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This report covers the period July 1, 2006 through June 30, 2007.

University of Michigan Department of Ophthalmology and Visual Sciences

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Dear Friends,

This is the Department of Ophthalmology’s 135th anniversary, a remarkable event in any year, but especially significant this year because we have also celebrated groundbreaking for a greatly expanded eye center. It would have been difficult for our founders to imagine the extent to which the Department and the entire medical center have grown since those early years.

We have trained 435 residents since 1872. They, along with clinical and research fellows, have had a substantial impact on the fields of ophthalmology and visual sciences. Today you can find our alumni in nearly every state of the nation and in many countries around the world.

We can offer our patients specialized treatment that was unimaginable 135 or even 35 years ago, and not necessarily available in all medical centers today. For example, one Kellogg physician performed successful surgery on a 5-month-old baby with glaucoma. Another traveled to Central America and performed surgery on a mother and son whose vision was impaired by a rare genetic syndrome. Both stories are in this report.

Vision research has also followed a remarkable trajectory. Who could imagine in 1872 that today we would be testing an implant that could very well turn out to be the first viable treatment for a degenerative eye disease? Or that our own faculty would invent an imaging device capable of detecting eye disease before any visible signs occur?

We have also developed some steadfast friendships over the years. It is with deep gratitude that I wish to thank the many supporters who have made our growth possible, particularly this year as our state-of-the-art eye care facility takes shape. Many of you joined us at our groundbreaking ceremony last fall. In February construction began in earnest and now the steel beam structure is nearly in place for our new 8-story, 230,000-square-foot building that will house all of our clinics, operating rooms, and a portion of our research laboratories.

So much “history” has happened just this year, as well as over the past 135 years. Many individuals have contributed to our success, from faculty to alumni to donors. It’s a good year to say thanks to all of you.

Paul R. Lichter, M.D.
F. Bruce Fralick Professor and Chair
University of Michigan Department of Ophthalmology and Visual Sciences
Director, W.K. Kellogg Eye Center
Leaders in Ophthalmology since 1872

The Department of Ophthalmology was established in 1872, just 22 years after the U-M Medical School was founded. For 135 years, the Department’s faculty have made significant and lasting contributions to the field of ophthalmology. Here are a few measures of the faculty’s impact on patient care, education, and vision research.
CHAIRS OF THE DEPARTMENT HAVE TRAINED 435 RESIDENTS SINCE 1879

133 FELLOWS HAVE RECEIVED SUBSPECIALTY TRAINING SINCE 1965

Number of residents

- GEORGE E. FROTHINGHAM, M.D. 1872-1889
- FLEMMING CARROW, M.D. 1889-1904
- WALTER R. PARKER, M.D. 1904-1932
- F. BRUCE FRALICK, M.D. 1933-1968
- JOHN W. HENDERSON, M.D., PH.D. 1968-1978
- PAUL R. LICHTER, M.D. 1978-PRESENT

1 CLINICAL RESEARCH
26 CORNEA
1 COMPREHENSIVE OPHTHALMOLOGY
28 GLAUCOMA
18 NEURO-OPHTHALMOLOGY
25 PEDIATRIC OPHTHALMOLOGY
17 EYE PLASTICS
17 RETINA
“In light of the preliminary work on CNTF, there are high expectations for this new therapeutic technology. This is the first non-specific therapy to emerge with promising experimental results.”

—John R. Heckenlively, M.D.
Evaluating RP therapy with hope and caution

PEOPLE WITH RETINITIS PIGMENTOSA have watched and waited for news of any treatment that might stop the progression of the disease or even allow them to recover lost vision. Now there is some reason to hope that a sustained-release implant being evaluated at the U-M Kellogg Eye Center and 13 other centers across the nation could deliver the long-awaited therapy.

Participants whose condition meets specific criteria will have surgery to receive an implant that releases a naturally occurring protein known to retard retinal degeneration.

Today patients with retinitis pigmentosa (RP) have very few treatment options. Antioxidant vitamins may help, but they do not cure. There are no known effective treatments for these degenerative eye diseases that affect 100,000 Americans and, over time, can lead to blindness.

