



Indiana University School of Medicine  
Eugene and Marilyn Glick Eye Institute

# Ophthalmology Update

Department of Ophthalmology

Spring 2013

## *Research team commits to Glick Eye Institute*

Vision research at the Eugene and Marilyn Glick Eye Institute will receive a double boost when husband-and-wife research scientists from the University of Florida join the Department of Ophthalmology at the Indiana University School of Medicine this year.

**Michael Boulton, Ph.D.**, has been appointed as the first director of basic science research and will hold the Merrill Grayson Senior Chair in Ophthalmology; his wife and fellow

researcher, **Maria Grant, M.D.**, will be the first to hold the new Marilyn K. Glick Senior Chair. They will join the department on July 1.

Dr. Boulton is currently director of research and professor in the Department of Anatomy and Cell Biology at the University of Florida. His research has focused on age-related changes in the retina and retinal neovascularization.

Dr. Grant is currently director of

Translational Research in the Department of Ophthalmology at the University of Florida and holds professorships in ophthalmology; physiology and functional genomics; medicine; and psychiatry. Her research focuses on understanding and repairing the damage to blood vessels in the eye as a result of diabetes.

"We are thrilled to welcome Drs. Boulton and Grant," said **Louis B. Cantor, M.D.**, Chairman of the

*(Continued on page 10)*

Teen is one of first in Indiana to participate in an intraocular lens implant study.

See Page 8

Read about faculty research, new grant awards, publications and new appointments.

See Pages 6 & 7

Department of Ophthalmology faculty travel to Zambia and China where they teach surgery.

See Page 11



## *From the Chairman*

We are looking forward to this spring and summer with great anticipation. In July of this year we will welcome **Maria Grant, M.D.**, and **Michael Boulton, Ph.D.**, to Indianapolis and to leadership roles within our expanding research programs.

Drs. Grant and Boulton will be great additions to our growing research team. Their research will complement the work already under way in our basic science and clinical research programs. In addition, they

will help provide the leadership and mentoring that is vitally important to a research program. We are looking at appropriate laboratory facilities and support space for their programs on the medical center campus and within the Eugene and Marilyn Glick Eye Institute. Dr. Grant and Dr. Boulton have visited Indianapolis and are planning upcoming visits with several members of their respective research teams who are likely to relocate with them. They are also meeting with faculty members, both within the Department of Ophthalmology and other departments at the IU School of Medicine with whom they share collaborative research interests.

Once they have arrived in Indianapolis we will host a gathering that will allow our friends and colleagues to meet them and become acquainted with their work. They are not only outstanding researchers but wonderful individuals who will enrich our community.

We are also looking to continue to expand our faculty in order to best serve our missions of patient care and service, discovery, and education. We are seeking to expand our cornea and neuro-ophthalmology services. Our retina service continues to grow and our programs in glaucoma and pediatric ophthalmology are strong. Our oculoplastics service provides excellent opportunities for residents and fellows. Our community outreach facilities are seeing more patients in local communities where there is a need. Once again, it is because of the dedicated and committed individuals who are part of our faculty, staff, alumni and donors that we are able to bring this level of expertise/talent to Indiana University and the Glick Eye Institute.

I am pleased to provide you with this update and exciting news that is advancing the department and preparing for a bright future.

Chair and Professor of Ophthalmology  
Jay C. and Lucile L. Kahn Professor of  
Glaucoma Research and Education  
Director, Glaucoma Service  
Eugene and Marilyn Glick Eye Institute  
Indiana University School of Medicine  
Department of Ophthalmology

**Philanthropic support** is necessary to accelerate vision research. To learn how you can make a tax-deductible gift to benefit the Eugene and Marilyn Glick Eye Institute, please contact:

**Linda E. Cantor, J.D.**

*Director of Development*  
*Eugene and Marilyn Glick Eye Institute*  
*Indiana University School of Medicine*  
[lcantor2@iupui.edu](mailto:lcantor2@iupui.edu)

Phone: **317.274.3602** or  
**800.643.6975**

Gifts may be mailed to:

**IU Foundation - Ophthalmology**  
**P.O. Box 660245**  
**Indianapolis, IN 46266-0245**

Online gifts may be made through the Eugene and Marilyn Glick Eye Institute website:

