As I write this letter, I can see the steel skeleton of the massive new hospital tower which will become the new James Cancer Hospital. This is the largest project in the history of Ohio State University and will undoubtedly have a major impact on the entire University. During this time of unprecedented growth and change within the Medical Center, the Department of Ophthalmology has also grown and prospered.

Our faculty ranks continue to swell with the additions of Andrea Sawchyn, MD (glaucoma), Michael Wells, MD (retina), and Andrew Hendershot, MD (cornea). We will welcome three additional physician recruits in the next few months: Shelley Gupta, MD (Glaucoma), Marc Criden, MD (Orbital and Oculoplastics surgery), and John Melnyk, OD, PhD (Optometry). The Department has added eighteen clinical faculty over the last seven years.

In addition, Dr. Guoqiang Li will be joining the faculty as an optical engineer with a joint appointment in Electrical and Computer Engineering. It is through these individuals that we are able to accomplish our goals in the areas of patient care, teaching, and research.

We continue our efforts in training residents so that they can make a successful transition to fellowship training or comprehensive ophthalmology practice. Thanks to the generous contributions of our patients, alumni, and friends, the James Andrew, MD Resident Training Facility was established this year. This includes a new EyeSi surgical trainer.

Research efforts are expanding in the areas of retinal detachment, ocular oncology, ocular biomechanics, and cerebrospinal fluid physiology. The faculty of the Department have been very active in clinical trials involving age-related macular degeneration, diabetic retinopathy, pseudotumor cerebri, glaucoma, cataract surgery and corneal collagen crosslinking for keratoconus. The residents’ annual research program demonstrated the high quality of both their research and presentations. Residents participated in national meetings, such as ARVO and the American Academy of Ophthalmology.

Our grateful patients, alumni, and friends have continued their generous gifts to our Department in terms of time, advice and donations. These gifts are absolutely essential to further the research and educational activities of our Institute in these trying times. We depend on this generosity to create a legacy to sustain both present and future endeavors.

It is a privilege to work alongside our tremendously talented and dedicated students, residents, fellows, staff, clinicians, and researchers in trying to find better ways to serve our patients through innovative treatments found only through the combination of research, education, and clinical care that is at the core of all academic departments at The Ohio State University.

Thomas F. Mauger, MD, Chairman
Carl M. & Grace C. Baldwin Chair in Ophthalmology
OSU Department of Ophthalmology & Visual Science
Director, William H. Havener Eye Institute

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COVER: Optos® photo of a normal retina
RESEARCH

Drs. Yi Zhao and Ron Xu conducting collaborative research
A flurry of activity surrounds the new James Cancer Hospital as it rises from the recently poured foundation and reminds us of the great heights which can be achieved when individuals are dedicated to one purpose. A modern medical center, like the human body, is made up of a multitude of complex systems interacting to achieve a goal. These systems, though independent, rely on each other for support.

Ophthalmology is devoted to a collaborative, multidisciplinary approach that utilizes the unprecedented resources, technology, and expertise of the OSU Medical Center and helps us improve the lives of our patients.
Ophthalmology’s Paul Weber, MD (Glaucma) and Andrew Hendershot, MD (Anterior Segment) have teamed up with Anesthesia’s Hamdy Elsayed-Awad, MD and Urology’s Ronney Abaza, MD to investigate the ocular effects of Trendelenburg positioning and anesthesia during robotic surgery. Since Trendelenburg positioning, where the feet are elevated above the head, can put added pressure on the head, Drs. Hendershot and Weber will be studying the intraocular pressure and optic nerve of patients during robotic surgery.

One of Ophthalmology’s Retina specialists, John Christoforidis, MD, is working with Radiology’s Michael Knopp, MD, PhD and Ophthalmology’s Frederick Davidorf, MD and Mohammed Abdel-Rahman, PhD to develop a non-invasive work-up of patients with ocular melanomas using MRI.

Dr. Christoforidis has also teamed up with Radiology’s Petra Schmalbrook, MD to develop a method for imaging veins behind the eye. Using a 7 Tesla MRI and a magnifying coil, they hope to be able to pinpoint retinal vein occlusions enabling more precise treatment.

“When you know that you are helping to develop something entirely new,” said Dr. Christoforidis, “something that will give patients better outcomes, it’s exciting.”

Retina specialist, Colleen Cebulla, MD, PhD, and Retina Division Director, Alan Letson, MD, have partnered with Endocrinologist Kwame Osei, MD on multiple projects. Dr. Osei is a national leader in the field of diabetes, a condition that affects nearly 26 million Americans. The ocular impact of diabetes is one of the more devastating effects of the disease. Left untreated, diabetic retinopathy can lead to severe vision loss or even blindness.

Drs. Letson and Cebulla monitor diabetic patients’ ocular condition, while they participate in Dr. Osei’s clinical trials comparing efficacy and safety of daily diabetic medications in patients with type 1 and type 2 diabetes.

Action to Control Cardiovascular Risk in Diabetes (ACCORDIAN) is another project on which Dr. Letson and Dr. Osei collaborate. It is the long awaited follow-up study to ACCORD, a landmark clinical trial which showed that combining intensive blood pressure medications and lipid therapies did not reduce the cardiovascular events in patients with diabetes.

When investigating new chemotherapy agents, Oncology’s Miguel Villalona, MD and Greg Otterson, MD and Hematology’s Kristie Blum, MD rely on Ophthalmology’s Steven Katz, MD, a neuro-ophthalmologist, to monitor their patients for ocular toxicity.

Dr. Katz’s specialization also makes him invaluable to Neurology’s Aaron Boster, MD who specializes in Multiple Sclerosis (MS). Since MS can cause serious ocular problems, Dr. Katz plays a vital role in the evaluation of new therapeutic MS treatments.

Neurology’s J. Lane Moore, MD relies on Dr. Hendershot for her study of patients with partial seizures taking Pregabalin versus placebo. Since Pregabalin can cause vision problems, Dr. Hendershot monitors study participants and reports any changes in their visual field.

Susan Koletar, MD from Infectious Diseases began investigating therapeutic vaccinations for HIV patients and called on Rebecca Kuennen, MD of Ophthalmology Anterior Segment Division to evaluate the ocular health of participants.

“ACCORDIAN is looking at the associations of metabolic control and microvascular disease in target organs like the heart, the retina, the kidneys,” said Dr. Letson. “So our role is to monitor the improvement or progression in the eye; a small part of a very important study.”

Two members of Ophthalmology’s Retina division, Dr. Cebulla and Michael Wells, MD are assisting Michael Go, MD of Heart & Vascular Center to understand the feasibility of using bone marrow concentrate for the treatment of critical limb ischemia, a severe blockage in arteries of the lower extremities. The bone marrow will promote better vascular health, but, because it is a systemic treatment, it will affect all parts of the body, including the eye. Dr. Cebulla and Dr. Wells examine the blood vessels in the back of the eye to ensure that the treatment does not negatively affect the vision of study participants.

Dr. Cebulla also assists Thomas Olencki, MD and Kari Kendra, MD, Oncology, with cancer treatment trials. Dr. Olencki is comparing current and new chemotherapy in patients with advanced or metastatic melanomas; while Dr. Kendra is conducting a dose-escalation study in patients with solid tumors.

In the College of Optometry, Aaron Zimmerman, MD is comparing the optical quality and impact resistance of football helmet faceshields. Ophthalmology faculty that are involved in the project include Dr. Katz and W. Randall McLaughlin, OD.

Dr. Weber is collaborating with the College of Veterinary Medicine’s David Wilkie, DVM, MS, DAVCO to discover the efficacy and biocompatibility of indirect intraocular pressure monitoring using a telemetric sensor.

“One of the great things about working at Ohio State,” said Dr. Weber, “are the vast resources that are available to you. This allows wonderful opportunities for collaboration which results in research findings that can then be taken into the clinical setting resulting in advancements in caring for our patients here and around the world.”

The stories are endless; as the conclusion of one partnership often gives rise to many more. It is that undying spirit of collaboration that fuels our successes and ultimately brings our patients closer to seeing and feeling better; and that is one cause that everyone can support.
The image of research as “an ivory tower housing statistics and microscopes,” is a popular one. While basic research has traditionally been far removed from patient clinics, translational research is bridging the gap getting breakthrough discoveries to patients faster than ever.

Translational Research is a new initiative of the National Institutes of Health (NIH). It seeks to “translate” basic research discoveries into patient care by encouraging collaborations between basic scientists and clinicians. At the Havener Eye Institute, our physicians are taking it one step further by identifying patient care problems and initiating research that is based on real-world problems.

MAKING A DIFFERENCE

Retinal detachment (a condition where the light sensitive tissue inside the eye becomes separated from the back of the eye) can be a potentially blinding condition. The worst outcomes are in those patients who develop scar tissue in the retina, called proliferative vitreoretinopathy (PVR).

“My research is focused on clinical problems,” said OSU’s Colleen Cebulla, MD, PhD. “As a retina surgeon, I see patients that are affected by retinal detachments. We want to help them regain their vision either by promoting regeneration of damaged retinal tissue or eliminating scar tissue formation.”