John R. Heckenlively, M.D., an internationally known expert on inherited retinal disease, will lead the study for the U-M Kellogg Eye Center. He is cautiously optimistic about the prospects for the new treatment because earlier research has demonstrated that the protein, ciliary neurotrophic factor (CNTF), has the ability to slow the degeneration of photoreceptors, the light-sensing cells essential for sight.

Vicki Parker, whose mother and grandmother both had RP, hopes to participate in the trial. “With my family history, I’m lucky. My mother and grandmother both had some vision in their final years,” she says. “Naturally, I’m always interested in the latest research. I’m hoping that if this study is successful, the treatment will become routine for people with RP and other types of eye diseases.”

“In light of the preliminary work on CNTF, there are high expectations for this new therapeutic technology,” says Dr. Heckenlively. “This is the first non-specific therapy to emerge with promising experimental results.” He adds that RP is difficult to treat, in part, because there are so many genetic forms. “Rather than targeting a particular type of RP,” says Dr. Heckenlively, “this new therapy focuses on the endpoint of all RP types: vision loss due to degeneration of photoreceptors.”

In 2005, a Phase I Clinical Trial concluded that the CNTF implant exhibited a safe profile for humans. Currently, two Phase II/III clinical trials are evaluating two different doses of CNTF: a high dose or a low dose in one eye, as well as a sham surgery in the other eye so participants will not know which eye has been treated with CNTF.

Vicki Parker, whose mother and grandmother both had RP, hopes to participate in the trial. “With my family history, I’m lucky. My mother and grandmother both had some vision in their final years,” she says. “Naturally, I’m always interested in the latest research. I’m hoping that if this study is successful, the treatment will become routine for people with RP and other types of eye diseases.”
BUILDING A BETTER OPHTHALMOSCOPE

Metabolic imaging detects early eye disease

TWO KELLOGG FACULTY MEMBERS HAVE DEVELOPED AN EARLY WARNING DEVICE FOR EYE DISEASE. After a year of development and testing, they have collected data showing that the highly sensitive optical instrument can detect signs of disease before symptoms appear.

Now Howard R. Petty, Ph.D., and Victor M. Elner, M.D., Ph.D., have formed a company, OcuSciences, Inc., to develop the instrument and take it to a wider market. They have good reason to believe they will be successful. The business partners received the SPARK Entrepreneur Award, first place, from the Ann Arbor-based economic development group.

While the device has the potential for detecting diseases such as glaucoma and macular degeneration, the inventors believe that its initial impact will be on those at risk for diabetes. Often, changes in the retina are the first signals that a person may be entering a pre-diabetic state. “About 50 million people have pre-diabetes,” says Dr. Elner. “When these individuals receive early treatment, it has been shown that 30 percent will not go on to develop the disease.”

Dr. Elner believes that the instrument will play an important role in controlling a disease that affects millions of people every year and is the leading cause of blindness and other debilitating complications in the developed world.

The new high-tech ophthalmoscope measures the metabolism of both healthy and diseased tissue, a technique that can reveal the earliest stages of eye disease in fragile retinal tissue. The device is the result of Dr. Petty’s pioneering research on both metabolism and imaging. He is a noted biophysicist and holds a number of patents for previous inventions. Dr. Elner is an ophthalmologist and a pathologist, perhaps one of a dozen or so in the country who is an authority in these two scientific disciplines. His research dealing with pathologic metabolic alterations in retinal cells—how they behave under the stress of disease—meshed with Dr. Petty’s imaging research and together they developed this innovative instrument.

While the new device will require state-of-the-art imaging equipment, Drs. Petty and Elner plan to make it affordable so that it can be used for routine screening of patients at risk for diabetes in a variety of clinical settings. The rapid, non-invasive test is simple to administer.

The new instrument captures images of cells as they react to stress before structural changes appear. Current clinical methods can detect structural changes only after the disease is already advanced.

