During the past year, The Havener Eye Institute has relocated to our new facility at The OSU Eye and Ear Institute, one-half mile south of our previous location. With an outpatient surgical center in our new building, we have experienced exponential growth in the past year while simultaneously maintaining extremely high patient satisfaction ratings.

The ophthalmology residency program is the key element of our educational program. Due to all of the efforts of our dedicated faculty, over five percent of the OSU medical students have selected ophthalmology as their career choice.

Research efforts are expanding in the areas of 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.

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.

There are many unknowns about the future of healthcare and our profession. One thing, however, is certain: it is the quality of our staff, faculty, residents, and fellows that will allow us to meet our goals despite the many challenges that face us. We will continue to train excellent physician leaders and restore sight and prevent blindness through personalized clinical care and research.

Sincerely,

Thomas F. Mauger, MD
Director and Chairman
The Carl M. and Grace C. Baldwin Chair in Ophthalmology
The William H. Havener Eye Institute
The Department of Ophthalmology
The Ohio State University

Dear Friends and Colleagues,

THOMAS MAUGER, MD
CHAIRMAN

ROBERT LAFOLLETTE, MBA
ADMINISTRATOR

LAURA SLADOJE
OUTREACH DIRECTOR

CHRISTINA STETSON
PROGRAM COORDINATOR

MICHAEL HOUGHTON
COVER PHOTO

OPHTHALMOLOGY OUTREACH
PHONE | (614) 293-8760
EMAIL | EYE@OSUMC.EDU
OSU President E. Gordon Gee stepped from his vehicle onto the beautiful lawn of the OSU Scarlet Golf Course and was eagerly met by over 100 charity participants at the Fifth Annual BuckEYE Golf Classic. The charity outing, held this past June, had a lot to live up to as the previous events had been hosted by first-class special guests including Archie Griffin, Thad Matta, Jim Tressel, and Clark Kellogg. The bar was set high, but Dr. Gee is no stranger to the limelight. As president of one of the largest universities in the country, with an annual budget greater than the state of Rhode Island, Dr. Gee is at home with national attention, but maintains his hometown charm. His candor and friendliness are well known, but it’s still hard to prepare for the genuine level of interest that he has for people. It is no wonder that he was recently named TIME magazine’s No# 1 College President in the country.

Despite this high title, he was completely comfortable with talking and posing for photos with as many participants as he could. To community sponsors and area ophthalmologists, Dr. Gee extended more than just a smile and firm handshake. He also gave his deep appreciation for their support of education and research at the OSU Havener Eye Institute.

After meeting Dr. Gee, the charity participants were treated to a drive clinic led by World Long-Drive finalist and OSU Ophthalmology resident, Dr. Landon Colling. He showed them proper swing technique, ways to maximize their efforts, and concluded with tips on health and fitness.

The participants were grateful for the tips, as they were definitely needed for the challenging course ahead. OSU Scarlet Golf Course is one of the top collegiate courses in America and was recently redesigned by former Buckeye and golf legend, Jack Nicklaus. As difficult as the course was, everyone agreed that it was a perfect day with sunny skies and well-matched foursomes.

The BuckEYE Classic trophy was awarded to Drs. Doug Baker, Jack Dingle, and Tom Dingle for scoring well under par, but the real winners were the OSU Ophthalmology resident physicians. The $41,000 raised will go to support resident education.

“It was a success, but we could not have done it without the help of our sponsors, especially Fifth Third Bank,” said Dr. Alan Letson, Residency Program Director. “These are companies that are so invested in their communities that they step up to make a difference. Their generosity supports the education and research of tomorrow’s eye physicians.”
Many patients envision the sterile environment of the laboratory and wonder how hours of looking through a microscope relates to their care. The Ohio State Medical Center’s answer can be found at the new OSU Center for Clinical & Translational Science (CCTS). The CCTS is a Medical Center-wide effort to fast track the breakthrough scientific findings from the labs to the clinics so patients can benefit from OSU’s top-tier research institute.

The Havener Eye Institute is on the forefront of this initiative with its dynamic, interdisciplinary ocular melanoma team working together to end this disease. In October 2009, the Havener Eye Institute was recognized as one of the leading centers for the treatment of ocular melanoma at the 1st Annual Ocular Melanoma Scientific Working Group.

The Havener Eye Institute has a long history of using a multi-disciplinary approach to the management of patients with ocular melanoma. Patients are evaluated by ocular oncologists Drs. Frederick Davidorf and Colleen Cebulla, medical oncologists Drs. Thomas Olencki and Kari Kendra, radiation oncologist Dr. Douglas Martin, and human cancer geneticists Drs. Mohamed Abdel-Rahman and Robert Pilarski. By pairing our researchers with our clinicians and consulting specialists from every field of oncology, the Havener Eye Institute is able to offer patients a more thorough approach to cancer care.

In the tradition of OSU’s medical pioneers, the ocular oncologists at the Havener Eye Institute have always sought to improve diagnostic tools and treatments. Until the late 1960s, patients diagnosed with ocular melanoma had no choice but to have their eye enucleated (surgically removed). Then, under the leadership of the late William Havener, OSU Ophthalmology began the concept of “conservative management”...
of eye melanomas. Dr. Havener and Dr. Frank Batley, former head of Radiation Oncology, designed a radioactive eye ring, using brachytherapy (applying radiation directly to the cancer) to treat these tumors without enucleation. OSU was one of the first hospitals in the U.S. to use brachytherapy for ocular melanoma, which is now the standard of care.

In 1980, Dr. Havener passed the management of patients with ocular melanoma to Dr. Frederick Davidorf, who established the Ocular Oncology Division. In 1985, The OSU Ocular Oncology Division participated in one of the National Eye Institute’s largest clinical trial to date. The Collaborative Ocular Melanoma Study (COMS) lasted over fifteen years and succeeded in proving that radiation treatment was just as effective in curing eye cancer as enucleation.

In addition to radiation, chemotherapy is also used to combat most cancers. While radiation is used to target and destroy cancer cells, chemotherapy uses toxic compounds which kill cells. Both methods have destructive side effects, and anyone who has witnessed the ravages of chemotherapy and radiation understand how difficult and traumatic these treatments can be. In an effort to discover a less harsh therapy, Dr. Mohamed Abdel-Rahman and his collaborators are currently studying naturally occurring medicinal herbs to control the growth of melanoma cells. They have found several very promising, highly efficient and relatively non-toxic herbs that are able to alter the growth of cancer cells. It is their belief that these types of herbal medicines may be able to control the spread of cancer with minimal side effects to the patient.

The Ocular Oncology Division is also studying three different aspects of the genetics of ocular melanoma. First, they are looking for markers that can identify patients with an aggressive form of the disease. This will allow researchers to follow these patients more carefully, and in the future select these patients for any potential systemic treatment. Secondly, they are pre-selecting patients whom they believe will better respond to newly discovered treatments, and also decrease the toxicity of the medication. Finally, they are attempting to identify the genetic markers that a small subset of patients and their family members have inherited, which predisposes them to ocular melanoma and other tumors. Recognizing these patients will help in the early management of not only the patient, but of their at-risk family members.

The future of ocular melanoma care is in today’s laboratories. From Dr. Mohamed Abdel-Rahman, cancer geneticist, to Dr. Colleen Cebulla, clinician and researcher, we are bringing the latest understanding of disease processes from the laboratory and applying them to clinical situations. With experienced faculty and fresh ideas, the Havener Eye Institute is translating basic science into better patient care, every day.

FIFTEEN-YEAR CANCER SURVIVOR
BERNIE MUDROCK

"When we heard the word choroidal melanoma, we just wanted to run away, but soon we knew we were in the right place to combat this cancer. How lucky we were to be treated by doctors in the Havener Clinic.