Retinal damage and scarring problems are not isolated to retinal detachment patients. Patients with macular degeneration, diabetes, ocular trauma, some infections, and other retinal conditions can also have scarring. Depending on where the scars form they can interfere with vision. By understanding how scarring develops, Dr. Cebulla hopes to be able to inhibit it in critical vision areas.

While there are many theories on PVR prevention, in practice the theories have not really held up. Not knowing the critical proteins that promote the scarring process and how to target them is a part of the problem. Dr. Cebulla believes that if we knew the target proteins, we could develop better medication to prevent or reduce the scarring as well as try to promote healing of damaged retinal tissue.

Her first step was to compare the proteins that are increased or involved in a PVR retina with a normal retina in animal models.

“I did what’s called iTRAQ labeling of the proteins,” explained Dr. Cebulla. “A tag is added to a protein so the mass spectrometer machine can recognize it. This can tell me if a protein has increased or decreased in a PVR retina sample compared to a normal
retina sample. I found 567 extra proteins and am very interested in which are the most important targets to study and trying to develop therapeutics.”

Once the targets are identified in the animal model, Dr. Cebulla will conduct similar studies with human PVR retina. This will help identify the target proteins involved in scarring and regeneration. Medication that inhibits these proteins can then be tested and with success will lead to clinical trials.

“I see problems every day that affect people,” said Dr. Cebulla. “It makes me want to go to the lab and find new treatments that will help my patients and patients everywhere.”

**ASKING QUESTIONS**

Anti-Vascular Endothelial Growth Factor (anti-VEGF) medications such as Avastin® and Lucentis® inhibit the growth of new blood vessels. This is important for patients with several common retina conditions, but might have adverse effects on other parts of the body that are trying to heal.

“It’s a basic question. We give our patients anti-VEGF medication in the eye,” said John Christoforidis, MD. “How do we know that it stays in the eye?”

Dr. Christoforidis decided to do more than ask the pharmacokinetic (the study of what happens to a drug once it is administered) question. He met with other retina specialists to discuss strategies for tracking the dispersion of anti-VEGF medication once injected.

Dr. Christoforidis then consulted his brother, a radiologist, to discuss gadolinium, a dye used in imaging. He learned that gadolinium is not very useful for long-term imaging because after a few days it blends in with the surrounding tissue. Radiolabeling, a process using radioactive isotopes (a decaying chemical element that is easy to track) as tracers would be better. Rather than contacting a research scientist, Dr. Christoforidis took matters into his own hands.

During his first study into radiolabeling, he found that while the majority of the anti-VEGF medication does indeed stay within the eye, a small amount does disperse through the body.

So, is that small amount enough to inhibit wound healing? This question prompted an additional research project into what effect the small amount of anti-VEGF would have. Dr. Christoforidis found that even the small amount that enters the bloodstream is statistically significant in inhibiting wound healing.

“This result can be instantly translated to the clinic,” said Dr. Christoforidis. “If I have a patient that is considering surgery or has an open wound, I now know to suspend the anti-VEGF medication and consider alternative treatments.”

A secondary finding of his radiolabeling project was that Dr. Christoforidis obtained comparable results much faster than other more extensive, long-term pharmacokinetic studies. Also, he was also able to use a single animal subject multiple times, while the larger studies used many more animals to get the same results. This discovery is exciting in itself because it establishes a better method for tracking the pharmacokinetics of medications.

“We’ll have a better understanding of where medication is going,” said Dr. Christoforidis, “and how your body reacts to it without waiting for basic research to work its way through the entire system. That’s the beauty of conducting translational research at The Ohio State University, how quickly we can go from discoveries to clinical practice.”

**DISCOVERIES INTO TREATMENT**

With the immense research resources available at Ohio State and the willingness for collaboration between departments, clinical questions can be answered in the lab and start benefiting our patients in the clinic faster than ever before.

“We take questions from the clinic to the lab and bring the answers back to the clinic,” said Dr. Christoforidis. “We do it for the patients that we see every day.”

“There is something to be said for the thrill of discovery,” said Dr. Cebulla, “It’s always kind of exciting, like a puzzle that you work out. But, what really motivates me most, is the hope that a discovery we make today will be able to really help our patients.”
The China Eye Project is pioneering a novel approach to achieve artificial vision. Qiushi Ren, PhD, the Biomedical Engineering Chairman at Beijing’s Peking University and who received his PhD at OSU, is developing the tiny electrode which translates images from a remote camera into electrical signals which travel through living fibers of the optic nerve to the brain.

“This type of device that bypasses the entire eye is a good solution for ocular trauma patients,” said OSU researcher Dr. Cynthia Roberts. “The problem is that most Chinese surgeons do not actually operate on the optic nerve. It is sort of a forbidden area for them.”

Because of this social stigma, Professor Ren approached Dr. Roberts and Dr. Steven Katz, an OSU neuro-ophthalmologist, to discuss an international collaboration for the China Eye Project. His interest stemmed from Dr. Roberts’ expertise in biomedical engineering and the large volume of optic nerve surgeries that Dr. Katz has performed.

“I understood anatomically what he wanted,” said Dr. Katz. “I could also explain why some of the things they previously tried weren’t working and what I thought they should do to be successful.”

Dr. Katz and Dr. Roberts travelled to China. There, they discussed strategies and Dr. Katz demonstrated a minimally invasive approach which exposed the optic nerve so the device could be attached without having to go through bone.

Once he had determined the best surgical method, Dr. Katz was able to perform live surgery on an animal model to expose the optic nerve and train local surgeons who were observing the procedure.

“The key issue beyond exposing the optic nerve,” said Dr. Katz, “was how to fabricate the device so it can be easily implanted, and how to attach it to minimize movement.”

In the initial phase, researchers are using a penetrating electrode. Future plans include the use of an electromagnetic field that can stimulate the individual axons in the optic nerve. Dr. Katz is also developing new surgical instruments that are smaller and more delicate for the purpose of this procedure.

Another trip to China is planned where the first device will be implanted in an animal subject. Successful animal trials will enable Dr. Katz to obtain approval for human studies at Ohio State.
The Research Division spans all subspecialties of Ophthalmology, and includes faculty, residents, medical students, graduate fellows, and graduate students. Three research faculty with primary appointments in Ophthalmology include Dr. Mohamed Abdel-Rahman, who received an Early Investigator Award from the Ocular Melanoma Foundation; Dr. Deborah Grzybowski; and Dr. Cynthia Roberts.

A strong collaboration continues with the Department of Biomedical Engineering. Dr. Ronald Xu researches sustained intravitreal drug delivery via multifunctional micro/nano particles. Dr. Yi Zhao investigates micro/nanofabrication for simulating 3-D ocular tissue structures. Dr. Jun Liu received an R01 award from the National Eye Institute in excess of $1,000,000 to study Corneoscleral Biomechanics and Intraocular Pressure.

The 31st Annual Ophthalmology Research Symposium was held June 10th. Residents and graduate students presented their projects with faculty mentors. First place in the Resident Category was presented to Dr. Bryan Costin for “Corneal Biomechanical Properties and Intraocular Pressure Measurement in Primary Open Angle Glaucoma versus Normal Control Subjects” with Dr. Gloria Fleming, Dr. Paul Weber, Ashraf Mahmoud, and Dr. Cynthia Roberts. Second place went to Dr. Palak Wall for “Confocal Interpretation Compared with Clinical and Microbiological Findings in Atypical Keratitis: Review of 127 Cases” with Drs. Thomas Mauger, Rebecca Kuenen, and Andrew Hendershot. Third place went to Dr. Dominic Buzzacco for “Visual Outcomes Following Optic Nerve Sheath Fenestration in Patients with Idiopathic Intracranial Hypertension” with Dr. Steven Katz. First place in the Graduate Student Category was presented to Leilei Zhang for “Multifunctional microbubbles for image-guided anti-vascular endothelial growth factor therapy” with Drs. Cynthia Roberts, Alan Letson, and Ronald Xu. Six residents and two graduate students attended ARVO.

Small research projects are supported with an annual endowment by the Ohio Lions Eye Research Foundation. A portion of the grant supports basic research in the Ohio Lions Ophthalmic Research Laboratory. Additional funds support the Graduate Fellow in Eye Research, Leilei Zhang, MS, who plans to graduate with a PhD in June of 2012.

Two medical students received Dorothy M. Bennett and Clark L. Bennett Medical Research Scholarships and one received the Prevent Blindness Ohio Young Investigator Student Fellowship Award for Female Scholars in Vision Research. Three additional medical students attended ARVO.

The past academic year, our dedicated research has led to 37 peer reviewed publications, 34 national and international presentations, and 24 abstracts, as well as funding from the NIH, the Columbus Foundation, and numerous industry awards.

CYNTHIA ROBERTS, PhD
GIVING

Drs. Andrew Hendershot, Steve Gabbe and Thomas Mauger with Maggie Bellows observe a resident utilizing the new surgical simulator.
We are proud to announce the dedication of the James M. Andrew, MD Resident Surgical Skills Lab. The lab is named for Dr. Andrew, an OSU Ophthalmology community faculty member and benefactor for over 30 years. His family is proud to support the naming, including: Mark Andrew, who lives in Granville, Blair Andrew, who lives in Baltimore, and Craig Andrew and Peggy Bellows, who both live in Columbus.