“Not often do you have a technology that so radically changes how eye care is delivered,” says Anik Ganguly, acting president, as well as investor in the company. The new instrument is non-invasive, easy to use, and should become a standard feature in every ophthalmology practice.”

Victor M. Elner, M.D., Ph.D., and Howard R. Petty, Ph.D., have invented an instrument that captures cell activity within the eye.
Long-term study on glaucoma treatment yields new answers

IN 1989, RESEARCHERS AT THE U-M KELLOGG EYE CENTER SET OUT TO DETERMINE THE BEST TREATMENT for patients who were newly diagnosed with glaucoma: eye drops or surgery. They led a national study, the Collaborative Initial Glaucoma Treatment Study (CIGTS), that would ultimately follow the care of 607 patients at 14 clinical centers around the U.S. Now, after following these patients for many years, researchers have found that the data continue to reveal unexpected findings.

Paul R. Lichter, M.D., Principal Investigator on the original CIGTS grant and Director of the Kellogg Eye Center, was hoping to put the controversy to rest once and for all. “For years, practitioners have wondered which initial treatment was better for our patients. Some were sure it was medicine, others were sure it was surgery. But there were no data that could prove either side.”

Now we have data. With funding from the National Eye Institute for the original grant and a subsequent grant for data analysis, Dr. Lichter and colleagues have had the opportunity to follow patients for over a decade. “While early reports indicated that initial surgery and medications yielded similar outcomes, analyses of longer term follow-up data have revealed an important result,” says Dr. Lichter. “It appears that patients who had more visual field loss at the time of diagnosis ultimately do better if they are treated initially with surgery rather than with medication.”

“It appears that patients who had more visual field loss at the time of diagnosis ultimately do better if they are treated initially with surgery rather than with medication.”

— PAUL R. LICHTER, M.D.

From the beginning David C. Musch, Ph.D., M.P.H., has directed what is now a huge database, produced study reports, and crunched the numbers. After evaluating the visual field data, Dr. Musch has some pertinent take-home messages. “For starters, both groups did well. Intraocular pressure reduction from treatment was substantial in both groups, but significantly more so in the surgery group. Visual field loss was less than expected, likely due to the superb treatment and follow-up care these patients received throughout the trial.” He surmises that the regular clinic visits and frequent calls from interviewers might have encouraged the patients to comply better with instructions and treatment.

There was, quite unexpectedly, an intriguing finding within the surgery arm of the trial. According to Dr. Musch, the data show that smokers had substantially higher intraocular pressures than non-smokers. A smoker who underwent surgery for glaucoma was worse off than a patient in the surgery arm who did not smoke. Whether this has any effect on long-term visual field loss remains to be determined.

Although Dr. Musch and his colleagues will continue to analyze the data, one finding appears to be indisputable. Intraocular pressure fluctuation is a strong independent predictor of visual field loss. Thus, consistent control of pressure remains vital. The better and more reliable the pressure control, the less loss of visual field. Pressures that fluctuate increase the risk that the patient will lose visual function.
Grateful patients give back with first-time fundraiser

EVER SINCE THEIR SON, BRENDAN, WAS DIAGNOSED and treated for retinoblastoma when he was just nine months old, Myron and Karen Hepner had been looking for a way to give back to the Kellogg physicians and staff who helped them so much.

“The doctors and staff were a shining light to us when Brendan’s diagnosis was made,” says Mrs. Hepner. “Their caring attitude toward us went far beyond just being patients and we have been grateful for their sincerity throughout all the follow-up visits. They are a blessing to our family.”

Over the years, Mr. Hepner has gathered with friends to watch the NCAA Men’s Basketball Tournament and, during the 2006 tournament, he hatched the idea to watch all 32 games of the first round in exchange for donations. It was this simple idea that turned into the inaugural March Madness Against Blindness fundraiser that took place this past March at Damon’s Grill in Ann Arbor.

During the two-day event, which was heavily publicized by the local media, Mr. Hepner watched all 32 games and raised $6,000 for Kellogg’s vision research program. Brendan, now a happy and healthy 4-year-old, was right alongside him, serving as an inspiration to everyone who donated.