[www.glick.iu.edu](http://www.glick.iu.edu)

**Department of Ophthalmology**  
*Clinical and Academic Administration*

**Louis B. Cantor, M.D.**, Chairman  
**Timothy Louer, M.B.A.**, Chief Financial Officer  
**Alexandra Eads**, Manager, HR

1160 W. Michigan Street  
Indianapolis, IN 46202  
**317.274.2020**  
[www.glick.iu.edu](http://www.glick.iu.edu)

## 2014 Ophthalmology Residents Selected

**Darrell WuDunn, M.D., Ph.D.**, Professor of Ophthalmology and the program director of the ophthalmology residency program at the Indiana University School of Medicine announces the match for the 2014 residents.

The department's residency program received almost 400 applications for its six openings. From that group, 36 candidates interviewed with faculty and met with current residents. As a result of the match process, the following individuals will join the residency program in July 2014:

**Whitney Boling**, American University of Antigua College of Medicine

**Rehan Hussain**, George Washington University, Indiana University

**Laura Magnuson**, Indiana University School of Medicine

**Joshua Paschall**, Indiana University School of Medicine

**Leslie Tobe**, Indiana University School of Medicine

**Ryan Wise**, University of Iowa - Roy J. and Lucille A. Carver College of Medicine

"I am very excited to have yet another strong group of bright and energetic young physicians who will train with us to become the best ophthalmologists that they can be," said Dr. WuDunn. "In addition to a strong academic performance in medical school, we look for individuals who are dedicated, work well with others, and have a good sense of community. I think this group of new trainees is a good example of what we have come to expect in our residents."

---

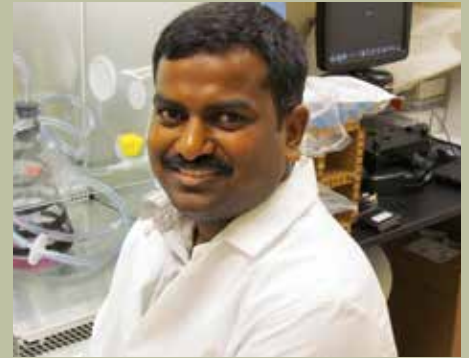
## Ophthalmology student interest group

**Ophthalmology Student Interest Group** members who volunteered for the American Legion screening event held in conjunction with a recent American Legion conference in Indianapolis were honored with the President's Award from Kim Williams, president of the Indiana Academy of Ophthalmology at the recent IAO meeting.



On hand to accept the President's Award given to OSIG during the recent IAO meeting are Brian Marek, Josh Paschall and Anne Schroeder. Pictured with the group is their sponsor, Chi-Wah (Rudy) Yung, M.D.

## Student receives research scholarship



**Halesha Basavarajappa**, a Ph.D. student working in the research lab of **Tim Corson, Ph.D.**, at the Eugene and Marilyn Glick Eye Institute, has received a two-year \$30,000 Ausich Graduate Student Research Scholarship from Kemin Health.

This Scholarship promotes research that contributes to better understanding of the role of natural compounds in foods. It is named for Rodney Ausich, Ph.D., a former Kemin Health president who was the inventor of FloraGLO® Lutein and is credited with recognizing its benefits for eye health.

Basavarajappa holds bachelor's and master's degrees from Bangalore University in Karnataka, India, and is working on his doctoral degree in biochemistry and molecular biology at the IU School of Medicine.

His proposed research is based on deciphering the molecular mechanism of a naturally-occurring antiangiogenic compound.

Dr. Corson said Basavarajappa's work offers real possibility for discovering new mechanisms and treatments for neovascular eye diseases such as age-related macular degeneration.

## *Vision researcher teams with mathematicians to submit grant proposal*

A four-person collaborative team comprised of three mathematics professors and an ophthalmology professor is submitting a proposal entitled "Ocular Blood Flow and Its Role in Development of Glaucoma" to the American Institute of Mathematics; Structured Quartet Research Ensemble (AIM SQuaRE).

Team members include mathematics professors Giovanna Guidoboni, Ph.D., and Lucia Arciero, Ph.D., from the Department of Mathematics at IUPUI and Sergey Lapin, Ph.D., from the University of Washington Department of Mathematics.