Dr. Andrew graduated from Dartmouth and received his medical degree at the Long Island School of Medicine. He completed his residency at Kresge Eye Institute in Detroit and then fulfilled his military commitment at Wright-Patterson Air Force Base.

An Upper Arlington native, he returned to Columbus in 1951 and took over a practice on State Street. He had many partners over the years including OSU alumni Bob O’Dair, Sandy Farber, and Jack Dingle.

“Jim was an all-round great ophthalmologist,” said Dr. Dingle. “We practiced together for 12 years. He was a very energetic, dynamic person who was just a lot of fun to be around.”

Dr. Andrew trained many ophthalmology residents throughout his career. Most Monday nights, he would open his home to the ophthalmology residents so they could watch slide shows of surgeries and eyes disorders.

“He had a passion for education and really enjoyed training residents,” said Peggy.

Dr. Andrew was one of the first ophthalmologists in the community to use artificial lens implants after cataract removal.

“In those days, cataract patients had to be hospitalized and Dad always sent them a get-well bouquet,” said Peggy. “I remember that the little old ladies would get so excited when the flowers would come because now they could see them.”

In the 1960s, Dr. Andrew joined a group of ophthalmologists who constructed a building on East Town Street that was conducive to practicing ophthalmology.

At that time, laser treatment for diabetic retinopathy was in its infancy and Dr. Andrew had a patient, the wife of a Nationwide Insurance executive, who was losing her sight due to diabetes. Dr. Christian Zweng of Stanford University, a classmate and friend of Dr. Andrew, was a pioneer for laser treatment for diabetes and was using a new technique utilizing an Argon laser. He invited Dr. Andrew and Dr. Frederick Davidorf, an OSU retina specialist, to observe the treatment firsthand.

A trip to California was no easy task in 1970, but Dr. Andrew, Dr. Davidorf, the patient, and her husband made the 2,500 mile trip in a prop plane. They observed the new procedure and brought knowledge of the technique back to Ohio. No one in Ohio had an Argon laser because of the cost, but Dr. Andrew and Dr. Davidorf were able to convince the patient’s husband to donate the first argon laser in Ohio to OSU.

Dr. Andrew never got the chance to retire, although he played as hard as he worked. His life was cut short at age 66. In 1987, while making an ophthalmic presentation in South Africa, he experienced chest pains and had to be hospitalized. He lived ten more months, but finally succumbed to his illness in July of 1988.

“I remember Jim as a long-time ophthalmologist, resident teacher, and outdoorsman,” said Dr. Davidorf, a former student and colleague. “But most of all, I remember him as an innovative surgeon which makes naming the surgical skills lab in his honor so appropriate.”

Dr. Andrew’s dedication to education and patient care was the hallmark of his life. His legacy will live on through the ophthalmologists he trained and the residents who will use the James M. Andrew, MD Surgical Skills Lab to hone their surgical techniques in order to follow in his tradition of excellence.
HAITI INTERNATIONAL MISSION

With most of its population living on less than $2 per day and little to no access to running water or basic medical care, Haiti was already the poorest country in the western hemisphere, before it was hit in early 2010 by one of the most devastating earthquakes in history.

“...I knew a number of people that had gone to Haiti to help out in the relief effort, one of whom was a former residency classmate of mine, Charlotte Agnone. She had been there twice and started to email me photographs of children and young adults with orbital tumors. She wanted me to come back with her to help with the surgery on these cases. They weren’t acute injuries, but patients who had been overlooked or considered too difficult for someone to attempt in a less than adequate hospital.”

During that time, Dr. Agnone sent him a photo of Stephanie, an orphaned, 12-year-old Haitian girl with a large orbital tumor behind her left eye. She was very shy and did not interact with other kids. She was afraid to look at anyone because she was worried about what they might think about her. Through an interpreter, Stephanie communicated the difficulties she faced living in an orphanage.

Her story struck a chord with Dr. Katz, so he joined a group of physicians and travelled to Port-au-Prince. The group included Dr. Katz, Dr. Agnone, her husband Brad Bryan, MD (a general surgeon), Ian Grant, MD (an otolaryngologist), Don McNeal, MD (an internist), and Marc Criden, MD (a neuro-ophthalmologist at the University of Texas at Houston).

"...When you weren't operating, then you were acting as a scrub nurse or helping to clean the operating room between cases or the next case wouldn't happen," said Dr. Katz. "You had to leave your ego at the door. When I was operating, I had multiple surgeons assisting me. When I wasn't operating, I might be fetching blood product or trying to find the right instrument. All of us had to do whatever was needed including staffing the general medicine clinic when we were not seeing eye patients.”

The group treated many patients, but Stephanie was the one patient Dr. Katz was determined to help. They were able to successfully remove her tumor and her vision and eye movements improved dramatically. Since returning home, Dr. Katz received photographs of her laughing, smiling, and playing with the other kids in the orphanage.

Dr. Katz has promised Stephanie to return to Haiti. He hopes to take a few ophthalmology residents and fellows with him to perform the additional eye muscle surgery she needs as well as to assist in the care of other patients.

JACOB MOSES LECTURESHIP ESTABLISHED

The Jacob Moses MD Lectureship Fund has been established with gifts made in his memory from his son, James L. Moses, MD of Canal Winchester, Ohio.

Dr. Moses joined the faculty of the Department of Ophthalmology in 1946, holding various positions from instructor to clinical professor. During his tenure, he contributed substantially to the clinical growth of the Department during its early years. He was instrumental in educating and training numerous medical students and residents. His career spanned seven decades during which time he saw hundreds of thousands of patients and treated an wide variety of eye diseases and disorders, and performed thousands of medical and surgical procedures.

Dr. Moses was a devoted husband to his wife of 63 years, Florence E. Moses, and father to their six children. He was known as a compassionate, contributing individual and physician whose thoroughness, tenacity, and endurance were unequaled.
**BUCKEYE BENEFACTORS**

**GIFTS OF $100 OR MORE MADE FROM 01/01/11 to 12/31/11**

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- Dr. James M. & Elaine Andrew*
- Dr. James Moses

### $10000 - $24999
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- Dr. Vishal Verma
- Marjorie Ward
- James Weaver
- Lisa Westwater
- Dr. Andrew Wherley
- Thomas Williams
- Dr. Jeffrey Wincko
- Charles Winslow
- George Wintringer

*Indicates Deceased
Dr. Dominic Buzzacco, a third-year resident, examines a patient.
Those who attended the May EyeRounds, heard talks from nationally renowned speakers on the topic of Proliferative Vitreoretinopathy (PVR), a development of scar tissue after retinal detachment.

Dal Chun, MD, a vitreo-retinal surgeon with the Walter Reed Army Medical Center, was the first to speak and showed video footage of some of the 200 severe PVR cases that he has treated, most from ocular and retinal trauma primarily from soldiers in battle in Iraq and Afghanistan. He also showed different, innovative ways of treating patients living with such severe PVR.

“The types of cases that he shared were really humbling, when you think about how they received them while serving their country,” said John Christoforidis, MD, a retina specialist who attended the meeting.

OSU retina specialist, Colleen Cebulla, MD, PhD, was the next to speak. She has created a PVR model in chickens and was able to share her initial results and subsequent plans for this research project. Her ultimate goal is to develop an antibody to fight the development of PVR factor.

Gary Abrams, MD, Chairman of Kresge Eye Institute, spoke about the different types of PVR surgery. He advocated the use of retinectomies for advanced cases of PVR. He showed many outcomes and different clinical series that he had conducted in the past.

“All of the lectures were informative and very well-received,” said Dr. Frederick Davidorf, whose Davidorf Lectureship Series supports continuing education events like EyeRounds. “We were very fortunate to have such outstanding speakers and I look forward to supporting future educational opportunities.”

CHICAGO: AAO ALUMNI RECEPTION

As ophthalmologists from across the globe gathered in Chicago, Illinois for the 2010 American Academy of Ophthalmology, the Havener Eye Institute held its annual Alumni Reception at the illustrious Peninsula Hotel.