We had a real sense of confidence that we were being treated by doctors who were the best in their field, and would do everything they could to take care of us. Dr. Davidorf put a radioactive patch over the tumor. Bernie did not have to lose his eye. He still has valuable peripheral vision, and he says he does not even notice a deficit in his vision. He sees as well with one eye as he did with two, and he does not have to deal with a prosthetic eye.

Dr. Davidorf has been a doctor and a friend for such a long time. He still sees Bernie once a year. We have been so fortunate to have been given all these years together since the diagnosis. For that, we thank Dr. Fred Davidorf and the rest if the doctors and staff at the Havener Clinic.

We donate funds every year to help research for choroidal melanoma. We do this for two reasons. First, we hope to help other people one day. We know this is not a common cancer, and we want to be a part of trying to cure it once and for all. Second, we are so grateful for the wonderful care we received. We wanted to find a way to give back."

-DORIS MUDROCK
The 1966 Oscar award-winning film *Fantastic Voyage* took us on a microscopic journey through the bloodstream. In the film, physicians and scientists were miniaturized to save a patient’s life. Setting aside science fiction (and shrinking people), scientists and physicians have always been fascinated with the idea of utilizing atomic and subatomic particles for healthcare and technology. Now, they are using nanotechnology to do just that.

Nanotechnology, the study of controlling extremely small matter, deals with structures sized between 1 and 1000 nanometers (one billionth of a meter). By comparison, a nanometer is to a meter what a marble is to the earth. At The OSU Havener Eye Institute, we are using some of the world’s smallest particles to deliver much-needed medication to patients with AMD and to discover the mechanisms behind glaucoma, one of the world’s most common blinding diseases.

**TINY PARTICLES THAT MAY SAVE YOUR SIGHT**

**NANOFIBERS COMBAT GLAUCOMA**

In a David and Goliath tale, the nanoparticle is poised to take on a disease that the National Eye Institute calls the second leading cause of blindness in the world. Using tiny nanofibers, OSU researchers Dr. Zhao, the Principal Investigator (PI), along with Drs. Gryzbowski, Roberts, and Weber are creating artificial tissues that will be used to study glaucoma.

The eye, unlike most of the body, relies on fluid rather than bone to help maintain its shape. Much like a water balloon, it requires the correct amount of fluid to function properly. Because the eye is constantly producing fluid, it needs to drain fluid to maintain the right amount of intraocular pressure, or pressure within the eye.

Glaucoma affects 65 million people worldwide and is generally associated with high intraocular pressure (IOP). The trabecular meshwork is located in between the cornea (clear surface of the eye) and the iris (the colored portion of the eye). It is responsible for draining the intraocular fluid and maintaining proper IOP.
There are many theories about why high IOP can lead to glaucoma, but testing these theories can be difficult, as very few trabecular meshwork tissue samples are donated for research. Artificial tissue had to be created for enough to be available for study. Trabecular meshwork tissue is very complex, and past methods of construction were limited to less realistic two-dimensional models. This complicates the data analysis and interpretation. Clearly, a model that can more closely resemble natural trabecular meshwork tissues was imperative.

By weaving tiny fibers that had been nanoengineered, the trabecular meshwork’s complex natural shape can now be replicated, making closer study possible. The end of this terrible disease could be just around the corner.

“Nanotechnology gives us a new perspective for research,” said Dr. Zhao. “As we shrink things down, we can see many rules that are different from the larger scale world. It’s like opening the door to a new frontier in medicine.”

**NANOBUBBLE DELIVERING DRUG**

From potions to pills to injections, the medical community has always tried to find better and faster ways of getting medication to where it will do the most good. In 2010, Genentech, the world’s leading biotech company, approved an $80,000 grant of Lucentis®. Lucentis® is an anti-VEGF medication that slows the growth of abnormal blood vessels in the back of the eye (retina) for patients with age-related macular degeneration (AMD). Drs. Roberts, Sanders, Letson, and Xu (PI) are now developing a more efficient drug delivery method for anti-VEGF medication using microscopic particles known as nanobubbles.

Intraocular injections of anti-VEGF medication have been used to combat AMD for many years, but despite their success, still have many problems. The anti-VEGF medication quickly leaves the eye after injection, and since a high concentration is needed for proper treatment, more injections are necessary. Each additional injection multiplies the risks of local and systemic adverse reactions. The new drug-loaded nanobubbles will allow medication to accumulate in the retina for a longer period of time, until activated selectively using ultrasound. The nanobubbles are dyed a fluorescent yellow, which makes them visible to imaging and able to be guided and released when they are in place. The biodegradable nanobubbles keep the medication from disbursing before reaching the target area, reducing the number of injections needed.

“What we are creating is a clinical platform,” said Dr. Xu. “Right now we are using it for AMD, but really it could be used for delivering medication for all ophthalmic diseases. We are very excited by the possibilities.”

In short, nanotechnology allows for more research, more answers, fewer injections, fewer adverse reactions, and better care for our patients—and that is no small thing.
The Research Division spans all subspecialties of Ophthalmology, and includes not only the faculty, but also residents, graduate students, and medical students.

It has been an eventful year, full of promise. In cooperation with faculty from the Cornea, Retina, and Glaucoma Divisions, we have conducted research into many ocular conditions. These collaborations have resulted in numerous publications and grant awards from the National Institute of Health, the Columbus Foundation, the Ohio Lions Eye Research Foundation, as well as numerous industry awards.

Three research faculty with primary appointments in Ophthalmology include Dr. Mohamed Abdel-Rahman, specializing in uveal melanoma and cancer genetics; Dr. Deborah Grzybowski, who has expertise in ophthalmic cell culture and intracranial fluid dynamics; and Dr. Cynthia Roberts, an ophthalmic engineering specialist. Over the past few years, a stronger collaboration with the Department of Biomedical Engineering has resulted in appointments in Ophthalmology for Dr. Jun Liu, who is experienced in corneal and ocular biomechanics; Dr. Ronald Xu, a specialist in sustained intravitreal drug delivery via multifunctional micro/nano particles; and Dr. Yi Zhao, who is an expert in the field of micro/nanofabrication for simulating 3-D ocular tissue structures.

The Research Division exposes ophthalmology residents to the scientific research process by involving them with a faculty mentor in either basic science or clinical studies. Many residents choose a project that spans all three years of their residency to allow adequate time for a fully developed project. They are encouraged to attend the Association for Research in Vision and Ophthalmology (ARVO) annual meeting and present their research. Our ophthalmology research faculty also serve as advisors for graduate students whose thesis or dissertation involves vision-related research.

Dr. Colleen Cebulla from the Retina Division has been investigating the proteomic...
analysis of experimental and human retinal detachments with proliferative vitreoretinopathy (PVR) and potential for therapy. Dr. John Christoforidis, also from the Retina Division, has been evaluating the effect of intravitreal anti-VEGF agents on the function of cutaneous wound healing.

Many small research projects are supported by the Ohio Lions Eye Research Foundation, from which the Department receives an annual endowment. A portion of the grant supports basic research in the Ohio Lions Ophthalmic Research Laboratory located in the Tzagournis Medical Research Facility. The lab is directed by Dr. Grzybowski and is well equipped for cell culture-related projects including performing real-time RT-PCR, ELISA assays, in addition to IHC, PCR, Western blots, and others. Another portion of the grant provides additional support to the Graduate Fellowship in Eye Research.

The Department’s Lions Fellow is Leilei Zhang, MS, who plans to graduate with a PhD in June of 2012. Leilei’s research program has focused on developing a new method for sustained delivery of anti-VEGF therapy via intravitreal injection of micro/nanoparticles with encapsulated drugs for use in treating age-related macular edema.

Medical students are also given the opportunity to develop a research project of their own, or to be involved in an ongoing research project. During the past academic year, two medical students received Dorothy M. Bennett and Clark L. Bennett Medical Research Scholarships under the supervision of Dr. Grzybowski’s project titled, “Retinal capillary angiopathy as a biomarker for diabetic systemic disease.” One student, Benjamin Abramowitz, worked on a project titled “Swelling Analysis of Biomechanical Properties in the Post-LASIK Cornea.”