The fourth member of the team is Alon Harris, M.S., Ph.D., FARVO, Professor of Ophthalmology and director of

Clinical Research at the Eugene and Marilyn Glick Eye Institute.

Dr. Guidoboni has significantly contributed to the understanding of multiscale problems and fluid-structure interactions in blood flow modeling, and other complex flows such as free surface flows and non-Newtonian fluid flows.

Dr. Arciero's area of expertise involves mathematical modeling of physiological phenomena and metabolic flow regulation and auto regulation in exercising skeletal muscle.

Dr. Lapin has contributed to the fluid-structure interactions arising in blood

flow modeling and non-Newtonian fluid flows.

Dr. Harris is a world leader in ocular blood flow. His laboratory is equipped to measure all aspects of the ocular circulation and metabolic status of the eye including mathematical modeling of physiological phenomena and metabolic flow regulation and auto regulation in exercising skeletal muscle.

In 2012, Drs. Harris, Guidoboni and Arciero were awarded \$103,128 from the National Science Foundation for their project, "Mathematical Modeling of Ocular Mechanics, Circulation and Oxygenation and their Relation to Glaucoma."

**Alon Harris, M.S., Ph.D., FARVO**, Professor of Ophthalmology and Director of Clinical Research, reports the following invited presentations:

- American Academy of Ophthalmology. "Importance of ocular blood flow in glaucoma" Chicago, IL, November 12, 2012.
- Merck Peer Discussion Group. "A case-based approach to managing elevated intraocular pressure-B" Chicago, IL, November 9, 2012.
- Wills Eye Institute, Merck Peer Discussion Group. "A case-based approach to managing elevated intraocular pressure-B" Philadelphia, PA, October 19, 2012.
- Merck Lecture "Perspectives in the management of elevated IOP" Philadelphia, PA, October 18, 2012.
- Russian National Ophthalmologic Forum, WHO global initiative - Vision 2020, "Elimination of blindness and visual impairment associated with glaucoma" Moscow, October 3, 2012.
- Mexican Ophthalmology Society, Blood Flow and Glaucoma Conference and Clinical Cases Workshop. Puerto Vallarta, Mexico, September 1, 2012.



## *Glick Eye Sightseers plan Tuscan trip for summer 2013*

The Glick Eye Sightseers, who visited Alaska in the summer of 2011, will visit Tuscany in July of this year.

The trip will feature six nights in an 18th century farmhouse on a Tuscan wine estate.

A guide will take the group to the

town of Chianti and the historic sites of Siena, Cortona and Florence, including a visit to the Academia to see Michelangelo's David.

Guests will enjoy local, seasonal flavors such as dried and fresh figs, estate-grown olive oil, artisan cheese and wines.

The trip will feature visits to wine and cheese makers and instruction in Italian cooking by local chefs.

The final night of the trip will be spent at the elegant, time-piece themed Hotel L'Orologio in Florence.

Details about the trip are available at: [www.glick.iu.edu/alumni](http://www.glick.iu.edu/alumni).

## Faculty news and notes



**Philip W. Shaffer, O.D.**, has joined the Department of Ophthalmology at the Eugene and Marilyn Glick Eye Institute as Assistant Professor of Clinical Ophthalmology.

"I look forward to my new affiliation with the Glick Eye Institute and the opportunity to provide vision care for a wide variety of patients," he said.

Dr. Shaffer is a 2012 graduate of the Indiana University School of Optometry. Dr. Shaffer did clinical rotations in Guanajuato, Mexico, where he worked with patients in a rural setting, and at a Veterans Affairs clinic in Pensacola, Florida, where he worked with veterans who suffered from diabetes, glaucoma and macular degeneration.

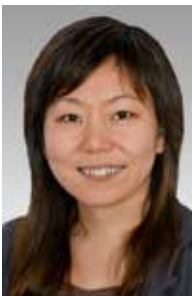
He is interested in research into the causes and treatments of dry eye.



**Daniel Neely, M.D.**, Professor of Ophthalmology, has graduated from the AAO Leadership Development Program.



**Daniel Spitzberg, M.D.**, Associate Professor of Clinical Ophthalmology and Vice Chair for Adult Clinical Affairs, has been elected to the J.O. Richey Society board of directors. The J.O. Richey Society recognizes those individuals who have arranged planned or deferred gifts to benefit the IU School of Medicine.