“The Alumni Reception,” said Paul Weber, MD, alumni and former chairman, “provides an opportunity for our faculty, residents, graduate and medical students to share with our field the exciting new developments from our research. It also allows us to learn the very latest in our disciplines so we can provide our patients the very latest in diagnosis, prevention, and treatment. Finally, it is a fabulous time to reconnect with our alumni and their families.”
FIRST-YEAR RESIDENT CLASS (2010-2013)
Lindsay Adam, MD
Megan Chambers, MD
Abbe Craven, MD
Sarah Escott, MD
Ellen Miller, MD
John Welling, MD

SECOND-YEAR RESIDENT CLASS (2009-2012)
Dominic Buzzacco, MD
Adam Cloud, MD
Bryan Costin, MD
Irene Tung, MD
Leah Vaccarella, MD
Palak Wall, MD

THIRD-YEAR RESIDENT CLASS (2008-2011)
(Clisted as pictured above left to right)
Cate Olson, MD
Aaron Davis, MD
Alla Kukuyev, MD
William Lawhon, MD
Lena Chheda, MD
Vishal Verma, MD

SUNDAY OLATUNJI, MD
RETINA
Medical School: Chicago Medical School
Residency: Kresge Eye Institute, Wayne State University

CEDRIC PRATT, DO
RETINA
Medical Degree: University of North Texas Health Science Center
Residency: OSU Havener Eye Institute

ATIF COLLINS, MD
NEURO/PLASTICS
Medical Degree: Case Western Reserve University
Residency: Case Western Reserve University

WILLIAM SAWYER, DO
CORNEA
Medical Degree: University of North Texas Health Science Center
Residency: Grandview Hospital (Dayton, OH)

RESEARCH WINNERS
First Place - Bryan Costin, MD
Second Place - Palak Wall, MD
Third Place - Dominic Buzzacco, MD
Fellow Winner - William Sawyer, DO
Gradate Student Winner - Leilei Zhang, MS

MAKLEY-BATTLES TEACHING AWARD
Paul Kurz, MD

EXCELLENCE IN EDUCATION AWARD
John Christoforidis, MD
If you need an excuse to play golf on a beautiful day in June, then playing for charity and getting to meet internationally acclaimed animal advocate Jack Hanna would be a good one. The BuckEYE Golf classic provided just such an opportunity to the over 100 charity golfers that participated in this year’s event. Jack took time to greet and take photos with participants and answer questions about his animal chums that he brought with him. He also let us know about his personal connection to eye care.

“I am here obviously for a great cause, but the other reason is the fact that I was legally blind,” said Jack. “That is blind without glasses, when I was seven years old. I will never forget the time when I got my first pair of glasses. I told my mother, ‘I can see the leaves on the trees.’”

Charity participants were enamored with the many furry and feathered friends that Jack brought along with him. Among them were a flamingo, a penguin, a serval cat (cheetah-like creature), a wombat, a dingo, and an armadillo, to name a few. Even after the golfers were out on the OSU Scarlet Golf Course, the topic of conversation still centered around our incredible special guest, Jack Hanna, and which of the animals were their favorite, the flamingo or the serval cat.

In addition to a great day of golf, participants got a special hands-on preview of the EYESi Surgical Simulator, an innovative teaching tool; which the proceeds from this year’s event will help purchase.

“We take great pride in our residency program and our commitment to train the best ophthalmologists and surgeons of tomorrow,” said Department Chairman, Thomas Mauger, MD. “Providing the highest quality resident education has always been a tenet of our department and we now have a wonderful opportunity to continue this tradition with the EYESi.”

The success of this year’s outing, as with other years, was due to the many amazing community sponsors that showed their support; sponsors like Bernstein Global Investments, Resource One, Mauck2: Custom Transport Vehicles, Group Benefits Agency, Arlington Optical, Taft Law Firm, Carl Zeiss, Haag Streit, Heine, and many more. (For a complete list visit, www.eye.osu.edu/events)

Fifth Third Bank continued its longstanding tradition of support by acting as Presenting Sponsor for the 5th straight year.

“Fifth Third Bank is very proud to partner with the OSU Medical Center and recognizes the importance of technology in the medical field”, said Matt Mazza, Healthcare Relationship Manager for Fifth Third Bank. “We are pleased to be able to help support medical innovations, such as the EYESi Surgical Simulator. Fifth Third Bank is also a partner of the Columbus Zoo and Aquarium, and it was great to have Jack Hanna, international animal advocate, as this year’s special guest.”

Another long-standing advocate for the Havener Eye Institute, Robert McKinlay, MD, was enthusiastic about the training capabilities of the surgical simulator.

“I’m grateful for my long-term association with the Department,” said Dr. McKinlay. “I enjoy attending the golf outing every year and being able to support the residency program any way I can.”

After another successful golf outing, which raised $46,000 for the Residency Program, Jack offered a last word of encouragement.

“I know what being without sight even for a short period of time can be like,” said Jack. “I work with a lot of older and younger people who do not have their eyesight and it is unfathomable to me. It is amazing what you folks at Ohio State are doing. It’s tremendous.”
Comprehensive ophthalmology is a diverse area of medicine. It includes aspects of all subspecialty areas in ophthalmology, including cornea, external disease, cataract, glaucoma, retinal disease, neuro-ophthalmology, oculoplastics, and pediatric ophthalmology.

The 54th Annual Postgraduate Symposium in Ophthalmology, held at OSU’s Blackwell hotel, reviewed comprehensive ophthalmic problems and exposed the significant changes that have occurred in the last decade. Held in early March, Course Directors Julie Meier, MD and Amit Tandon, MD designed a program that covered changes in practice patterns, new surgical techniques, and understanding the disease process.

Among the dynamic national and international speakers were Edward Buckley, MD (Duke University), David Dueker, MD (Medical College of Wisconsin), Dennis Han, MD (Medical College of Wisconsin), Gary Lelli Jr., MD (Weill Cornell Medical Center), Mujtaba Qazi, MD (Pepose Vision Institute), Donald Tan, MD (Singapore National Eye Centre and Singapore Eye Research Institute), and Jonathan Trobe, MD (University of Michigan).

"It's great to be a part of a meeting that has drawn some of the greatest ophthalmology minds from all over the world," said Dr. Tandon. "Hopefully, we can all use their experience and knowledge to help our practices and help our patients."
CHANTELLE MUNDY, OD

Dr. Mundy, an optometrist specializing in low vision and contact lens fitting, joined us as a Clinical Assistant Professor in July 2011.

Dr. Mundy received her undergraduate education at The Ohio State University and earned her Bachelor of Science. She continued her education at The Ohio State University College of Optometry, where she earned her Doctoral Degree. Upon graduation, she completed a residency at the Cincinnati Eye Institute focusing on the management of ocular disease.

She has participated in humanitarian trips with Student Volunteers for Optometric Service to Humanity (SVOSH) to Nicaragua. She also participated in an optometric mission trip in Tanzania and is involved in educating the local community on the importance of eye health.

Dr. Mundy is a member of the American Optometric Association and Ohio Optometric Association. She is certified by the National Board of Examiners in Optometry in the treatment and management of ocular disease.

SHELLY GUPTA, MD

In September 2011, we welcomed our new glaucoma specialist, Assistant Professor Shelly Gupta, MD.

Dr. Gupta obtained a Bachelor of Science in Natural Sciences/Chemistry cum laude from the University of Akron. She went on to study medicine at Northeastern Ohio Universities College of Medicine. She then spent a year at the Good Samaritan Hospital for an Internal Medicine internship. After completing an ophthalmology residency at University of Alabama at Birmingham, she was chosen to complete a glaucoma fellowship at Wills Eye Institute in Philadelphia.

Dr. Gupta spends much of her time improving the lives of others by volunteering with the Foundation to Prevent Blindness, Unite for Sight, Sight Savers America, and Eye Care Alabama. She has also participated in an ophthalmology clinical and surgical mission trip to Honduras providing care to those without the means or access to an ophthalmologist.
PATIENT CARE

Dr. John Christoforidis with a patient
Ever since she was old enough to put crayons to paper, Virginia Krause Hess wanted to be an artist. From a family of artists, including her great-great-grandfather who had taught art to the Kaiser back in Germany, she could not imagine being anything else.

At the age of four, her dreams and those of the entire nation were shaken when the stock market crashed beginning the Great Depression. Her parents, who were both pharmacists, tried to insist that she be more “practical” and follow in their profession, but she persevered and utilized scholarships to pay for her art education, winning her first at the age of eleven.

Today, Virginia, who lives in Dayton, Ohio, has sculptures and paintings all over the country, including at the Smithsonian, the National Football Hall of Fame, and The Ohio State University. In fact, one of her sculptures is on display in Epau Abbey, Le Mans France.

At 60, Virginia had noticed a gradual loss of vision in her right eye and went to her local ophthalmologist. She was diagnosed with low tension glaucoma, a chronic condition which causes peripheral vision loss.

Her case was a difficult one and for the next six years she saw many specialists from the Mayo Clinic to Stanford where she met Dr. Susan Ryu.

“She looked at me and said ‘Well, you really have a bad case of it.’ Almost half of my sight was gone. Then she said, ‘Why are you here? You’ve got the best doctor in the world in Columbus.’”

Dr. Ryu referred Virginia to Dr. Paul Weber at Ohio State. Twenty years later and a medical chart “six-inches thick”, she knows that it was the right decision.

“I had been to many other doctors and they kind of just threw their hands up. They said they couldn’t, weren’t able to control it. Thank God for Dr. Weber. If it hadn’t been for him, I would have been blind years ago. I can’t imagine not being able to see and enjoy life.”

It has not been an easy road with multiple surgeries, eye drops, and new ocular problems, but Dr. Weber was with her every step of the way.

“I’ve never met anyone like him, and not just as a person, but of course as a doctor. He is just so generous with his talents and his abilities. He is a marvelous person. He takes the time to explain and you never feel that you are being rushed. He always makes you feel like you are his most important patient. He’s one of a kind.”

Now 86, she still works on her art every day and is grateful for the vision she came so close to losing.