Donations were received from individuals and organizations from seven different states (Florida, Illinois, Indiana, Michigan, North Carolina, Tennessee, and Washington) and from people who have a history of retinoblastoma, as well as those who had never heard of this rare disease.

“This event exceeded our wildest expectations because it really struck a nerve with the community,” says Mr. Hepner. “It provided so many people with the opportunity to express their support and appreciation for all the great experiences they have had at Kellogg.”

“This event provided so many people with the opportunity to express their support and appreciation for all the great experiences they have had at Kellogg. Kellogg has been a wonderful place for us to have Brendan treated,” he adds. We know that all the great work and research going on there will have a positive impact throughout his life.”

— MYRON HEPNER
BLIND MICE CAN SEE — OR AT LEAST
REGAIN VISUAL FUNCTION

What’s the next step in making retinal cell transplantation a reality?

TRANSPLANTING RETINA CELLS TO RESTORE VISION has been an aspiration of vision scientists for years. In November 2006, scientists at the University of Michigan Kellogg Eye Center attracted international attention when they demonstrated that transplantation can be successful if the cells are introduced to the mouse retina at a very particular point in their development.

Anand Swaroop, Ph.D., had devoted many years to investigating the development and life cycle of rods, a type of photoreceptor cell that is essential for sight. Eventually he discovered that each rod starts out as an unspecified stem cell and then evolves into a “precursor,” at which point it signals its intent to become a particular type of cell. When transplanted at its precursor stage, the rod continues to develop and is successfully integrated into the mouse retina. Some reports claimed that “blind mice could see,” although it would be more accurate to say that these mice had “regained visual function,” as measured by the pupillary response to light.

The research findings immediately struck a chord among people with eye diseases like retinitis pigmentosa, in which vision loss is caused by the loss of rod photoreceptors. They emailed their congratulations and wanted to know when human testing would begin. A young man from Brisbane, Australia wrote, “Your research holds much promise and it is hoped that I could be a recipient of the technology in the not too distant future. Best wishes for your continued research success.”

A young man from Brisbane, Australia wrote, “Your research holds much promise and it is hoped that I could be a recipient of the technology in the not too distant future. Best wishes for your continued research success.”

Dr. Swaroop replied with cautious optimism. “It will take time,” he said, “to make the transition from mouse models to human eye disease. Nonetheless, this is a very exciting time for scientists who hope to see their research translated into treatments for degenerative retinal diseases.”

Dr. Swaroop and colleagues will continue to study rod transplantation with the goal of increasing the rate of cell integration. Meanwhile, the Kellogg researcher is directing a new study to ask the next big question: If rod precursors can be transplanted, why not cones? “The early data suggest we can rescue cone function,” says Hong Cheng, M.D., Ph.D., researcher in the Swaroop laboratory, who spoke at a recent Kellogg Research Symposium.

Cones are the light-sensing cells concentrated in the macula. If researchers replicate their success and demonstrate that cones, too, can be transplanted, Dr. Swaroop and colleagues will have good news for people suffering from another devastating eye disease: age-related macular degeneration.

Dr. Swaroop is the Harold F. Falls Collegiate Professor of Ophthalmology and Visual Sciences.
“I chose Kellogg for my residency because of the amazing faculty. I was so impressed with the depth and breadth of their abilities and experience in all of the subspecialty areas.”

—Deborah Y. Chong, M.D.
KELLOGG TRAINS THE BRIGHTEST AND BEST

Co-chief resident looks toward career in academic medicine

EVERY YEAR, KELLOGG ATTRACTS THE BRIGHTEST AND BEST to its residency program and Deborah Y. Chong, M.D., is no exception. After completing both her bachelor’s and medical degrees at Harvard University, she decided it would be wise to experience life in a different part of the country. She matched with Kellogg and began her residency in 2005.

“I chose Kellogg for my residency because of the amazing faculty. I was so impressed with the depth and breadth of their abilities and experience in all of the subspecialty areas,” says Dr. Chong.

