reunion</b> (Classes of '44, '49, '54, '59, '64, '69, and '74), Iowa City |
| <b>June 20-21</b> | <b>Iowa Eye Association Annual Meeting</b> , Iowa City  |
| <b>June 20</b>    | <b>Ophthalmic Nurse and Technician Conference</b> , Iowa City   |
| <b>June 27</b>    | <b>Resident and Fellow Graduation</b> , Kinnick Stadium, Iowa City  |
| <b>Aug 4-8</b>    | <b>Vision Research Summer School and Midwest Eye Research Symposium</b> , Iowa City (see page 10)                 |
| <b>Oct 10-11</b>  | <b>UI Carver College of Medicine Alumni Homecoming</b> (Classes of '79, '84, '89, '94, and '04), Iowa City        |
| <b>Oct 18-21</b>  | <b>AAO 2014 Annual Meeting</b> , Chicago  |
| <b>Oct 19</b>     | <b>Iowa Alumni Reception at AAO</b> , Swissôtel, Chicago  |

## Iowa Eye Annual Meeting

Join us for this year's meeting on June 20-21, 2014 in Iowa City. Topics include cataract, glaucoma, anterior segment, ICD-10, and more. Plus, there are opportunities to network and socialize with faculty and ophthalmology colleagues.

**Information and registration at**  
[medicine.uiowa.edu/eye/iowa-eye/](http://medicine.uiowa.edu/eye/iowa-eye/)