“He is a rare human being and so encouraging, never once did I feel that I couldn’t be helped by him, and he was right. He did help me. I don’t know how I could ever thank him.”

One way that she has tried to show her appreciation is through donations to the Department to fund research to end glaucoma.

“I wish I could do more. You think about how many lives you change with any kind of donation. I’m happy to be able to make a difference.”
On October 4th, 2010 at 5:00pm, Joy Dawson was preparing to meet friends. She was still at work at Nationwide Insurance where she works as an IT specialist and stepped into the restroom for a moment. She does not remember anything about the next five weeks. Joy had an aneurysm in her brain which ruptured. The emergency squad was called. Joy’s daughter, Mireille Tussing, arrived in time to travel with her mother to the ER.

Over the next five weeks Mireille watched her mother undergo multiple tests, procedures, and surgeries. When doctors had successfully managed the aneurysm, and she was beyond the risk of seizures, she was transferred to the rehabilitation center at OSU’s Dodd Hall.

“That that first week in Dodd was when I recognized that mom was finally coming back and starting to be herself again,” said Mireille. “The following Monday, I wheeled her down to her first rehab session. All of the other vision tests that she had previously failed, I had blamed on sedation. This time I realized, ‘She really can’t see.’”

During her sessions, the rehabilitation specialist kept trying to have Joy stand up and walk with assistance, but Joy kept insisting “I don’t want to run into that wall,” or “I’ll hit that chair”. They could not convince Joy that there was no wall or chair in her way. She was seeing things that were not there.

“I was describing things that didn’t exist,” said Joy, “and no one really argued with me because they assumed I had brain damage from the aneurysm.”

Mireille noticed that none of her other functions seemed disabled. Joy recognized familiar voices, had conversations with people, and demonstrated a good memory.

“To me it wasn’t consistent, everything seemed all there,” said Mireille. “That was when they brought someone to take a look at her eyes.”

Dr. Cedric Pratt, the ophthalmology fellow who examined Joy, found blood which had pooled in the back of her eyes. Dr. Colleen Cebulla, a retina specialist at the OSU Handwerker Eye Institute, confirmed the diagnosis: Terson’s Syndrome.

Terson’s Syndrome is a rare condition caused by intraocular bleeding due to intracranial bleeding and high intracranial pressures, most often resulting from a ruptured aneurysm of the brain. The “hallucinations” were caused by Joy’s brain interpreting the blood as familiar shapes.

This was the first bit of good news for Joy. It meant there was potential to improve her vision. Dr. Cebulla performed a vitrectomy, a surgery to remove the blood from her eye. With the eye clear of the hemorrhage, Dr. Cebulla was able to see to the back of the eye and examine the retina, and central vision area, the macula.

“We were very happy to find out that her macula looked good,” said Dr. Cebulla. “There was a subretinal hemorrhage, but it looked like it was not affecting her central vision.”

The day after the surgery Mireille brought her nine-year-old daughter Chloe in to see her grandmother. Chloe had been very worried about her grandmother. Chloe had been very worried about her grandmother and had even said that all she wanted for Christmas was for “Gamma” to see her.

“I didn’t tell her that Grandma had had surgery and I didn’t tell my mom I was bringing her. When my daughter walked in, Mom was in the middle of a conversation with one of the nurses. She stopped and said ‘Chloe!’ and my daughter responded, ‘You saw me!’ It still brings tears to my eyes.”

A few weeks later, Dr. Cebulla was able to perform surgery on Joy’s other eye. Again, a very dense hemorrhage was removed from the vitreous. Unfortunately, she had a lot of hemorrhage under the retina in the macula. They were not sure how good the vision would be, but over time that sub-retinal hemorrhage improved. Her vision in both eyes has improved from light perception to almost 20/20.

“I am so thankful,” said Joy. “Without sight, the physical therapy would have been nothing. I’m back to work now and live by myself. It’s almost as if nothing happened.”
The Anterior Segment Division includes the areas of Cornea and External Disease, Comprehensive Ophthalmology, Optometry, and Refractive Surgery. This past year, the division continued with its mission of clinical care, education, research, and service. Dr. Chantelle Mundy is our newest member to the practice. She graduated from the Ohio State University College of Optometry and completed a residency at the Cincinnati Eye Institute focusing on ocular surface diseases. She, along with Dr. McLaughlin, provides optometric services including comprehensive exams, routine and complex contact lens services, and low vision evaluations.

The division has an ongoing cornea fellowship program. This year’s fellow, Dr. William Sawyer, will join Southern Eye Associates in Jonesboro, Arkansas. Our incoming fellow, Dr. Lena Chheda, went to medical school at Drexel University College of Medicine and completed her ophthalmology residency at the Havener Eye Institute.

During the past year, the division performed 1,167 cataract surgeries, and the cornea service performed 141 keratoplasty procedures including penetrating keratoplasty, endothelial keratoplasty, anterior lamellar keratoplasty, and keratoprosthesis. The division continues to staff resident clinics and surgeries at the Ohio State University Medical Center, the Ohio State University Eye and Ear Institute, and the Columbus Veterans Administration Outpatient Clinic. We again staffed over 500 cataract surgeries with the residents at the Columbus VA last year.

The division continues to be actively involved in both basic and clinical science research. The division mentored multiple resident and fellow research projects this past year including review of the management and outcomes of open globe injuries, comparison of anterior and posterior corneal astigmatism before and after cataract surgery, and measurement and comparison of corneal biomechanical properties and their effects on intraocular pressure in normal and keratoconic eyes. We continue to be involved in an ongoing clinical trial to determine the safety and effectiveness of the VEGA UV-A system for corneal cross-linking in eyes with keratoconus and post-refractive corneal ectasia.

The division continues to be involved in medical mission trips to Ghana, India, and Nicaragua. In November 2010, Dr. Mauger travelled with Dr. Adam Cloud, a second year resident, and Sarah Hilkert, a fourth year medical student, to Ghana and performed cataract surgeries. Dr. Mauger and Dr. Chheda travelled to India in February 2011 and performed cataract surgeries.

REBECCA KUENNEN, MD
The Glaucoma Division has continued to expand its clinical activities, be actively involved in translational research and play a key role in the education mission of the department and medical center.

The addition this past year of Dr. Andrea Sawehyn has allowed us to continue to expand our clinical volume. Patient visits to the Glaucoma Division have increased from 6,045 to 7,594 over the past 2 years, a 25% increase. In addition, the Glaucoma Division’s clinical activity at the Columbus VA has expanded. This has provided both enhanced care of our veterans and expanded educational opportunities for our ophthalmology residents.

Collaboration with our biomedical faculty, including Drs. Cynthia Roberts and Jun Liu, has resulted in a large number of translation research projects. Dr. Roberts has secured a new device, of which we are the first in the U.S. to use, that measures biomechanical properties of the cornea. This has spawned several new research projects which we predict will have a major impact on the diagnosis and treatment of glaucoma.

In the education arena, Drs. Fleming and Weber have been inducted into the Courage to Teach Faculty, nominated as faculty who are committed to the humanistic teaching of the medical school curriculum. Dr. Fleming was awarded the Department of Ophthalmology Excellence in Teaching Award. The ophthalmology module taught to the second year medical students was once again one of the highest rated modules based on medical student evaluations.

The Glaucoma Division is proud of our contributions to all the missions of the College of Medicine, Ohio State University Medical Center and the community.

PAUL WEBER, MD
The Neuro-ophthalmology service continues to contribute to the departmental mission in the core areas of clinical care, teaching, and research. Division faculty are responsible for the resident lecture series as well as medical student teaching in neuro-ophthalmology.

Susan Benes, MD, with the assistance of David Hirsh, MD, organized the neuro-ophthalmology morning lecture series. Drs. Benes and Hirsh continue to be active clinical instructors and are also regular contributors to the Grand Rounds focused in neuro-ophthalmology.

Many of our division faculty utilize their unique qualifications to serve the community. Dr. Steven Katz was a reviewer for Journal of Women’s Health, Eye, Anatomical Record, and Obesity Reviews; a grant reviewer for the Columbus Foundation; a scientific advisor to the Intracranial Hypertension Research Foundation and an advisor to the Chief of Space Medicine at NASA Johnson Space Center. Dr. Katz was a panelist and led the clinical discussion on microgravity-associated intracranial hypertension at the Visual Impairment – Intracranial Pressure Summit at the University Space Research Association in Houston, Texas in February of 2011. The panel has been charged with the responsibility of monitoring ocular health in orbit, studying the underlying mechanism of raised intracranial pressure, and developing a treatment paradigm for affected astronauts. They have written two book chapters on pseudotumor cerebri and giant cell arteritis for the second edition of The 5-Minute Neurology Consult.

The division is actively enrolling patients into the Idiopathic Intracranial Hypertension (IIH) Treatment Trial. This multicenter study hopes to determine if weight reduction and/or low sodium diet alone or combined with medication will benefit patients with IIH. The study was proposed by Neuro-Ophthalmology Research Disease Investigator Consortium (NORDIC) and is sponsored by the National Eye Institute.