**Jingyun Wang, Ph.D.**, Assistant Professor of Ophthalmology, visited China in December and lectured on her research at Tianjin University and Tianjin Eye Hospital. She presented on "The application of OCT in retinal development" at Tianjin University and discussed "The foveal development and ROP" at Tianjin Eye Hospital.

## Selected publications

**Alon Harris, M.S., Ph.D., FARVO, Brent Siesky, Ph.D., and Deepam Rusia, M.D., M.B.A.**, contributed the chapter, "Blood Flow in Glaucoma," published in *Color Atlas and Synopsis of Clinical Ophthalmology: Glaucoma, Second Edition.*, Wolters Kluwer/ Lippincott Williams & Wilkins, 2012.

**Alon Harris, M.S., Ph.D., FARVO, Brent Siesky, Ph.D., and Leslie Tobe, M.D.** contributed the chapter, "Ocular blood flow and metabolism," in *Atlas of Glaucoma, Third Edition*: CRC Press 2013.

**Alon Harris, M.S., Ph.D., FARVO**, has had the article, "Blood Pressure, Ocular Perfusion Pressure, and Body Mass Index in Glaucoma Patients," accepted for publication by the *European Journal of Ophthalmology*.

**Halesha Basavarajappa, M.S.**, (see related story on page 3) and **Tim Corson, Ph.D.**, (see page 6) were invited to report on their research in *Future Medicinal Chemistry*, a journal which features expert analysis of emerging research. The published article, "KIF14 as an oncogene in retinoblastoma: a target for novel therapeutics?" The article can be read at: [www.future-science.com](http://www.future-science.com)

**Brian Samuels, M.D., Ph.D.**, and his co-authors Nathan M. Hammes, Philip L. Johnson, Anantha Shekhar, Stuart J. McKinnon, and R. Rand Allingham published "Dorsomedial/ Perifornical Hypothalamic Stimulation Increases Intraocular Pressure, Intracranial Pressure, and the Translaminar Pressure Gradient," *IOVS*, published ahead of print October 2, 2012, read the article at: <http://www.iovs.org/>

## ***Dr. Corson named Outrun the Sun scholar; receives research funding***

**Timothy Corson, Ph.D.**, Assistant Professor of Ophthalmology at the Eugene and Marilyn Glick Eye Institute, has been selected as one of two 2012 Outrun the Sun Melanoma Research Scholars. Dr. Corson is the first Indiana University researcher to receive this distinction.

Dr. Corson, whose research interests include ocular melanoma, will receive \$10,000 from Indianapolis-based Outrun the Sun, Inc., a nonprofit organization supporting skin cancer education and melanoma research.

He also has received \$25,000 from the Retina Research Foundation and \$8,500 from the Carl Marshall Reeves and Mildred Almen Reeves Foundation in Columbus, Indiana, a charity that funds age-related macular degeneration research.

"It's a great honor to be named an Outrun the Sun National Melanoma Research Scholar, and humbling that I am the first ocular melanoma researcher to receive this prestigious award," Dr. Corson said.

"The research scholar program is designed to provide seed funding for investigators whose studies show great promise and demonstrate the potential to make substantial contributions to the field of melanoma research," said Anita J. Day, co-founder and executive director of Outrun the Sun.

"We are pleased to support Dr. Corson's work and also to welcome a researcher from Indiana," she added. Edward Cha, M.D., Ph.D., University of California-San Francisco, also was selected as a 2012 scholar. Drs.



***Dr. Corson in his lab at the Glick Eye Institute.***

Corson and Cha join past recipients from Harvard University, Mayo Clinic, New York University, University of Chicago, Kimmel Cancer Center, and University of California-Irvine. Scholar applications are reviewed by the Outrun the Sun scientific review panel.

Dr. Corson will present his work at the annual Outrun the Sun Melanoma Research and Education Forum in Indianapolis in the fall.

Dr. Corson and his team are conducting research into retinoblastoma, uveal melanoma and age-related macular degeneration.