For the past year, our dedicated research and clinical faculty have tirelessly pursued new methods for diagnosis and treatment. The collaborations between our laboratories and patient care clinics are key to unlocking the treatments of the future.
Thom and Pat Robinson are an extraordinary couple from Troy, Ohio that work tirelessly to better their community and the future of Ohio. Evidence of their volunteering and philanthropic efforts can be seen all over The Ohio State University—in the newly renovated main library, in the new Veterinary Medicine academic building, in the numerous athletic scholarships, and in a generous planned gift to OSU Havener Eye Institute.

Pat is president of the board of trustees for the Paul G. Duke Foundation, which was established by and named for her father, founder of the lawn services company ChemLawn. Thom served two tours of duty in the United States Marine Corps and served as an area sales manager for Dinner Bell Foods, Inc. until he retired in 1978.

Both serve on numerous volunteer boards and committees, and are enthusiastic advocates of OSU.

“IT all started with a football ticket,” said Pat. “The more you are here, the more involved you get, the more questions that you ask, the more people that you meet. The next think you know, you’re thinking ‘Gee, this is a wonderful place. What can we do to help?’”

Thom and Pat understand the value of medicine and the importance of sight. They have seen dramatic changes in ophthalmology in their lifetime, and know that even more amazing discoveries are just around the bend. Their commitment to that brighter future was what led them to make the one million dollar planned gift to ophthalmology.

“We liked it here [at OSU],” said Thom. “We liked Dr. Kapetansky and he got us involved. We like to make gifts that make a big impact and affect a lot of people. That’s our goal.”

Dr. Kapetansky has been a loyal and active alumnus and professor of the Department of Ophthalmology for decades. He has taught countless students and residents the nuances of glaucoma diagnosis and management.

The Robinsons are outstanding volunteer leaders, members of boards and committees, extraordinary donors, and enthusiastic Buckeye fans. They have formed a great partnership that has served Ohio State with distinction in many capacities.

“I think that we learned a lot from my dad,” said Pat. “He was just a good person and taught us how to be generous. I always feel that you should give back to your community. There is no reason not to; it all comes back. You do get that reward back for helping others. I only wish that I could live to 200, so I could give more.”
2010 BUCKEYE BENEFACTORS
THIS LIST RECOGNIZES DONATIONS MADE TO THE DEPARTMENT FROM JANUARY 1, 2010 TO DECEMBER 31, 2010

$10,000 - $49,000
Jerry Colp
Phyllis Havener
Drs. Thomas Mauger &
L. Carol Laxson
Peggy Roberts

$5,000 to $9,999
Dr. C. Patrick Carroll
Dr. Henry & Suzanne Croci
Dr. David Lehmann
John Marakas

$2,500 to $4,999
Dr. David Adam
Dr. Louis Bloomberg*
Dr. Colleen Cebulla
Drs. Jack & Candace Hendershot
Dr. Steven & Stacy Katz
Dr. Alan & Susan Letson
William & Lynne Martin
Dr. Robert McKinlay
Dr. Garret & Christina Mouser
Dr. Jeffrey Oehler
Dr. Dale & Bonnie Solze

$1,000 to $2,499
Larry & Frances Black
Dr. Mark Gersman
Bruce & Bridgitt Evans
Michael & Joyce Hallet
Dr. Marilyn Huheey
Dr. Curtin Kelley
Drs. Frank & Carol Kollarits
Robert & Danette LaFollette
Dr. Robert Lembach
Dr. James & Antoinette Magnuson
Dr. Carl Minning Jr.

$500 to $999
John Alberini
Dr. N. Douglas Baker
Dr. Frederick Davidorf
Mildred Glover
Dr. Charles & Susan Hickey
Dr. Christopher Hogan
John Jeffries
Steven Juenger
Laurence Karna
Deborah Lanam
Dr. Charles Leon Jr.
Tim McNemar
Dr. William Penland
Richard Poffenbaugh
Paul Ritter Jr.
Dr. Mac Ronning
Michael Sauer
Dr. Edward Schechter
Dr. Paul & Lesley Weber
Roy Whipple
Dr. John Wilding

$100 to $499
Dr. J. Geoffrey Allen
Liz Allison
Virginia Armstrong
Dr. William Banks III
Dr. Thomas Bates

*Indicates deceased

Dr. Weber oversees a medical student examining a patient
Thinking thirty years ahead is not something that many people do, but when Dr. W. Thomas Martin first started his ophthalmology practice he wanted to show his appreciation for the fine training that he had received in the OSU Department of Ophthalmology.

With that in mind, he purchased life insurance policies for himself and his two children and named OSU Ophthalmology as the beneficiaries. After 30 successful years in practice, he is still happy with his decision.

“I wanted to give because of my training,” said Dr. Martin. “I trained with Dr. Havener, who was like a walking dictionary. You could be in surgery with him and ask him anything. He could answer ophthalmology questions all day.”

The son of a Northern Ohio ophthalmologist, Dr. Martin went to OSU Medical School before being selected by OSU Ophthalmology, totaling over $40,000.

“This is so encouraging to see residents giving back,” said Dr. Alan Letson, Residency Program Director. “We are always striving to live up to the level of training that Dr. Havener always gave. Gifts like this make it possible.”

Dr. Martin is enjoying his much-deserved retirement in Norfolk, Virginia where he lives with his oldest son, John.

Dale Solze, MD is a native Ohioan, born and raised in Green Springs, Ohio. With his wife Bonnie as his office RN, he opened his private practice in Fremont and has served the northeastern Ohio community for over a quarter of a century. He and Bonnie have four children and eight grandchildren.

He is an alumnus of both The Ohio State University Medical School and the Havener Eye Institute. As a dedicated Buckeye, Dr. Solze is a member of the OSU President’s Club, and actively supports the OSU Havener Legacy. Recent donations have allowed the Solzes to reach higher levels of giving in the Havener Legacy. They were awarded an engraved Bulova mantel clock in recognition of their timeless dedication that inspires us all.
Garret Mouser, MD completed his residency in 2007. Upon graduation, he joined James Moses, MD, in a thriving ophthalmology practice in Columbus with satellite offices in Canal Winchester and Washington Court House.

Dr. & Mrs. Mouser are the youngest Havener Legacy members, a group formed to recognize those who have generously donated $10,000 or more. Their names will be added to the list of distinguished donors that have made a philanthropic impact on the Department. Dr. Mouser understands the importance of a solid educational foundation and is grateful for the training he received at the Havener Eye Institute. He wanted to make sure that the residents who came after him would have the best equipment possible to aid them in their training.

“We are very excited to welcome Dr. & Mrs. Mouser into the Havener Legacy,” said Alan Letson, Residency Program Director. “He was a fantastic resident and their donation validates our daily efforts to ensure our residency program provides the best ophthalmic training possible.”

Donations like the Mousers’ enable the Department to support resident education and research through the purchase of textbooks and equipment.

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Ophthalmology alumni have been making a visible difference through the President’s Club from the beginning. All of your President’s Club donation can be directed to the Ophthalmology fund of your choice.

Through their generous contributions, President’s Club members make a lasting impact in the lives of students, researchers, faculty, and staff every day. From providing much-needed scholarships for students, to creating funds for new ground breaking global research initiatives, President’s Club members are opening a world of opportunities for Buckeyes to attain academic excellence and positively affect their communities and the world.

Ophthalmology alumni have been making a visible difference through the President’s Club from the beginning. All of your President’s Club donation can be directed to the Ophthalmology fund of your choice.

President’s Club members are actively helping to define Ohio State as the nation’s leading public land-grant university. Take your seat in the President’s Club and make a donation to Ophthalmology today!