There are currently two other clinical trials going on in the division studying pharmaceutical interventions in patients with multiple sclerosis.

Dr. Atif Collins began a 2-year Fellowship in Neuro-ophthalmology, Orbital Disease and Oculoplastics in July, 2010 and has been active in Resident teaching and management of incoming orbital trauma and complex hospital consultations.

The division continues to support the prison clinic rotations by providing optometric care at Corrections Medical Center.

Division faculty provided resident lectures in optics and contact lens theory and as always remained involved in resident and medical student education via patient consultations.

The Optometric Division provides general ocular care, as well as, contact lens fitting. The new Gowdy facility has provided at least a 10 percent increase in patient visits. In 2010—2011 year, the service provided over 2000 patient examinations including refractions, contact lens fittings, low vision evaluations, and sports vision analysis.
The Division of Ophthalmic Pathology in the Department of Ophthalmology provides support to faculty, residents, and students when preparing presentations, publications, and for research projects. The Division has an extensive archive of pathology cases and microscopic and photographic equipment available to support these activities.

All ophthalmic pathology specimens from our department are processed in The Division of Neuropathology under the supervision of Abhik Ray Chaudhury, MD. Weekly review sessions are conducted and included faculty, residents, and students from both departments. A joint report for each case was generated and filed.

For the academic Fiscal Year July 1, 2010 to June 30, 2011, 462 cases were examined, reported, and filed in the division archives of ophthalmic pathology.

ABHIK RAY CHAUDHURY, MD

<table>
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<th>TOTAL CASES INCLUDED:</th>
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<tbody>
<tr>
<td>Lens, gross only</td>
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<tr>
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<td>Foreign body, gross only</td>
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<tr>
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The Oculoplastic Division is staffed and surgery is performed at the OSU Eye & Ear Institute, the University Hospital Clinics, the Columbus and Dayton VAs, and Nationwide Children’s Hospital with active involvement of all resident classes. Didactic lectures are provided for ophthalmology residents and those in ENT, plastic surgery, family medicine and Ophthalmology. Medical student education is supported with lectures in their core curriculum, physical diagnosis instruction, clinical rotations, and participation in research projects.

Dr. Steven Katz continues his diligent work with the residents by overseeing the hospital ward and emergency room consult service. Dr. Katz will be joined by former Fellow Dr. Marc Criden to expand the geographic oculoplastic service in the coming year. Dr. Criden has spent the past 4 years at the University of Texas at Houston where he has been an active educator in the Residency Program, giving lectures in both neuro-ophthalmology and oculoplastics. He will provide additional service to the expanding multidisciplinary Comprehensive Skull Base Center at the James Cancer Hospital. The group is dedicated to advancing the care of patients with complex head and neck cancer. With more aggressive resections, the multidisciplinary reconstruction of these patients is increasingly challenging.

Non-geographic faculty Drs. Ken Cahill, John Burns, Jill Foster and Kelly Everman continue to contribute significantly to the lecture series and to patient care. Dr. Foster is President-Elect of the American Society of Ophthalmic Plastic and Reconstructive Surgery.

Dr. Cindy Roberts and Dr. Katz are currently involved in the China Eye Project, an effort to implant an electrode for direct optic nerve stimulation. Dr. Katz is developing the Shanghai orbitotomy, a new surgical approach to the lateral optic nerve for exposure and implantation of the device. He has been working locally in a cadaver model and in Shanghai in an animal model. Dr. Roberts is developing an exchange program for graduate and undergraduate biomedical engineering students with the University of Peking in Beijing. The goal is to develop an ophthalmic division within the Biomedical Engineering Department at Ohio State for this and future projects across all disciplines.

Dr. Katz is the departmental liaison to the James Cancer Hospital and is currently participating in two clinical trials assessing for ocular toxicity with new chemotherapeutic agents.
There have been many changes during the past academic year in the Department of Ophthalmology based at Nationwide Children’s Hospital (NCH). Gary L. Rogers, MD, stepped down and Don L. Bremer, MD has been appointed as Chief of the Pediatric Division. For over 30 years, Dr. Rogers has led with foresight, wisdom, and enthusiasm from this position. Under his guidance, the division grew from a one-man show to one of the largest pediatric ophthalmology practices in the country. We had 15 major publications and more than a half million dollars in grant funding last year alone. In addition, the surgical volume continues to be quite heavy, with over 30% of the surgeries at the Ambulatory Surgical Center at NCH performed by Ophthalmology. Countless numbers of patients and their families, residents, medical students, colleagues, and society as a whole, have benefited from Dr. Rogers’ clinical expertise, surgical skills, teaching, and research efforts. Fortunately for all of us, he has no interest in slowing down his clinical practice or teaching activities.

In July 2010, Mary Lou McGregor, MD, was appointed residency coordinator and Director of the Ophthalmology Clinic at NCH. This is a high volume clinic in which one first year resident and two second year residents from The Ohio State University provided eye care for over 9,000 patient visits last year. Under her initiative, a certified fellowship trained pediatric ophthalmologist is solely dedicated to the clinic for the duration of every clinic session. This ensures that every patient receives the best care and enhances the educational experience of the residents. All seven attendings shared responsibilities for the morning pediatric ophthalmology lecture series for the residents. Rick Golden, MD directed the Optics lecture series. Cybil Cassady, MD coordinated quarterly pediatric ophthalmology journal clubs.

In another appointment this year, David L. Rogers, MD, was made Director of Ophthalmology Research at NCH. In addition to the publications and grant funding previously mentioned, we are participating in two multi-center retinopathy of prematurity (ROP) studies. One study involves the use of medication to prevent the severe form of the disease, and the other is looking at a telemedicine approach for evaluating ROP. We participate in several amblyopia and strabismus protocols through the NIH funded Pediatric Eye Disease Investigator Group (PEDIG). Studying nystagmus with functional MRI continues to be an interest along with studies regarding infantile cataracts, convergence insufficiency and 4th cranial nerve palsies. We are pleased that the Ohio Lions Eye Research Foundation continues to support these efforts.

Lawrence E. Leguire, PhD retired this summer after 30 years as Director of the Electrophysiology Lab at NCH. We are proud to announce the arrival of Julie Racine, PhD, from Québec, to fill this position. She will continue to provide electrophysiological testing for children and adults.

NCH has several subspecialty clinics within the general ophthalmology clinic. Low Vision Clinic functions under the guidance of Rae Fellows, MEd, CCRC and Dr. McGregor. It is staffed by an attending pediatric ophthalmologist, a trained low vision educator, a low vision optometrist, and a pediatric neurologist. Children are assessed thoroughly so that an educational plan can be made, including a recommendation for low vision aids. Oculoplastics is another busy subspecialty clinic that occurs weekly under the leadership of Jill Foster, MD. Patients followed in the Myelomeningocele clinic are examined on Fridays by Julie Lange, MD. The newest subspecialty clinic is led by Dr. David Rogers. This clinic sees children with pseudotumor cerebri. Our physicians work in conjunction with the Neurology clinic. Patients are referred to this clinic from around the country because it is the first comprehensive pediatric pseudotumor clinic.

Technology upgrades are continuously being made. We now have a portable RetCam Shuttle in addition to the standard RetCam. We have added an Optomap pan retinal camera. An OCT should arrive before the end of this year. These new technologies will enable us to continue to provide comprehensive ophthalmic care for children.

DON L. BREMER, MD
The Refractive Surgery Division continues to see great success from utilizing the combination of both the IntraLase femtosecond (FS) laser and the ALLEGRETTO WAVE® excimer laser platform from Alcon. The IntraLase FS laser creates a very thin, bladeless corneal flap that has proved beneficial in LASIK treatments by preserving more corneal tissue. The ALLEGRETTO WAVE® laser uses Wavefront-Optimized software to enhance each treatment to the patient’s own unique corneal curvature.

Using these lasers, our patients are able to get a truly individualized treatment which in turn is providing excellent vision acuity and quality results. Fairly high degrees of myopia, hyperopia and astigmatism are currently treatable as well as blended vision correction (monovision).

Certification of second and third-year residents, as well as anterior segment fellows to perform both femtosecond and Excimer laser surgeries is a priority. We are working with the laser manufacturers’ educational departments to accomplish this goal.

The Refractive Surgery Division is also successfully implanting both toric and multifocal intraocular lenses. The toric intraocular lenses allow patients to obtain astigmatism correction during cataract surgery and the multifocal lenses are used to correct both distance and near vision. We continue to look forward to new advances in intraocular contact lenses for patients with very high degrees of myopia.

DAVID CASTELLANO, MD
The Retina Division faculty welcomed Mike Wells, MD in July of 2010 after he had completed his fellowship in Vitreo-retinal Surgery at The Ohio State University Havener Eye Institute. He did his residency training at University of North Carolina and medical school training at Baylor. Mike will practice comprehensive Retina-Vitreous and play a role in the educational programming of the Department as well.

Patient care activity included over 8,634 patient visits, with over 6,691 diagnostic imaging procedures for the division. The surgical retina team performed over 700 major vitreo-retinal procedures. Over 1,860 intravitreal injections were given for wet AMD and other causes of CNV and macular edema.