His new funding from the Retina Research Foundation and Reeves Foundation will support a project aimed at identifying the targets of a

natural compound that is a potential treatment for age-related macular degeneration.

"We will use the funding to continue our research on the molecular mechanisms of a novel, plant-derived natural product that has anti-angiogenic (blood-vessel blocking) activity and that could be a therapeutic lead for AMD," Dr. Corson said.

"Meanwhile, the Outrun the Sun grant will help fund our ongoing studies into blocking a signaling pathway that is hyperactive in ocular melanoma cells. We hope that we can eventually develop molecular therapies to block the growth of this melanoma subtype that causes not only loss of vision but also deadly metastases in half of patients," Dr. Corson said.

## *Dr. Sun and Dr. Gangaraju receive additional research grants*

Efforts to establish a biobank database and continued research into diabetic retinopathy are possible with recent grants to **Yang Sun, M.D., Ph.D.**, and **Rajashekhar Gangaraju, Ph.D.**, faculty members of the Department of Ophthalmology at the Eugene and Marilyn Glick Eye Institute.

“Our researchers continue to seek new avenues for funding in a highly competitive environment,” said **Louis B. Cantor, M.D.**, chairman of the Department of Ophthalmology at the Glick Eye Institute. “We are confident their continued success in acquiring research funds will provide the foundation for treatments and cures for blinding eye diseases.”

- Dr. Sun, Assistant Professor Ophthalmology, received a \$10,000 Mentoring for Advancement of Physician-Scientists award from the American Glaucoma Society and funded by Allergan.
- Dr. Gangaraju, Assistant Professor in the Department of Ophthalmology, Department of Cellular & Integrative Physiology and the Indiana Center for Vascular Biology and Medicine, received \$7,500 from the Cryptic Masons Medical Research Foundation and the Knights Templar Foundation of Wisconsin for vascular research.

Dr. Sun said his funding will be used to establish a national database for children with congenital glaucoma,

allowing pediatric glaucoma specialists to send patients and their tissue samples to a biobank for future biochemical and genetic analysis.

“When glaucoma occurs in children, it deprives sight and severely impacts the lives of children and their families,” Dr. Sun said.

“Only a few of the genes that cause these childhood glaucomas have been identified. Therefore, there is a critical need to establish a biobank for congenital glaucoma samples and to identify novel genes in glaucoma,” said Dr. Sun.

Dr. Sun said childhood glaucomas present challenges because of the small number of patients. “The national biobank for congenital glaucoma samples will help us to identify novel genes and to establish the glaucoma-relevant database for future translational studies,” he said.

Dr. Gangaraju’s funding is to support research into diabetic retinopathy.

“We have an ongoing relationship between Cryptic Masons Medical Foundation and the Indiana Center for Vascular Biology and Medicine. Knights Templar Wisconsin joined this last year and started to fund research annually related to pediatric ophthalmology,” said Dr. Gangaraju.



*Yang Sun, M.D., Ph.D.*

**“Our researchers continue to seek new avenues for funding in a highly competitive environment. We are confident their continued success in acquiring research funds will provide the foundation for treatments and cures for blinding eye diseases.”**

**Louis B. Cantor, M.D.**  
**Chairman of the Department of Ophthalmology at the Glick Eye Institute**



*Shekhar Gangaraju, Ph.D.*

## *Teenager is one of first in Indiana to participate in lens implant study*

Familiar with pediatric ophthalmology since an eye injury at age 6, 15-year-old **Jaycee Young** and her family were thrilled to learn the teenager was a candidate for a new clinical study involving a lens implant.

"We were all very excited," said **Shane Young**, Jaycee's dad. "We got the call in December that she would be one of the first patients. We were extremely excited when we found out she had been approved for the study."

The study will determine whether an intraocular lens produced by Ophtec USA, Inc. will correct aphakia, or the absence of the eye's natural crystalline lens.

The lens in the study is for children who are not able to have a more traditional lens implanted after cataract surgery or damage from other causes such as injury. Jaycee's natural lens was damaged after her injury from a paint-ball gun; this was her fourth surgery to correct her vision.