For more information on the President’s Club, please contact Barbara Landolfi at (614) 293-8760 or email us at eye@osumc.edu.
Nationwide Children’s Hospital (NCH) has been caring for sick and injured children and adolescents for more than 110 years. As home to OSU’s Division of Pediatric Ophthalmology, NCH and OSU Havener Eye Institute have enjoyed a long-standing academic relationship built on a shared commitment to excellence in learning, discovery, and collaboration. NCH medical staff and research scientists hold faculty positions at OSU. NCH also serves as the pediatric ophthalmology training site for our ophthalmology residents.

“There is a variety of patients,” said Dr. Cedric Pratt, chief resident, “and a very broad spectrum of conditions. You get exposed to a completely different aspect of ophthalmology that you never see in an adult clinic. The Ohio State residency program provides especially strong pediatric training that is not found in most residencies.”

Pediatric ophthalmology focuses on the development of the visual system and the various diseases that disrupt visual development in children. Management of eye problems in children can include using glasses, medications, and complex eye surgeries, while keeping in mind their unique needs. As young children cannot always communicate effectively, alternative strategies must be employed to obtain a complete history from the patient.

“You have to be on your toes,” said Dr. Alla Kukuyev, a second-year resident. “You have to be very flexible when you examine kids. They have to feel at ease. You can only expect them to sit still for so long—you have to play little games to keep them interested. It is a fun place to work.”

Seven fellowship-trained pediatric ophthalmologists along with the support of subspecialists in cornea, retina, oculoplastics, optometry, and neuro-ophthalmology supervise residents in the outpatient clinic and in the operating rooms at Nationwide Children’s Hospital.
American Association for Pediatric Ophthalmology and Strabismus (AAPOS) 2010 Annual Meeting - Orlando, FL

Two of our residents, Dr. Lena Chheda and Dr. Cate Olson, recently presented at the AAPOS Annual Meeting. Dr. Chheda presented her poster entitled “The Effect of Surgical Preparation Technique on Bacterial Load of Surgical Needles and Suture Material Used During Strabismus Surgery” (DL Rogers, M Marcon, DL Bremer, GL Rogers, RP Golden). Dr. Olson was recognized as “Best in Show” for her poster “Changes in Optic Nerve Sheath Diameter After Lumbar Puncture in Children” (DL Rogers, RR Fellows, E de los Reyes).

Association for Research in Vision and Ophthalmology (ARVO) 2010 Annual Meeting - Ft. Lauderdale, FL

We also want to recognize all of the residents had papers that were presented at the ARVO Annual Meeting, including Drs. Vishal Verma, Rick Whitehead, Andrew Hendershot, and Cedric Pratt.


RESIDENT RESEARCH

The 53rd Annual Postgraduate Symposium in Ophthalmology was held on March 5th, 2010 with over 150 participants in attendance. This year’s course directors, Cynthia Roberts, PhD, and Paul Weber, MD, brought numerous accomplished and knowledgeable speakers together to discuss Ocular Imaging, including William Dupps Jr., MD, PhD (Cleveland Clinic), Paul Harton Jr., MD (Harbin Eye Clinic), Elias Reichel, MD (Tufts University School of Medicine), Andrea Sawchyn, MD (Wills Eye Institute), Mitchell Weikert, MD, MS (Baylor College of Medicine), Colleen Cebulla, MD, PhD (OSU), Jennifer Lewis, PhD (OSU), Thomas Mauger, MD (OSU).

GRADUATING RESIDENTS

We wish our graduating residents well as they embark on new ventures. Cedric Pratt, DO remains at the Havener Eye Institute to complete a two-year retina fellowship. Wendy Smith, MD matched with the National Institute of Health for a uveitis fellowship. Rick Whitehead, MD has been selected for a pediatric ophthalmology fellowship at Indiana University. Katie Baston, MD joined a comprehensive ophthalmology private practice in El Paso, TX. Landon Colling, MD has moved to Lynchburg, VA to practice comprehensive ophthalmology in a private practice.
FIRST-YEAR RESIDENT CLASS (2009-2012)
Dominic Buzzacco, MD
Adam Cloud, MD
Bryan Costin, MD
Irene Tung, MD
Leah Vaccarella, MD
Palak Wall, MD

SECOND-YEAR RESIDENT CLASS (2008-2011)
Lena Chheda, MD
Aaron Davis, MD
Alla Kukuyev, MD
William Lawhon, MD
Cate Olson, MD
Vishal Verma, MD

THIRD-YEAR RESIDENT CLASS (2007-2010)
Katie Baston, MD
Landon Colling, MD
Cedric Pratt, DO
Wendy Smith, MD
Rick Whitehead, MD

MAKLEY-BATTLES TEACHING AWARD
C. Patrick Carroll, MD

EXCELLENCE IN EDUCATION AWARD
John Christoforidis, MD

Ashley San Filippo, MD received her medical degree from the Northeastern Ohio Universities Colleges of Medicine and pharmacy in Rootstown, OH and her ophthalmology residency at the University of Missouri in Kansas City, MS. Now that she has concluded her Glaucoma Fellowship here at the Havener Eye Institute, she has joined a private practice here in Columbus.

Andrew Hendershot, MD completed his Medical degree, ophthalmology residency, and his cornea fellowship all at The Ohio State University. Now, he plans to stay on at the Havener Eye Institute as a faculty member in the Cornea Division.

Sunday Olatunji, MD attended Chicago Medical School in Chicago, IL where he received his medical doctorate. He completed his ophthalmology residency at the Kresge Eye Institute in Detroit, MI and is half-way through a two-year vitreoretinal fellowship at the Havener Eye Institute.

Michael Wells, MD is a Baylor College of Medicine graduate. He completed his ophthalmology residency at the University of North Carolina - Chapel Hill. At the conclusion of his two-year Vitreoretinal Fellowship here at the Havener Eye Institute, he decided to join our faculty.
Each year the OSU Havener Eye Institute holds a special reception in honor of the many excellent ophthalmologists that hail us as their Alma Mater. This anticipated event coincides with the American Academy of Ophthalmology (AAO) Annual Meeting, which brings together ophthalmologists from across the nation and around the world. The 2009 Alumni Reception found us in San Francisco, CA. A perfect day and a spectacular view from the top of the Hotel Nikko greeted Havener alumni, faculty, and colleagues as we celebrated both our alumni and the OSU Department of Ophthalmology’s 80th Anniversary.

"It gives us a chance to reconnect with our fellow alumni," said Rebecca Kuennen, an OSU alum and new faculty member. "It's an opportunity to gain a national perspective on our field and what to expect in the future."
In August 2009, the first OSU Outpatient Surgery Center (OSC) opened at the OSU Eye & Ear Institute. The OSC is a state-of-the-art facility specializing in Ophthalmology, Otolaryngology, Plastic Surgery, and Hand surgeries.

They provide an extensive array of subspecialized, complicated surgical procedures in the convenience of an outpatient setting. There are six dedicated operating room suites available at the OSC with world-renowned surgeons and highly trained staff to ensure that each patient has the best surgical experience possible.

The OSC has been recognized for its consistently high Press Ganey patient satisfaction scores. They continue to be ranked in the 99th percentile when compared to similarly size organizations. Their success can be largely contributed to their ability to provide superior innovative care in a smaller, patient-focused environment within a conveniently accessible facility.

The entire surgical team has strongly involved physician leadership, superior staff, teamwork, and experienced management to coordinate an outstanding patient-centered surgical experience.

OSC employees are extremely proud of their work, their patients, and their involvement with the center’s development. High staff retention and equally high volume of employee referrals are a testament to the staff’s pride and satisfaction. The employees of the OSC bring to the organization a unique outpatient perspective. They have merged inpatient and outpatient experiences to create a highly engaged team environment with spectacular patient outcomes.

Patients have readily shared their approval of the OSC. The OSC staff consistently receive positive feedback through patient phone calls sharing positive remarks, high monthly and quarterly Press Ganey scores, and letters of appreciation to OSUMC senior administration.