This past year was also another strong year for research in the retina division. Led by research manager, Laura Sladoje and clinical coordinators Jill Salerno and Brittany Stine, the division was actively involved in clinical trials sponsored by National Eye Institute/National Institutes of Health (AREDS 2, CATT), DRCR.net, and industry sponsored trials from Genentech, Allergan, Alcon and GlaxoSmithKline involving areas of wet AMD, diabetic macular edema, retinal detachment, cataract and macular edema, and topical VEGF inhibitors.

Collaboration with other departments and schools across the campus have increased and resulted in such projects as the work between the retina division and biomedical engineering in the development of nano-particle drug delivery systems for ranibizumab. Dr. Cebulla obtained grant funding for her work in retinal detachments and PVR. Dr. Abdel-Rahman and Dr. Davidorf continued their research in ocular melanoma molecular genetics. Dr. Christoforidis has been working on lab projects related to VEGF inhibitors and wound healing as well as high resolution MRI for ocular imaging.

Scott Savage and his team of photographers, Steven Shelley and PJ Fish, contributed to imaging for these clinical trials as well as other trials performed by other departmental divisions. The imaging service included high resolution color and fluorescein angiography, ICG angiography, Fundus Autofluorescence, high resolution anterior and posterior segment ocular and orbital ultrasonography, time domain and spectral domain OCT.

The division maintained its teaching activity by supporting two retinal fellows Sunday Olatunji, MD and Cedric Pratt, DO; and by working with residents in their first and second year retina rotations. Medical students also rotated on the service. Retina faculty delivered weekly retina lectures to residents and held imaging conferences with residents and fellows. The retina faculty also served as preceptors for resident research projects and was active in the curriculum of the College of Medicine.

ALAN D. LETSON, MD
CORNEA

Title: Prospective Randomized 12-Week Controlled Study Of Visual Field Change In Subjects With Partial Seizures Receiving Pregabalin Or Placebo.
Sponsor: Pfizer
PI: J. Lane Moore, MD
Co-Investigator: Andrew Hendershot, MD

Title: Long term Safety and effectiveness of the VEGA UV-A System for corneal collagen crosslinking in eyes with keratoconus or post refractive corneal ectasia (CXL-003)
Sponsor: Topcon Medical Systems
PI: Thomas Mauger, MD
Co-Investigators: Andrew Hendershot, MD; Rebecca Kuennen, MD; Richard Lembach, MD

Title: Safety and effectiveness of the VEGA UV-A System for corneal collagen crosslinking in eyes with post-refractive corneal ectasia (CXL-001)
Sponsor: Topcon Medical Systems
PI: Thomas Mauger, MD
Co-Investigators: Andrew Hendershot, MD; Rebecca Kuennen, MD; Richard Lembach, MD

Title: ONE (C-09-055) Study: Clinical evaluation of Nepafenac ophthalmic suspension 0.3% for prevention and treatment of ocular inflammation and pain after cataract surgery
Sponsor: Alcon Labs
PI: Thomas Mauger, MD
Co-Investigator: Rebecca Kuennen, MD

Title: A clinic safety and efficacy comparison of Nevanac 0.1% to vehicle in diabetic patients following cataract surgery
Sponsor: Alcon Labs
PI: Thomas Mauger, MD
Co-Investigators: Susie Chang, MD; John Christoforidis, MD; Frederick Davidorf, MD; Rebecca Kuennen, MD; Paul Kurz, MD; Richard Lembach, MD; Alan Letson, MD; Amit Tandon, MD

GLAUCOMA

Title: Corneoscleral Biomechanics and Intraocular Pressure
Sponsor: National Institutes of Health
PI: Jun Liu, PhD
Co-Investigators: Paul Weber, MD; Rich Hart, PhD; Xueliang Pan, PhD

Title: Corneal Stiffness and Tonometric Measurement of IOP
Sponsor: American Health Assistance Foundation
PI: Jun Liu, PhD
Co-Investigator: Paul Weber, MD

Title: “In Vivo Evaluation of Presbyopia”
Sponsor: National Institutes of Health
PI: Kathryn Richdale, OD
Consultant: Jun Liu, PhD

NEURO-OPHTHALMOLOGY

Title: Fabry Registry
PI: Deborah Grzybowski, PhD
Sponsor: Genzyme Corporation

Title: A Phase II, Double-Blind, Randomised, Placebo-Controlled Study to Assess the Efficacy of AZD6244 (Hyd-Sulfate) in Combination with Docetaxel, Compared with Docetaxel Alone, in 2nd Line Patients with KRAS Mutation Positive Locally Advanced or Metastatic Non Small Cell Lung Cancer (Stage IIB-IV)
Sponsor: Astra Zeneca
PI: Miguel Villalona, MD
Sub-investigator: Steven Katz, MD

Title: A Multicenter, Double-blind Randomized Placebo-controlled Study of Weight Reduction and/or Low Sodium Diet plus Acetazolamide vs Diet plus Placebo in Subjects with idiopathic Intracranial Hypertension with Mild Visual Loss.
Sponsor: National Eye Institute
PI: Steven Katz, MD

Title: Phase 2, Open-label Single Arm Study of the Efficacy and Safety of PF-02341066 in Patients with Advanced Non-small Cell Lung Cancer Harboring a Translocation or Inversion Involving the Anaplastic Lymphoma Kinase (ALK) Gene Locus
Sponsor: Pfizer
PI: Greg Otterson, MD
Sub-investigator: Steven Katz, MD

RETIINA

Title: Germline Candidate Genes Identification in Patients with Hereditary Uveal Melanoma
Sponsor: American Cancer Society
PI: Mohammed Abdel-Rahman

Title: Proteomic analysis of retinal detachments with proliferative vitreoretinopathy (PVR)
Sponsor: National Center for Research Resources
PI: Colleen Cebulla, MD

Title: A Phase III Randomized Open Label Study Comparing GSK 1120212 to chemotherapy in patients with advanced or Metastic BRAF V600E/K Mutation-Positive Melanoma
Sponsor: GlaxoSmithKline
PI: Thomas Olencki, MD
Co-Investigator: Colleen Cebulla, MD

Title: Phase 3, randomized, open-label study of the efficacy and safety of PF-02341066 versus standard of care chemotherpay (pemetrexed or docetaxel) in patients with advanced non-small cell cancer (NSCLC) harboring a translocation or inversion event involving the Anaplastic lymphoma kinase (ALK) gene locus
Sponsor: Pfizer
PI: Greg Otterson, MD
Sub-investigator: Steven Katz, MD

Title: A double-blind, randomized, multicenter, placebo-controlled, parallel-group study comparing the efficacy and safety of 1.25mg FTY720 administered orally once daily versus placebo in patients with primary progressive multiple sclerosis
Sponsor: Novartis
PI: Aaron Boster, MD
Sub-investigator: Steven Katz, MD

Title: Multicenter, randomized, double-blind, placebo-controlled, parallel-group dose-finding study to evaluate the efficacy, safety, and tolerability of three doses of ACT-128800, or oral S1P1 receptor agonist, administered for twenty-four weeks in patients with relapsing-remitting multiple sclerosis
Sponsor: Actelion Pharmaceuticals, Ltd.
PI: Aaron Boster, MD
Sub-investigator: Steven Katz, MD

Title: Phase 1/2, open-label, randomized study of the safety, efficacy and pharmacokinetics of Erlotinib with or without PF-02341066 in patients with advanced non-small cell adenocarcinoma of the lung
Sponsor: Pfizer
PI: Greg Otterson, MD
Sub-investigator: Steven Katz, MD
Title: Phase I, Non-Randomized, Feasibility Study for the use of bone marrow cell concentrate prepared using the Magellan system for the treatment of critical limb ischemia
Sponsor: Arteriocyte
PI: Michael Go, MD
Co-Investigators: Colleen Cebulla, MD; Michal Wells, MD

Title: Age-Related Eye Disease Study 2: Multicenter, Randomized Trial of Lutein, Zeaxanthin and Omega-3 Long Chain Polyunsaturated Fatty Acids (Docosahexaenoic Acid (DHA) and Eicosapentaenoic acid (EPA)) in Age-Related Macular Degeneration (AREDS2)
Sponsor: National Health Institutes
PI: Alan Letson, MD
Co-Investigators: Frederick Davidorf, MD; Susie Chang, MD; John Christoforidis, MD; Colleen Cebulla, MD, PhD

Title: Comparison of Age-related Macular Degeneration Treatments Trials (CATT) Ancillary Study: Genetics and Response to Anti-VEGF Treatments in Age-related Macular Degeneration
Sponsor: National Institutes of Health
PI: Frederick Davidorf, MD
Co-Investigators: Susie Chang, MD; John Christoforidis, MD; Alan Letson, MD

Title: The Action to Control Cardiovascular Risk in Diabetes Study Group.
Sponsor: National Heart, Lung, and Blood Institute.
OSU PI: Kwame Osei, MD