Now entering her final year of residency, she continues to be impressed by the faculty. “One aspect of my residency that I’ve really enjoyed is the support from faculty,” explains Dr. Chong. “Even when one of the residents has to page a faculty member at 3 a.m., they never hesitate to call back immediately and share their expertise. This really shows how dedicated they are to our education and our residency program as a whole.”

Dr. Chong was awarded an NEI Travel Grant to attend the 2007 ARVO Annual Meeting in Florida, where she teamed with Susan G. Elner, M.D., David C. Musch, Ph.D., M.P.H., and fellow resident Tony H. Huynh, M.D., to present a poster on the effects of aspirin on the outcomes of photodynamic therapy. She also is working in the laboratory of David N. Zacks, M.D., Ph.D., on photoreceptor neuroprotection and studying vitreal drug penetration under Mark W. Johnson, M.D.

With her combination of clinical skills and research interests, Dr. Chong has made her own impression on the Kellogg faculty. “Dr. Chong is not only one of the brightest clinicians and most talented surgeons I have had the opportunity to work with, but she also is one of the kindest and most humble people I know,” says Shahzad I. Mian, M.D., Kellogg’s Residency Program Director. “She is a star and certainly has a bright future ahead of her.”

Her bright future continues to take shape in 2007-08 when she assumes duties as Co-Chief resident. “I know I have some big shoes to fill. There is a legacy of strong chiefs to uphold,” says Dr. Chong, who plans to pursue a retina fellowship and then begin a career in academic medicine.
SERENDIPITY SENDS FOUR STUDENTS TO INTERNSHIPS OVERSEAS

Kellogg researcher taps international network

A STUDENT’S CASUAL QUESTION TO JULIA E. RICHARDS, PH.D., has resulted in overseas internships for four University of Michigan students. Dr. Richards had invited a group of students to her home to socialize and discuss research internships. One guest, a graduate student in epidemiology, Teja Patil, asked Dr. Richards if she knew of any international research opportunities.

Dr. Richards, an ophthalmic geneticist in the Department of Ophthalmology and Visual Sciences and faculty member in the School of Public Health, began to draw on her worldwide network of physicians, researchers, and former students. She quickly found a position for Teja with a researcher in Peru who had been a postdoctoral fellow at Kellogg in the lab of Anand Swaroop, Ph.D. Teja’s interest in both laboratory and clinical research, and her ability to speak Spanish, made her well suited to work with Ricardo Fujita, Ph.D., in Lima, on the molecular genetics of glaucoma.

Meanwhile, a medical student called the Kellogg Eye Center to ask about foreign internships and was put in touch with Dr. Richards, who specializes in epidemiology as well as ophthalmic genetics. Several more students called and Dr. Richards made the additional matches.

One of Dr. Richards’ own former postdoctoral fellows, Rosa Ayala-Lugo, M.D., an ophthalmologist in Asuncion, Paraguay, responded that she had positions for more than one student. The medical student, Nisreen Mesiwala, and Takayuki Shimizu, M.D., a physician from Japan who is studying for his M.P.H. in epidemiology at Michigan, will work in Dr. Ayala-Lugo’s laboratory. Their task will be to help her build a database of patient characteristics that will constitute the first good epidemiologic characterization of glaucoma in Paraguay.

The fourth student, Nolawi Taddes, has an interest in epidemiology studies in Africa. He is on his way to Accra, Ghana to work with Christine Ntim-Amponsah, M.D., who collaborates with Dr. Richards on the study of the molecular genetics of glaucoma in West Africa. The genetic information collected there is highly relevant to U.S. epidemiology studies because a significant number of African-Americans, who are generally at a greater risk of developing glaucoma, can trace their ancestry to West Africa. It is especially relevant to families here with known relatives in Ghana.

And even as our students work in South America and Africa learning how scientific research is conducted in other countries, one of the sponsors has sent a student to a Kellogg laboratory. Alejandro Estrada Cuzcano, a student of Dr. Fujita from Peru, is here working with Anand Swaroop, helping to make the bridge between these countries function as a two-way street.