“Excellent care,” one patient commented on their Press Ganey survey. “Very professional staff. I have already made recommendations to family & clients.”
ELECTRONIC RECORDS

In addition to our move to our new Eye and Ear Institute last year we also migrated onto Epic-based electronic medical records (EMR). This is potentially a difficult and burdensome transition for all physicians, but particularly for ophthalmologists due to our unique documentation and imaging needs.

Dr. Milisa Rizer, Medical Director of the EMR project, and Thomas Bentley, IT director, provided tremendous support for this move along with our direct support team lead by Linda Locke and Gail Cook. However, it was the dedication and perseverance of the staff, residents, fellows, and faculty of the Havener Eye Institute that lead to a relatively smooth transition.

Eyeroute by Topcon was installed to provide robust imaging access within the EMR. The integrated medical record has improved physician communication and patient safety. The Medical Center will be adopting Epic as its inpatient medical record in 2011. Nationwide Children’s Hospital has already transitioned to Epic and will soon complete installation at their outpatient clinics, including ophthalmology. This will create a unique environment for the patients, staff, and doctors in Central Ohio.

This transition, while not without difficulties, will position the Medical Center and the Havener Eye Institute to improve patient care, education, and research for the future.

NEW FACULTY

ANDREW HENDERSHOT, MD
Anterior Segment

Dr. Hendershot is originally from Findlay, OH. He studied biochemistry and pre-med at Ohio Wesleyan University before coming to Ohio State. He completed his Medical Doctorate, general surgery internship, ophthalmology residency, and corneal fellowship all at Ohio State. “I have been at Ohio State so long, it just feels like the right place to be,” said Hendershot. “I will be helping patients with a variety of corneal diseases and disorders and giving back to the University that has given me so much.”

ANDREA SAWCHYN, MD
Glaucoma

Dr. Sawchyn graduated summa cum laude from the University of Notre Dame with a BS in Science Preprofessional Studies. For both her medical degree and ophthalmology residency she attended The Ohio State University. She continued her training with a glaucoma fellowship at Wills Eye Institute in Philadelphia, PA. Dr. Sawchyn will add new diagnostic and therapeutic modalities to the division, as well as a passion to help patients.

MICHAEL WELLS, MD
Retina

Dr. Wells hails from Texas where he graduated cum laude from Rice University with his degree in physics. He acquired his Medical Doctorate from Baylor College of Medicine and completed his internal medicine internship at University of Texas-Southwestern. He went to University of North Carolina - Chapel Hill for his ophthalmology residency, before coming to OSU Havener Eye Institute for his vitreoretinal fellowship. “Having trained at so many different universities is a great experience,” said Wells, “I am looking forward to sharing the sum of my eclectic education with my central Ohio patients.”
The Anterior Segment Division continues to be actively involved with clinical care, education, research, and service. Dr. Andrew Hendershot recently joined as a new faculty member after completing his cornea fellowship in June 2010. Dr. Randy McLaughlin and Dr. Kelly Kingsbury continue to provide optometric care including comprehensive evaluations as well as routine and complex contact lens services.

Medical student, resident, and fellow education continues to be a strong focus in the division through staffing clinics and surgeries at The Ohio State University Medical Center, Ohio State University Eye and Ear Institute, Columbus Veterans Administration Outpatient Clinic, and Nationwide Children’s Hospital. The division staffed over 500 cataract surgeries at the Columbus VA with the residents last year.

During the past year, the division had over 16,000 patient office visits and performed over 1,000 cataract surgeries. We performed 114 keratoplasty procedures including penetrating keratoplasty, endothelial keratoplasty, deep anterior lamellar keratoplasty, and keratoprosthesis. We also performed 61 procedures at Nationwide Children’s Hospital including penetrating keratoplasty, keratoprosthesis, anterior segment and ocular surface reconstructive surgeries, and examinations under anesthesia.

The division continues to be actively involved in both clinical and basic science research. The division mentored multiple resident and fellow research projects this past year. Such projects included the use of a cataract surgery simulator in resident training, comparison of ultrasonographic measurements of corneal aggregate modulus in normal and post-LASIK patients, measurement of corneal epithelial thickness in keratoconus using a Fourier domain anterior segment OCT, and use of confocal microscopy in diagnosis of Acanthamoeba and fungal keratitis.

The division also had abstracts presented at the 2010 Association for Research in Vision and Ophthalmology and Ocular Microbiology and Immunology Group meetings. The division is currently conducting clinical trials with nepafenac 0.3% in the prevention and treatment of ocular inflammation and pain after cataract surgery. The division along with Dr. Cynthia Roberts will soon be starting a clinical research trial studying the safety and effectiveness of the VEGA UV-A system for corneal collagen cross-linking in eyes with keratoconus and post-refractive corneal ectasia.

The division continues to be involved in medical mission trips to Ghana and Nicaragua. Dr. Mauger and Dr. Cate Olson traveled to Ghana in February 2010 and performed cataract surgeries. The division is also actively involved with the Columbus Medical Association Physicians Free Clinic and at the monthly Havener Eye Institute Free Clinic.

REBECCA KUENNEN, MD
The Glaucoma Division continued its storied history of active participation in all three mission areas. To facilitate expanded efforts in all three areas we have added Andrea Sawchyn, MD to our faculty. Dr. Sawchyn completed her residency here at OSU and followed by a glaucoma fellowship at Wills Eye Hospital in Philadelphia.

In the education arena, the division was heavily involved in the Department’s Annual Postgraduate Symposium, “Ocular Imaging – Front to Back and Beyond.” Division members also actively participate in the education of medical students, residents, fellows, practicing physicians, patients, and the public.

Past generous contributions of state-of-the-art diagnostic equipment from grateful patients like Jerry Colp have allowed us to stay at the very forefront of patient care and research.

In the research mission, we closed out 16 years of involvement in the NIH-NEI-funded Ocular Hypertension Treatment Study. This has proven to be one of the most impactful ophthalmic studies funded by the National Eye Institute. It has already had a major impact on the management of glaucoma and will result in prevention of blindness in thousands of patients. The findings from this multi-centered clinical trial have resulted in major research spin-offs that will further elucidate the mechanisms of glaucoma damage and result in an even greater preservation of sight in the future. Several of these studies, both clinical and laboratory, are being performed here through collaboration of the biomedical engineering faculty including Drs. Cynthia Roberts and Jun Liu.

The division faculty also participated in a trial utilizing new technology to identify progression of optic nerve damage in glaucoma earlier than current methods, thereby enhancing glaucoma management. This was presented at ARVO, the largest ophthalmology research meeting in the country.

The clinical volume in the glaucoma division is rapidly expanding. This past year we saw a nearly 20% increase in patient visits, from 6,045 the previous year to 7,199 this past year.

We are proud of our contributions in all mission areas for the Department, the Medical Center, the University 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.

A Pseudotumor Cerebri Center of Excellence was created and is dedicated to the care of patients with idiopathic and secondary intracranial hypertension. The group will include neuro-ophthalmology, otolaryngology, neurosurgery, neurology, endocrinology, and biomedical engineers. The group will also focus on clinical and basic science research to provide better understanding of the underlying etiology as well as more targeted treatment options. A tissue bank is being created to collect blood and cerebrospinal fluid from patients for long-term studies.

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*; an advisor to the Chief of Space Medicine at NASA Johnson Space Center and the Intracranial Hypertension Research Foundation; as well as being a grant reviewer for the Columbus Foundation, the American Institute of Biological Sciences, the US Army Medical Research and Material Command.

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

There are currently 7 other clinical trials going on in the division in the areas of multiple sclerosis and ocular toxicity of cancer treatments.

Dr. Cindy Roberts and Dr. Katz are currently involved in the China Eye Project, an effort to develop a new surgical procedure to implant a device for direct optic nerve stimulation.
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 were conducted that 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, 2009 to June 30, 2010, 581 cases were examined, reported, and filed in the division archives of ophthalmic pathology.