Jaycee is one of the first patients enrolled in the Artisan Aphakia Lens clinical trial for patients age 2 to 21, and one of the first study sites in this nationwide study is the

Pediatric Ophthalmology and Adult Strabismus service in the Department of Ophthalmology at the IU School of Medicine. Physicians participating include service director **David Plager, M.D., Daniel Neely, M.D., Kathryn Haider, M.D.,** and **Heather Smith, M.D.** Four patients have received the lens implant; two more are scheduled.

Dr. Plager, who has cared for Jaycee since she was 6, said Jaycee was his second surgical patient in this study. Her early prognosis is good, and he said her vision should continue to improve as her eye heals.

"Jaycee's vision is already back to the level it was pre-operatively, but now she has that vision without having to wear a contact lens or glasses," said Dr. Plager.

"I'm doing a lot better," Jaycee said. "It used to be blurry, and when I looked I would see double, but now that is clearing up."

Dr. Plager said this lens implant rests in front of the iris, as opposed to the more traditional location behind the iris where the natural lens used to be. It is designed for patients whose eyes cannot have a traditional lens implant because of damage from trauma -- as in Jaycee's case -- or because of a developmental anomaly of the eye.

"This lens was developed in the Netherlands a couple of decades ago, and I first approached the



*Dr. Plager and Jaycee Young. Jaycee, now 15, has been Dr. Plager's patient since an eye injury, at age 6.*

company about making it available to children in this country more than 12 years ago," Dr. Plager said. "It has taken that long to get it through all the regulatory hurdles in the United States. The track record of this lens in Europe has been very good, and we have no reason to think it won't be the same here."

Previous so-called anterior chamber lenses were poorly designed, and patients often experienced complications.

"The lens used in this study is much smaller and lighter, and it holds in place on the iris with little 'claws' that look like crab claws," he said.

Dr. Plager said patients would not have immediate restoration of clear vision, explaining that clarity would improve over a couple of weeks. Jaycee and the other study patients will be closely monitored to determine the success of the new lenses.

Jaycee said she's seeing better and is looking forward to returning to her favorite activities, including playing basketball at Shenandoah High School in Henry County. She's a point guard who is a "pretty good shot," according to her dad. She's also in the honors program and counts biology, English and math among her favorite subjects.



*Dr. Plager, right, in the operating room for Jaycee's surgery with Rick McCarkley, left, president of Ophtec USA, Inc., and Kathryn M. Haider, M.D.*

## *Glick Eye Institute offers new outpatient treatment for chronic dry eye*

**Clark Springs, M.D.**, director of Cornea and Refractive Surgery at the Glick Eye Institute is now using LipiFlow, a new treatment for evaporative dry eye.

"Evaporative dry eye occurs when glands in the eye become blocked, preventing the eye's natural tears from forming," said Dr. Springs.

"This results in symptoms such as dryness, grittiness, soreness, irritation, burning and eye fatigue, and can hinder daily activities such as wearing contact lenses, reading and using the computer."

"Dry eye disease is one of the most common topics patients discuss when visiting eye care professionals,"

Dr. Springs said. "This new treatment will help those patients who are very frustrated with this chronic disease."

Many dry eye therapies include using warm compresses and over-the-counter drops and ointments. Prescription medicines also can help. LipiFlow goes to the root cause of the problem by unblocking the glands.

"The prevalence of dry eye increases with age but can affect all age groups," Dr. Springs said. It is thought to be under-reported because symptoms may not be recognized or reported to a physician.

Dr. Springs said that at age 50, 4 percent of men and 7 percent of



*Clark Springs, M.D.*

women are affected by dry eye, and the prevalence continues to increase with age.

For more information, visit:  
[www.glick.iu.edu/dry-eye](http://www.glick.iu.edu/dry-eye)  
or  
[www.tearscience.com](http://www.tearscience.com).

---

## *Glaucoma Progression Study participant doubles donation*

For the second year in a row, a participant in the Indianapolis Glaucoma Progression Study has donated \$100,000 to support the study in the Department of Ophthalmology at the Glick Eye Institute.

Julie Overbeck committed \$100,000 in support in 2012 and has provided another \$100,000 this year to allow the research to continue.

"I've been a participant since the beginning of the study," Overbeck said. "I want to support it so it can continue for another couple of years."