The interns will help build a database of patient characteristics that will constitute the first good epidemiologic survey of glaucoma in Paraguay.
TRAINING TECHNICIANS
On-the-job clinical experience sets program apart

OPHTHALMIC TECHNICIANS ARE AN INTEGRAL COMPONENT of the clinical team at Kellogg, working closely with physicians in the evaluation and management of patients with a variety of ocular problems. Because of the critical role they play, only the most competent and highly skilled technicians are asked to join the staff of the Eye Center. Finding this kind of talent has been an increasingly difficult challenge for Jennifer Ziehm-Scott, Clinic Operations Manager at Kellogg. A one-time practicing technician herself, she has witnessed the demise of many ophthalmic technician training programs across the country over the past decade.

Because the need is great and the pool of qualified candidates small, Ms. Ziehm-Scott teamed with Amy Steele, Lead Technician in Kellogg’s Comprehensive Ophthalmology Clinic, to develop an in-house training program for ophthalmic technicians. The program was established on a trial basis four years ago and became official in 2006.

Training for this six-month program begins with Ms. Steele in the Comprehensive Clinic, which tends to be the first stop for many new Kellogg patients. It offers trainees the opportunity to see a wide variety of ocular conditions. The trainees also work with physicians who understand that they and their patients will benefit directly from the assistance of a highly competent technician. Ms. Steele observes that this kind of physician involvement makes for a great learning environment.

During the first few months of the program, the trainee reviews written material and learns basic skills like vision testing and taking patient histories. In the next few months, technicians in one of Kellogg’s subspecialty clinics will introduce the trainee to procedures and diagnostic tests typically administered for patients with more complex diseases. By the end of the program, the trainee will be shadowing a physician and tracking patient visits from beginning to end.

“The program we’ve created at Kellogg has the benefit of on-the-job, clinical training, which many formal programs lack,” says Ms. Steele. “I’ve heard from trainees and established technicians that this is one of the most valuable parts of our program.” She also observes that both staff and physicians have the opportunity to spend one-on-one time with the trainees, getting to know them and finding out if they will be a good fit for Kellogg.

To qualify for training, a candidate must have completed two years of college and have a health care or science background. After completing the program, the technician joins the Kellogg staff and makes a two-year commitment. After one year (or 1,000 hours), he or she has the opportunity to become a Certified Ophthalmic Assistant (COA) by taking the national examination. To date, seven trainees have completed the program and four of them have gone on to pass the COA exam. The remaining three trainees will take the exam this year.

Typical of the intense one-on-one training, Amy Steele, C.O.T., demonstrates the proper use of the hand-held keratometer to Karen Schneider.
Patrick J. Parden, M.D.
Private practice, Coeur D’Alene Eye Clinic
Coeur D’Alene, Idaho
Completed residency in 1984

The wide range of cases Dr. Parden saw as a resident at U-M prepared him for the variety of patients he has in Coeur D’Alene, a growing community in northern Idaho, and on surgical missions to Mexico, Guatemala, and China. “The most rewarding part of eye practice is the positive impact that we have on our patients’ quality of life,” he says. “We also have a tremendous opportunity to help abroad.”

Martha M. Wright, M.D.
Associate Professor, Director, Glaucoma Service, and Director, Ophthalmology Residency Program
University of Minnesota Department of Ophthalmology
Completed residency in 1988

 Spending time as a volunteer in India and Nepal just after her residency gave Dr. Wright a perspective that continues to influence her. “It was a wonderful experience in which I learned more than I taught and received more than I gave,” she says. Today she especially enjoys establishing relationships with patients and training residents.

Kimberly G. Yen, M.D.
Assistant Professor of Ophthalmology and Pediatrics
Baylor College of Medicine
Houston, Texas
Completed residency in 1999

As a pediatric ophthalmologist, Dr. Yen participates in a number of NIH-funded clinical trials, including work on retinopathy, amblyopia, nasolacrimal duct obstruction, and congenital cataracts. Her responsibilities include educating residents, fellows, and medical students, helping others achieve their career goals just as faculty members at the Kellogg Eye Center assisted her. “My mentors helped me get where I am today,” she says.