**TOTAL CASES INCLUDED:**

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<th>Description</th>
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**OPHTHALMIC PATHOLOGY**

*Microscopic closeup of optic nerve*

Dr. Craig demonstrating the teaching microscopes
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, and family medicine. Medical student education is supported with lectures in their core curriculum, physical diagnosis instruction, clinical rotations, and participation in research projects.

Our American Society of Ophthalmic Plastic and Reconstructive Surgery (ASOPRS) fellowship training program complements residency training. Our recent graduate fellow, Dr. Kevin Michels, received the annual fellow teaching award.

Dr. Steven Katz continues his diligent work with the residents by overseeing the hospital ward and emergency room consult service. In 2009, Dr. Katz was a founding member of the 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.

Dr. Kenneth Cahill is on the executive committee of the International Thyroid Eye Disease Study Group. He also serves on the American Academy of Ophthalmology Ophthalmic Technology Assessment Committee.

We have made local and national presentations and written eight book chapters covering therapeutic and cosmetic botulinum toxin, cosmetic tissue fillers, blepharoplasty surgery, ptosis, entropion, ectropion, trichiasis, eyelid reconstruction, bioengineered tissue grafts, thyroid eye disease, anophthalmic socket reconstruction, brow lifts, forehead rejuvenation, and tissue adhesives.

Ongoing research projects include lacrimal outflow system imaging, botulinum toxin efficacy, new techniques of tissue filler delivery, minimally invasive facial surgery, facial anatomy, and treatment of orbital lymphangiomas.

KENNETH CAHILL, MD

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 2009—2010 year, the service provided over 2000 patient examinations including refractions, contact lens fittings, low vision evaluations, and sports vision analysis.

The division also supported the prison clinic rotations by providing optometric care at Corrections Medical Center.

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

RANDY MCLAUGHLIN, OD
The Pediatric Division once again shows strong numbers with 9,621 clinic visits for the academic year. Faculty include Division Chief Gary Rogers, MD, Don Bremer, MD, Cybil Cassady, MD, Richard Golden, MD, Julie Lange, MD, Mary Lou McGregor, MD, and David Rogers, MD. The clinic is staffed by one first-year and two second-year ophthalmology residents and two optometrists. We are very active surgically, consistently showing improved numbers in the surgery center.

In addition to clinical eye care, the division supports research and teaching programs that ensure delivery of the highest quality pediatric care. The division participates in both funded and unfunded research. Several amblyopia protocols and a randomized nasolacrimal duct study are being conducted in association with the Pediatric Eye Disease Investigator Group (PEDIG). Drs. Don Bremer and Rick Golden are the Principal Investigators for these PEDIG trials.

Larry Leguire, PhD, continues to work with the division conducting functional MRI research with an interest in congenital ocular motor nystagmus. An eye tracker in the MRI scanner has been acquired for these studies. Dr. David Rogers has been active in teaching and in clinical research.

We are engaged in fMRI research for nystagmus, corneal pachymetry, amblyopia, convergence insufficiency, and congenital cataracts. The group is involved in three multicenter trials on retinopathy of prematurity and is a participating center for PEDIG.

With the support of Nationwide Children’s Hospital, we have increased laboratory and clinical space and equipment to better serve our young patients.

It continues to be our goal to be a leader in the research of fMRI and changes to the visual cortex in patients with amblyopia and nystagmus. PEDIG has recognized our previous research with sinemet and amblyopia and has just completed the first multicenter study in amblyopia involving the treatment of older children using a similar levodopa-carbidopa combination.

I am very pleased with the progress of our division and its continued success.

GARY ROGERS, MD
We continue 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 monovision/blended vision correction for patients over 40 with presbyopia.

During the past year, two surgeons were trained on the LASIK procedure using both lasers. We are in the process of developing methods for our fellows to perform LASIK cases as part of their training.

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.

Collaborating with refractive division faculty is Research Division Director Dr. Cynthia Roberts. She uses basic and translational research to understand the biomechanical response of the cornea and the eye as a whole to disease and medical and surgical therapy. This keeps the refractive surgery division on the cutting edge of discoveries and better able to give our patients the latest and best refractive care.

DAVID CASTELLANO, MD
The Retina Division faculty includes Colleen Cebulla, MD, PhD, John Christoforidis, MD, Susie Chang, MD, Fred Davidorf, MD, Paul Kurz MD and Alan Letson, MD.

Dr. Cebulla joined the faculty in September 2009 after having completed fellowships in Ocular Oncology and Vitreoretinal Surgery at Bascom Palmer Eye Institute. She brings experience in ocular melanoma and will be doing both basic science research as well as working with Dr. Davidorf on the ocular oncology service.

Patient care activity included over 8,500 patient visits, with over 6,200 diagnostic imaging procedures for the division. The surgical retina team performed over 800 major vitreoretinal procedures. Over 1600 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. Led by clinical research manager Laura Sladoje and clinical trial coordinators Jill Salerno, Jill Milliron, and Kathy McKinney, the division was actively involved in clinical trials sponsored by National Eye Institute (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. Dr. Cebulla obtained grant funding for her work in ocular melanoma and PVR and has been collaborating with Mohamed Abdel-Rahman, MD, PhD, in the lab. Dr. Davidorf and Dr. Abdel-Rahman continue 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 retinal photographers, Stephen Shelley, Amanda Barnett, and PJ Fish (who joined the team in autumn 2009), contributed to imaging for clinical trials as well as other trials performed by other departmental divisions. The imaging service includes high resolution color and fluorescein angiography, ICG angiography, Fundus Autofluorescence, high resolution anterior and posterior segment ocular and orbital ultrasonography, time domain OCT, and spectral domain OCT.

The division maintained its teaching activity by supporting two retinal fellows Mike Wells, MD, and Sunday Olatunji, MD, and working with residents in their first- and second-year retina rotations. Medical students also rotate on the service. Retina faculty deliver weekly retina lectures to residents and hold imaging conferences with residents and fellows. The retina faculty also serves as preceptors for resident research projects and is active in the curriculum of the College of Medicine.

ALAN LETSON, MD
**CORNEA**

**Title:** Corneal crosslinking in keratoconus: Crosslinking for corneal ectasia after refractive surgery.
**Principal Investigator:** Richard Lembach MD
**Co-Investigators:** David Castellano MD

**Title:** Clinical Safety and Efficacy Comparison of Nevanac 0.1% to Vehicle following Cataract Surgery in Diabetic Retinopathy Patients.
**Sponsor:** Alcon
**Principal Investigator:** Thomas Mauger MD
**Co-Investigators:** Alan Letson MD, Frederick Davidorf MD, John Christoforidis MD, Susie Chang MD, Paul Kurz MD

**Title:** Clinical evaluation Nepafenac ophthalmic suspension, 0.3% for prevention and treatment ocular inflammation and pain after cataract surgery
**Sponsor:** Alcon
**Principal Investigator:** Thomas Mauger MD
**Co-Investigators:** Rebecca Kuennen MD

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**GLAUCOMA**

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

**Title:** Measurement and Evaluation of the Elastic and Viscous Properties of the Cornea in Glaucoma
**Sponsor:** Columbus Foundation
**Principal Investigator:** Cynthia Roberts PhD
**Co-Investigators:** Richard Lembach MD, Paul Weber MD

**Title:** The Impact of Corneal Elasticity on IOP and CCT measurements in Glaucoma Management.
**Sponsor:** Columbus Foundation
**Principal Investigator:** Jun Liu PhD
**Co-Investigators:** Paul Weber MD, Cynthia Roberts PhD

**Title:** Nanoengineered in vitro trabecular meshwork (TM) model for systematic investigation of aqueous humor outflow resistance
**Sponsor:** Glaucoma Research Foundation
**Principal Investigator:** Yi Zhao PhD
**Co-Investigators:** Paul Weber MD, Cynthia Roberts PhD, Deborah Grzybowski PhD

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**NEURO-OPHTHALMOLOGY**

**Title:** Capillary changes in Fabry disease
**Sponsor:** Genzyme Corporation
**Principal Investigator:** Deborah Grzybowski, PhD
**Co-Investigators:** Alan Letson MD