Overbeck said glaucoma runs in her family and that she has had the disease for more than 20 years. While hers has not progressed to the point of blindness, she is an advocate for research and blindness prevention.

"My mom had macular degeneration, and she was blind the last 20 years of her life, though not from glaucoma," Overbeck said. "So I have a particular interest in blindness."

The Indianapolis Glaucoma Progression Study is the only long term study of glaucoma being done. Overbeck lauded the ongoing research of **Alon Harris, M.S., Ph.D., FARVO**, director of Clinical Research in the Department

of Ophthalmology at and **Brent Siesky, Ph.D.**, assistant director of the Research and Diagnostic Center.

"Brent has been great, a terrific guy who is passionate about what he is doing. He explains everything in a way you can understand," she said.

Overbeck said she decided to support the research because it allows her to help others. "People can live a long time; but if they can't see, it's devastating in terms of quality of life," she said.



*From left: Dr. Siesky, Julie Overbeck, and Dr. Harris*

## Research team commits to Glick Eye Institute

(continued from page 1)

Department of Ophthalmology.

"They are widely known and respected for their research, and we are pleased Dr. Boulton will shepherd our growing basic science program."

Dr. Boulton said several factors contributed to his decision to move to the IU School of Medicine.

"I believe the environment at Indiana University is very supportive of cutting-edge cell and molecular research, and the top administrators recognize the importance of building a strong vision science research and education program," Dr. Boulton said.

"The new Eugene and Marilyn Glick Eye Institute offers amazing potential, and I am looking forward to working with Dr. Grant and existing faculty to make this one of the top 10 vision research and training institutes in the U.S.," Dr. Boulton said.

Dr. Boulton's research has focused on the pathobiology of the retinal pigment epithelium and mechanisms of retinal neovascularization. He earned his Ph.D. in vision sciences at the University of Westminster and Institute of Ophthalmology, London. He was appointed a Fight for Sight Fellow before taking a faculty position at the University of Manchester.

Dr. Boulton then chaired the School of Optometry and Vision Sciences at Cardiff University before becoming director of the AMD Center at The University of Texas Medical Branch at Galveston. He most recently was professor of anatomy and cell biology at University of Florida, Gainesville.

He holds grants from the National Institutes of Health for his research into age-related macular degeneration and diabetic retinopathy.

He will have secondary appointments as a professor of biochemistry and molecular biology and of optometry and vision science. He will also receive an appointment to the graduate school faculty.

Dr. Grant completed medical school, internal medicine residency and an endocrinology fellowship at the University of Florida, followed by a research fellowship at Wilmer Eye Institute before joining the faculty at the University of Florida in the Department of Internal Medicine.

She served as division chief of endocrinology and metabolism for seven years until she joined the Department of Pharmacology and Therapeutics.

She also holds joint appointments in the Department of Physiology and Functional Genomics, Ophthalmology and Psychiatry.

Dr. Grant's research is supported by the National Eye Institute, National Institute of Diabetes and Digestive and Kidney Diseases, National Heart Lung and Blood Institute, and Florida Department of Health James and Esther King Biomedical Research Program.

Dr. Grant's lab studies mechanisms that control circadian regulation of bone marrow cell release in health and in chronic conditions such as diabetes. The goal of the lab is developing novel strategies to optimize dysfunctional diabetic progenitors prior to their use in cell-



*Michael Boulton, Ph.D.*



*Maria Grant, M.D.*

based therapies to treat vascular complications.

"I am looking forward to working with the faculty and administration at the Glick Eye Institute to build a strong basic science program that will advance not only basic research, but also translational studies that will move cell therapy forward for vision-threatening conditions such as age-related macular degeneration and diabetic retinopathy," Dr. Grant said.

She will have secondary appointments as a professor of cellular and integrative physiology and optometry and vision science. She also will receive an appointment to the graduate school faculty.

# *Ophthalmology faculty teach eye surgeries on planes and trains*

Two faculty members in the Department of Ophthalmology volunteered with sight-saving organizations on planes and trains last fall, traveling to Zambia in Southern Africa and to Longyan Province in China to teach surgical skills to local ophthalmologists.