Title: Comparison of Age-related Macular Degeneration Treatments Trials (CATT) Ancillary Study: Safety of Ranibizumab in Subjects with Clinically Significant Macular Edema with Center Involvement Secondary to Diabetes Mellitus (RIDE)
Sponsor: Genentech
PI: Alan Letson, MD
Co-Investigators: Frederick Davidorf, MD; Colleen Cebulla, MD, PhD; Susie Chang, MD; John Christoforidis, MD; Michael Wells, MD

Title: An Evaluation of Intravitreal Ranibizumab for Vitreous Hemorrhage Due to Proliferative Diabetic Retinopathy (DRCR N)
Sponsor: National Institutes of Health
PI: Frederick Davidorf, MD
Co-Investigators: Susie Chang, MD; John Christoforidis, MD; Alan Letson, MD

Title: Intravitreal Ranibizumab or Triamcinolone as Adjunctive Treatment to Panretinal Photocoagulation for Proliferative Diabetic Retinopathy (DRCR J)
Sponsor: National Institutes of Health
PI: John Christoforidis, MD
Co-Investigators: Colleen Cebulla, MD, PhD; Frederick Davidorf, MD; Susie Chang, MD

Title: Multicenter, Masked, Randomized, Sham-Controlled, Parallel Group Study to Evaluate the Safety and Efficacy of Brimonidine Tartrate Posterior Segment Drug Delivery System Applicator System in Improving Visual Function in Patients With a Previous Rhegmatogenous Macula –Off Retinal Detachment
Sponsor: Allergan
PI: Colleen Cebulla, MD, PhD
Co-Investigators: Frederick Davidorf, MD; Susie Chang, MD; John Christoforidis, MD; Alan Letson, MD; Paul Kurz, MD

Title: Targeted delivery of biodegradable multifunctional nanoparticles, conjugated with Lucentis, for integrated imaging and therapy of age-related macular degeneration. 
Sponsor: Genentech Reagent
PI: Ronald Xu, PhD
Co-Investigators: Cynthia Roberts, PhD; Alan Letson, MD
**Authors:** Abdel-Rahman MH, Boru G, Massengill JB, Salem MM, Davido\-f FH  
**Title:** MET oncogene inhibition as a potential target for therapy of uveal melanomas  
**Journal:** Investigative Ophthalmology & Visual Science  
**Pages:** 51(7): 3333-9  
**Date:** July 2010

**Authors:** Abdel-Rahman MH, Pilsarski R, Ezzat S, Sexton J, Davido\-f FH  
**Title:** Cancer family history characterization in an unselected cohort of 121 patients with uveal melanoma  
**Journal:** Familial Cancer  
**Pages:** 9(3): 431-8  
**Date:** September 2010

**Authors:** Abdel-Rahman MH, Yang Y, Salem MM, Meadows S, Massengill B, Li PK, Davido\-f FH  
**Title:** Investigation of the potential utility of a labinode analogue for treatment of choroidal neovascularization  
**Journal:** Experimental Eye Research  
**Pages:** 91(6): 837-43  
**Date:** December 2010

**Authors:** Abdel-Rahman MH, Pilsarski R  
**Title:** Hereditary predisposition rather than environmental factor are likely to explain the familial link between uveal melanoma and other cancers  
**Journal:** Familial Cancer  
**Pages:** 9(4): 661-2  
**Date:** December 2010

**Authors:** Abdel-Rahman MH, Pilsarski R, Massengill J, Christopher B, Noss R, Davido\-f FH  
**Title:** Melanoma Candidate Genes CDKN2A/p16INK4A, p14ARF and CDK4 sequencing in uveal melanoma patients with high risk for hereditary cancer predisposition  
**Journal:** Melanoma Research  
**Pages:** 21(3): 175-9  
**Date:** June 2011

**Authors:** Abdel-Rahman MH, Pilsarski R, Massengill J, Christopher B, Davido\-f FH  
**Title:** Lack of GNAQ germline mutations in uveal melanoma patients with high risk for hereditary cancer predisposition  
**Journal:** Familial Cancer  
**Pages:** 10(2): 319-21  
**Date:** June 2011

**Authors:** Houston HK, Pina Y, Murray TG, Boutrid H, Cebulla C, Scheller AC, Shi W, Celdran M, Feuer W, Merchan J, Lampidis TJ  
**Title:** Novel retinoblastoma treatment avoids chemotherapy: the effect of optimally timed combination therapy with angiogenic and glycolytic inhibitors on LHBETATAG retinoblastoma tumors  
**Journal:** Clinical Ophthalmology  
**Pages:** 5: 129-37  
**Date:** January 2011

**Title:** Study Group: Diabetic Retinopathy Clinical Research Network (DRCR)  
**Title:** Randomized trial evaluating short-term effects of intravitreal ranibizumab or triamcinolone acetonide on macular edema after focal/grid laser for diabetic macular edema in eyes also receiving panretinal photocoagulation.  
**Journal:** Retina  
**Pages:** 31(6): 1009-27  
**Date:** June 2011

**Authors:** Chang S, Vaccarella L, Olatunji S, Cebulla C, Christoforidis J  
**Title:** Diagnostic challenges in retinitis pigmentosa: genotypic multiplicity and phenotypic variability  
**Journal:** Current Genomics  
**Pages:** 12(4): 267-75  
**Date:** June 2011

**Title:** Study Group: Diabetic Retinopathy Clinical Research Network (DRCR)  
**Title:** Randomized trial evaluating short-term effects of intravitreal ranibizumab or triamcinolone acetonide on macular edema after focal/grid laser for diabetic macular edema in eyes also receiving panretinal photocoagulation.  
**Journal:** Retina  
**Pages:** 31(6): 1009-27  
**Date:** June 2011

**Authors:** Chang S, Weissgold DJ, Singer JA, Sobrin L  
**Title:** Acute Retinal Necrosis after Intracocular Triamcinolone Acetonide Injection  
**Journal:** Retinal Cases & Brief Reports  
**Pages:** 5(4): 306-8  
**Date:** Fall 2010

**Authors:** Christoforidis J, Ricketts R, Loizos T, Chang S  
**Title:** Optical coherence tomography findings of quinine poisoning  
**Journal:** Clinical Ophthalmology  
**Pages:** 5: 75-80  
**Date:** January 2011

**Authors:** Martin DF, et al (OSU Collaborators: Chang S, Christoforidis JB, Davido\-f FH, Letson AD)  
**Title:** Study Group: CATT Research Group  
**Title:** Ranibizumab and bevacizumab for neovascular age-related macular degeneration  
**Journal:** New England Journal of Medicine  
**Pages:** 364: 1897-1908  
**Date:** May 2011

**Authors:** Christoforidis JB  
**Title:** The volume of the visual field in kinematic perimetry and its application in static perimetry  
**Journal:** Clinical Ophthalmology  
**Pages:** 5: 535-41  
**Date:** April 2011

**Authors:** Christoforidis JB, Tecce N, Dell’omo R, Mastropasqua R, Verolino M, Costagiola C  
**Title:** Age Related Macular Degeneration and Visual Disability  
**Journal:** Current Drug Targets  
**Pages:** 12(2): 221-33  
**Date:** February 2011

**Authors:** Long AC, Bomser JA, Grzybowski DM, Chandler HL  
**Title:** All-trans Retinoic Acid Regulators Cx43 expression, Gap Junction Communication and differentiation in primary lens epithelial cells  
**Journal:** Current Eye Research  
**Pages:** 35(8): 670-9  
**Date:** August 2010

**Authors:** Gupta S, Soellinger M, Grzybowski DM, Boesiger P, Bid\-discombe I, Eng B, Poulikakos D, Kurtcuoglu V  
**Title:** Cerebrospinal fluid dynamics in the human cranial subarachnoid space: an overlooked mediator of cerebral disease. I. Computational model  
**Journal:** J Royal Society Interface  
**Pages:** 7(49): 1195-204  
**Date:** August 2010

**Authors:** Holman DW, Kurtcuoglu V, Grzybowski DM  
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**Journal:** J Royal Society Interface  
**Pages:** 7(49): 1205-18  
**Date:** August 2010
**Authors:** He X, Liu J  
**Title:** Correlation of corneal acoustic and elastic properties in a canine eye model  
**Journal:** Investigative Ophthalmology and Visual Science  
**Pages:** 52(2): 731-6  
**Date:** February 2011

**Authors:** Mauger TF, Kuennen RA, Harder Smith R, Sawyer W  
**Title:** Acanthamoebal and Stenotrophomonas maltophilia keratitis with fungal keratitis in the Contralateral Eye  
**Journal:** Clinical Ophthalmology  
**Pages:** 4: 1207-9  
**Date:** October 2010

**Authors:** Kuennen RA, Harder Smith R, Mauger TF, Craig E  
**Title:** Trends in fungal keratitis in the United States, 2001 to 2007  
**Journal:** Ophthalmology  
**Pages:** 117(12): 2263-7  
**Date:** December 2010

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**Title:** Management of pain with diclofenac after femtosecond-assisted laser in situ keratomileusis  
**Journal:** Journal of Cataract Refract Surgery  
**Pages:** 33(1): 28-30  
**Date:** March 2011

**Authors:** Wang L, Mahmoud AM, Anderson BL, Koch DD, Roberts CJ  
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**Journal:** Investigative Ophthalmology and Visual Science  
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