**Title:** Fabry registry
**Sponsor:** Genzyme Corporation
**Principal Investigator:** Deborah Grzybowski PhD

**Title:** A Phase II, Double-Blind, Randomized, 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 IIIB-IV)
**Sponsor:** Astra Zeneca
**Principal Investigator:** Miguel Villalona MD
**Co-Investigators:** 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 Institutes of Health
**Principal Investigator:** Steven Katz MD

**Title:** Phase 3, randomized, open-label study of the efficacy and safety of PF-02341066 versus standard of care chemotherapy (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
**Principal Investigator:** Steven Katz MD
NEURO-OPHTHALMOLOGY

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
Principal Investigator: Aaron Boster MD
Co-Investigators: 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
Principal Investigator: Colleen Cebulla MD PhD
Co-Investigators: John Christoforidis MD, Alan Letson MD, Paul Kurz MD

Title: Proteomic analysis of experimental and human retinal detachments with proliferative vitreoretinopathy (PVR) and potential for therapy
Sponsor: National Center for Research Resources
Principal Investigator: Colleen Cebulla MD PhD

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

Title: Phase IIIB Dose-Evaluation Study of Pazopanib Eye Drops for the Treatment of Neovascular Age-related Macular Degeneration
Sponsor: Glaxo Smith Kline
Principal Investigator: Alan Letson MD
Co-Investigators: John Christoforidis MD, Susie Chang MD, Michael Wells MD, Colleen Cebulla MD PhD, Paul Kurz MD, Frederick Davidorf 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 cid (EPA) in Age-Related Macular Degeneration (AREDS2)
Sponsor: National Health Institutes
Principal Investigator: Alan Letson MD
Co-Investigators: Frederick Davidorf MD, Colleen Cebulla MD PhD, Susie Chang MD, John Christoforidis MD, Michael Wells MD

Title: Targeted Delivery of Biodegradable Multifunctional Nanoparticles for Integrated Imaging and Therapy of Age-Related Macular Degeneration.
Principal Investigator: Ronald Xu PhD
Co-Investigators: Cynthia Roberts PhD, Virginia Sanders PhD, Alan Letson MD

RETINA

Title: Comparison of Age-related Macular Degeneration Treatments Trials (CATT)
Sponsor: National Institutes of Health
Principal Investigator: 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 (ACCORD)
Sponsor: National Institutes of Health
Principal Investigator: Kwame Osei MD
Co-Investigators: Alan Letson MD

Title: Phase III, Double Masked, Multicenter, Randomized, Sham-Controlled Study of the Efficacy and Safety of Ranibizumab in Subjects with Clinically Significant Macular Edema with Center Involvement Secondary to Diabetes Mellitus (RISE)
Sponsor: Genentech
Principal Investigator: Alan Letson MD
Co-Investigators: Frederick Davidorf MD, Colleen Cebulla MD PhD, Susie Chang MD, John Christoforidis MD, Michael Wells MD

Title: Targeted Delivery of Biodegradable Multifunctional Nanoparticles for Integrated Imaging and Therapy of Age-Related Macular Degeneration.
Principal Investigator: Ronald Xu PhD
Co-Investigators: Cynthia Roberts PhD, Virginia Sanders PhD, Alan Letson MD
Authors: Abdel-Rahman MH, Boru G, Massengill J, Salem MM, Davidorf FH
Title: MET oncogene inhibition as a potential target of therapy for uveal melanomas
Journal: Investigative Ophthalmology & Visual Science
Pages: 51(7):3333-9
Date: July 2010

Authors: Abdel-Rahman MH, Pilarski R, Ezzat S, Sexton J, Davidorf 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: Yeh S, Cebulla CM, Witherspoon SR, Emerson GG, Emerson MV, Suhler EB, Albini TA, Flaxel CJ
Title: Management of fluocinolone implant dissociation during implant exchange.
Journal: Archives of Ophthalmology
Pages: 127:1218-21
Date: September 2009

Authors: Boutrid H, Pina Y, Cebulla C, Feuer WJ, Lampidis TJ, Jockovich ME, Murray T
Title: Increased Hypoxia following Vessel Targeting in a Murine Model of Retinoblastoma
Journal: Investigative Ophthalmology & Visual Science
Pages: 50:5537-43
Date: December 2009

Authors: Bajenaru L, Pina Y, Murray T, Cebulla C, Feuer WJ, Jockovich ME, Marin-Castano ME
Title: Gelatinase Expression and Modulation in Retinoblastoma
Journal: Investigative Ophthalmology & Visual Science
Pages: 51(6):2860-4
Date: January 2010

Title: Impact of tumor-associated macrophages in LH(BETA) T(AG) mice on retinal tumor progression: relation to macrophage subtype
Journal: Investigative Ophthalmology & Visual Science
Pages: 51(5):2671-7
Date: May 2010

Authors: Leng T, Cebulla CM, Schefler AC, Murray TG
Title: Focal periocular carboplatin chemotherapy avoids systemic chemotherapy for unilateral, progressive retinoblastoma
Journal: Retina
Pages: 30(4 Suppl):S66-8
Date: April 2010

Authors: Cebulla C, Ruggeri M, Murray TG, Feuer WJ, Hernandez E
Title: Spectral domain optical coherence tomography in a murine retinal detachment model
Journal: Experimental Eye Research
Pages: 90(4):521-7
Date: April 2010
**Authors:** Bhattacharya SK, Gomes J, Cebulla CM  
**Title:** Toward failure analyses in systems biology  
**Journal:** Wiley Interdisciplinary Reviews: Systems Biology and Medicine  
**Pages:** 2(5):507-17  
**Date:** February 2010

**Authors:** Richdale K, Wassenaar P, Teal Bluestein K, Abduljalil A, Christoforidis JB, Lanz T, Knopp MV, Schmalbrock P  
**Title:** 7 Tesla MR imaging of the human eye in vivo  
**Journal:** Journal of Magnetic Resonance Imaging  
**Pages:** 30(5):924-32  
**Date:** November 2009

**Authors:** Grzybowski DM, Lubow M  
**Title:** Idiopathic intracranial hypertension  
**Book:** Ocular Disease: Mechanisms and Management  
**Editors:** Levin LA, Albert DM  
**Publisher:** Elsevier Limited  
**Pages:** Chapter 39  
**Date:** March 2010

**Authors:** Holman DW, Kurtcuoglu V, Grzybowski DM  
**Title:** Cerebrospinal Fluid Dynamics in the Human Cranial Sub-arachnoid Space - An Overlooked Mediator of Cerebral Disease. Part II: In Vitro Arachnoid Outflow Model  
**Journal:** Journal of the Royal Society Interface  
**Pages:** 7:1205-18  
**Date:** March 2010

**Authors:** Kurz PA, Kurz DE  
**Title:** Macular Hole Closure and Visual Improvement with Topical Non-Steroidal Treatment  
**Journal:** Archives of Ophthalmology  
**Pages:** 127(12):1687-8  
**Date:** December 2009

**Authors:** Lewis JR, Boguski JM, Mahmoud AM, Lembach RG, Roberts CJ  
**Title:** Normative database of donor keratographic readings in an eye-bank setting  
**Journal:** Journal of Cataract & Refractive Surgery  
**Pages:** 36(4):649-58.e2  
**Date:** April 2010

**Authors:** Frieberg T, Tolentino M (OSU: Letson AD)  
**Study Group:** Evaluation of efficacy and safety in maintaining visual acuity with sequential treatment of neovascular AMD (LEVEL)  
**Title:** Pagaptanib sodium as maintenance therapy in neovascular age related macular degeneration: the LEVEL Study  
**Journal:** British Journal of Ophthalmology  
**Pages:** 94:1611-17  
**Date:** May 2010