**Daniel Neely, M.D.**, pediatric ophthalmologist, and Professor of Ophthalmology, traveled with ORBIS International and its flying eye hospital to Zambia and **Yang Sun, M.D., Ph.D.**, Assistant Professor of Ophthalmology and a glaucoma specialist and researcher, visited China and worked with the Lifeline Express train. Both organizations depend on volunteer ophthalmologists to provide training and share their expertise with local doctors who can use the newfound techniques to care for the thousands of patients needing vision care in their remote



*Daniel Neely, M.D., with a young Zambian patient who had suffered from acute acquired bilateral cataracts.*

areas.

Dr. Neely volunteers with the global nonprofit ORBIS several times a year and has traveled to Vietnam, Jamaica, India, South Africa, Peru and Uganda. Last fall Dr. Neely became senior medical advisor of the organization's Cyber Sight Telemedicine program, begun by his mentor, **Emeritus Professor Eugene Helveston, M.D.**

The telemedicine program provides internet-based consultation to assist physicians in developing nations with diagnosis and treatment of ophthalmic conditions as well as continuing education.

On his most recent ORBIS trip, Dr. Neely worked with the only practicing pediatric ophthalmologist in Zambia, Dr. Mboni, who is based at the Kitwe Eye Hospital in Kitwe.

"The emphasis of the week was management of pediatric cataract, particularly the use of intraocular lens implants in infants and children," Dr. Neely said. "On Monday we conducted a screening clinic of about 25 potential cases and from this we selected 13 for surgery. These surgeries were then conducted Tuesday through Thursday in the local hospital because of the need for pediatric anesthesia care (provided by two ORBIS volunteer anesthesiologists)."

Dr. Neely has many success stories from previous trips – this trip he met a young girl named Theresa who suffered from acute acquired bilateral cataracts.

"The unique thing about this program week was that we were accompanied by a 12-member film crew from the Omega watch company, an ORBIS sponsor that recently produced a film featuring Daniel Craig of James Bond movie fame," Dr. Neely said. "The second production filmed during my week was more focused on the patients' stories. The film crew was present for our screening day and all of the surgery days," Dr. Neely explained. "The crew filmed the story of my patient Theresa, recorded her surgery and will feature her in the new production."

Dr. Neely said that film should be complete soon. The film and a blog post about Dr. Neely's patient Theresa, can be accessed from the ORBIS website, [www.orbis.org](http://www.orbis.org).



*Yang Sun, M.D., Ph.D., examines a young patient in Longyan Province, China.*

Dr. Sun said the Lifeline Express trip paired volunteers with local physicians who need additional training to care for the patients who desperately need their surgical skills.

*(continued on page 12)*



## EUGENE AND MARILYN GLICK EYE INSTITUTE

INDIANA UNIVERSITY

School of Medicine

Department of Ophthalmology

1160 W. Michigan Street

Indianapolis, IN 46202

RETURN SERVICE REQUESTED

### *Ophthalmology faculty teach eye surgeries on planes and trains* (continued from page 11)

Like ORBIS, Lifeline works with local hospitals that provide operating room space and other support services.

“Eye care is very poor in these remote areas, and we see really difficult patients with challenging cases,” said Dr. Sun. Most of the cases involve cataract surgery although Dr. Sun said other challenging complex cases are not uncommon. In China, physicians can spend up to six months on the train, working with visiting doctors in remote locations. “It’s good for them, and they gain

surgical expertise from the visiting doctors,” he said of the Chinese physicians.

The patients benefit, too, he said. “There is a lot of unmet need in these areas, and the physicians can perform up to 50 cataract surgeries a day. We have two missions on these trips – to train the physicians and to treat the patients.”

More information about Lifeline Express is available at: [www.lxenglish.com/](http://www.lxenglish.com/)

#### **Call Center Numbers**

For appointments and/or referrals to a clinic operated by the Eugene and Marilyn Glick Eye Institute, please call:

**317.274.2020 or 877.224.8393 (toll free)**

**Ophthalmology Update** is distributed by the Eugene and Marilyn Glick Eye Institute, Department of Ophthalmology at the Indiana University School of Medicine. Please send any address changes, updates, comments or suggestions for items to include in future newsletters to: Lynn Smith at 317.274.1044 or [smithlyr@iupui.edu](mailto:smithlyr@iupui.edu)