**Author:** Mauger T  
**Title:** What should I do for a patient who wears soft contact lenses and complains of dry itchy eyes?  
**Book:** Curbside Consultation in Cornea and External Disease  
**Editors:** Price FW, Price MO, Letko E, Chang DF  
**Publisher:** Slack Inc.  
**Pages:** Chapter 38  
**Date:** April 2010

**Authors:** Cronau H, Kankanala RR, Mauger T.  
**Title:** Diagnosis and management of red eye in primary care.  
**Journal:** American Family Physician.  
**Pages:** 15:81: 137-44  
**Date:** January 2010

**Authors:** Zhang L, Xu JS, Sanders VM, Letson A, Roberts CJ, Xu R  
**Title:** Multifunctional microbubbles for image-guided antivascular endothelial growth factor therapy  
**Journal:** Journal of Biomedical Optics  
**Pages:** 15(3):030515  
**Date:** May 2010

**Authors:** He X, Liu J  
**Title:** A quantitative ultrasonic spectroscopy method for non-invasive determination of corneal biomechanical properties  
**Journal:** Investigative Ophthalmology & Visual Science  
**Pages:** 50(11):5148-54  
**Date:** July 2009

**Authors:** Kashou NH, Leguire LE, Roberts CJ  
**Title:** Instruction Dependent Activation During Optokinetic Nystagmus (OKN) Stimulation: an fMRI Study at 3T  
**Journal:** Brain Research  
**Pages:** 8:1336:10-21  
**Date:** April 2010

**Authors:** Kass MA, et al (OSU: Weber PA)  
**Group:** Ocular Hypertension Treatment Study Group (OHTS)  
**Title:** Delaying treatment of ocular hypertension  
**Journal:** Archives of Ophthalmology  
**Pages:** 128(3):276-287  
**Date:** March 2010

**Authors:** Barnett EM, et al (OSU: Weber PA)  
**Group:** Ocular Hypertension Treatment Study Group (OHTS)  
**Title:** The incidence of retinal vein occlusion in the Ocular Hypertension Treatment Study Group  
**Journal:** Ophthalmology  
**Pages:** 117(3):484-8  
**Date:** March 2010


Cebulla CM. “Scarlet and Grey Intraocular Tumors.” Columbus Eye Ear Nose Throat Society. Columbus, OH. October 2009.


Chang S. “Age Related Macular Degeneration.” OSU MedNet21. Center for Continuing Medical Education. The Ohio State University Medical Center. February 2009.


Katz SE. “Idiopathic Intracranial Hypertension: A Paradigm for Diagnosis and Management.” Department of Neurology, Ohio State University. Columbus, Ohio. February 2010.

Katz SE. “The Pupil.” Department of Neurology, Ohio State University. Columbus, OH. April 2010.

Katz SE. “Pulsatile Tinnitus, Hearing Loss and Spontaneous Cerebrospinal Fluid Leaks in Idiopathic Intracranial Hypertension.” Department of Otolaryngology, The Ohio State University. Columbus, OH. May 2010.

Katz SE. “Diplopia.” Department of Neurology, Ohio State University. Columbus, OH. May 2010.


Roberts CJ. “Biomechanics in Ophthalmology.” Tel Aviv Medical Center Department of Ophthalmology. Tel Aviv, Israel. May 2010.


**POSTGRADUATE SYMPOSIUM**

Cebulla CM. "Tumor Imaging"  
Lewis JR. "Dual vs. Single Scheimpflug Anterior Segment Imaging"  
Mauger TF. "Corneal Confocal Imaging"  
Roberts CJ. "Misconceptions & Misinterpretations in Corneal Topography"  
Roberts CJ. "Effective Posterior Power: How Is It Used for Prediction of IOL Power?"  
Roberts CJ. "Dynamic Corneal Topography"  
Sawchyn AK. "Using HRT to Manage Glaucoma"  
Weber PA. "OCT – Glaucoma Overview"  
Weber PA. "How Glaucoma OCT Imaging Can Enhance Patient Care"

**20/20 SEMINARS**

**Ready, Aim, Refract!**  
Castellano D. “To Flap or Not to Flap”  
Tandon A. “PresbyLASIK - Fad or the Future?”  

**Extra! Extra! Technology Stamps out Glaucoma!**  
Fleming GP. “Fourier Domain OCT”  
Azrak MI. “Corneal Biomechanics & Glaucoma”

**New Concepts in Keratoplasty**  
Kuennen R. “Endothelial Keratoplasty”  
Mauger TF. “PK and Beyond”

**Spots in Your Eyes**  
Cebulla CM. “Pigmented Lesions & Tumor Lookalikes”  
Wells M. “Dots, Flecks, and Spots”

**ARVO**

Salem MM, El-Garf I, Davidoff FH, Abdel-Rahman MH. "Antineoplastic Activity of Selected Group of Medicinal Plants Against Uveal Melanomas"


Verma V, Abdel-Rahman MH, Cebulla CM, Davidoff FH. "Metastasis in Small Uveal Melanomas"

Tang J, He1 X, Liu J. "Effect of Ocular Tissue Viscoelasticity on Intraocular Pressure Elevation Under Injection at Different Rates"

Zhang L, Xu J, Xu R, Roberts CJ. "Targeted Delivery of Multifunctional Microbubbles for Anti-VEGF Therapy of Neovascular Age-Related Macular Degeneration"

Roberts CJ, Mahmoud AM, Small RH. "The Response of Ocular Pulse Amplitude (OPA) to an Increase in Intraocular Pressure (IOP) Generated by Changing Subject Position, in Order to Investigate Ocular Blood Flow and Validate a Novel Electrical Analog Model"

Qazi1 MA, Mahmoud AM, Kollbaum PS, Twa MD, Roberts CJ, Pepose JS. “Application of a Quantitative Method for Identifying Risk for Ectasia After LASIK in Normal, Suspect, and Ectatic Eyes”


Thiagarajasubramanian AK, Lubow M, Schultz B, Grzybowski DM. "Transcranial Orbitotomy for Ocular-Orbital Histopathology: The FULL Autopsy Is Not Full Enough”

Mahmoud AM, Roberts CJ. "The Influence of Altered Posterior Angle of Incidence on Effective Posterior Power Calculation Before and After LASIK”


Whitehead G, Rogers DL, McGregor M, Sema A. "Utility of the Convergence Insufficiency Symptom Survey in a Tertiary Care Center”

Hendershot AJ, Mahmoud AM, Mauger TF. "Cataract Surgery Simulators in the Training of Ophthalmology Residents”

Lewis JR, Mahmoud A, Roberts CJ. "Recentration to the Pupil Center Provides Consistency of Central Anterior Curvature Calculation Under Conditions of Misalignment”

MISSIONS

WORLDWIDE EFFORTS

BUCKEYES AROUND

THE GLOBE

BRINGING HOPE TO PATIENTS FROM UGANDA...
...TO NICARAGUA WITH UNPARALLELED EYE CARE
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Once again, this year’s list for Columbus, Ohio honored the hard work and dedication of OSU’s Ophthalmology faculty.

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N. Douglas Baker* Jill Foster*
Robert P. Bennett* Steven E. Katz
Robin F. Beran* Curtin G. Kelley*
John A. Burns* Rebecca A. Kuennen
Kenneth V. Cahill* L. Carol Laxson
David Castellano David M. Lehmann*
Colleen M. Cebulla Carrie Lembach*
Robert B. Chambers* Richard G. Lembach
Susie Chang Alan D. Letson
John B. Christoforidis Mark D. Lomeo*
Louis J. Chorich* Thomas F. Mauger
Frederick H. Davidorf E. Mitchel Opremcak*
Robert Derick* Karl S. Pappa*
Jack Dingle* Sugat Patel*
Alice Epitropoulos* John R. Stechschulte*
Avrom D. Epstein* Peter J. Utrata*
Kelly Everman* Paul A. Weber

*Indicates a community faculty member. For a complete list of our community faculty visit www.eye.osu.edu/directory/community.