William Selezinka, M.D.
Retired
San Diego, California
Completed residency in 1973

Instrumental in establishing the Ukrainian Eye Project after the fall of the Soviet Union, Dr. Selezinka says simply that he was “just doing what I like to do.” With Dr. Selezinka serving as the project’s medical director, the 15-year effort has resulted in 500 surgical procedures and has provided more than $2 million of donated ophthalmic surgical supplies, equipment, and medicines as well as invaluable training for Ukrainian physicians in Ivano-Frankivsk, Ukraine. It serves as a model for other medical outreach programs.
Brian P. Brooks, M.D., Ph.D.
Director, National Ophthalmic Disease Genotyping Network at the National Eye Institute and Director of the Ophthalmic Genetics Clinic at the Children’s National Medical Center Washington, D.C.
Completed residency in 2001, fellowship in 2002

One of only a handful of physicians in the country who is board-certified both by the American Board of Medical Genetics as well as the American Board of Ophthalmology, Dr. Brooks is leading the nationwide effort to create a repository of DNA samples from patients with inherited eye diseases, called the National Ophthalmic Disease Genotyping Network, or eyeGENE. “Our hope is that this network will empower patients and their physicians with molecular genetic knowledge,” he says.

Keith D. Carter, M.D.
Chair, Department of Ophthalmology and Visual Sciences
University of Iowa
Iowa City, Iowa
Completed residency in 1987

After serving as both medical director of clinical services and director of resident education at the University of Iowa, Dr. Carter was tapped last year to lead the department of more than 30 clinicians and scientists. “It is an honor to help direct this talented group of individuals,” says Dr. Carter, a specialist in oculoplastic surgery. His own research interests include Graves eye disease, inflammatory orbital disease, anophthalmic socket reconstruction, and predictive factors for eyelid reconstruction.

Hideki Chuman, M.D., Ph.D.
Associate Professor of Ophthalmology
University of Miyazaki
Miyazaki, Japan
Completed fellowship in 2001

As a respected neuro-ophthalmologist, Dr. Chuman sees patients from a wide geographic area. He also gives frequent lectures and serves as the neuro-ophthalmology section editor for the Japanese Journal of Ophthalmology. “My time at the University of Michigan made a difference in my career,” he says. “Many ophthalmologists know I have been well trained and are comfortable sending their patients to see me.”

More than 500 alumni in the United States and around the globe are making a difference in the lives of people with eye disease. Those profiled here offer a snapshot of that impact.
“Genetic counselors are trained to explain these complex, scientific issues to people in a way that will help them understand more about their disease.”

—Kari E. Branham, M.S.
GENETIC COUNSELORS ARE ADVOCATES FOR PATIENTS AND THEIR FAMILIES

Kellogg’s counselors give patients a short course in genetics

THERE ARE ONLY 10 OPHTHALMIC GENETIC COUNSELORS IN THE UNITED STATES AND TWO OF THEM RESIDE AT KELLOGG. According to Kari Branham, M.S., Kellogg’s lead genetic counselor, genetic counseling is an integral part of caring for patients who have inherited retinal diseases. “Genetic counselors are trained to explain these complex, scientific issues to people in a way that will help them understand more about their disease,” says Ms. Branham.

Most of the patients Ms. Branham sees are referred by Kellogg retina specialist John R. Heckenlively, M.D. They see Ms. Branham as part of their comprehensive first visit. During a typical appointment, Ms. Branham talks with patients about their diagnosis and reviews information about their disease. She also explains how the disease is inherited and informs them of available genetic testing, describing its benefits and limitations. Lastly, she spends time talking about how to understand the genetic test results.

Ms. Branham explains that some patients will decide to have testing even though treatment is not yet available for many inherited eye diseases. They may figure that the results will help them make career or lifestyle decisions and that a genetic diagnosis will provide the information needed when treatments begin to emerge.

If patients proceed with genetic testing, the analysis takes place in Kellogg’s state-of-the-art Ophthalmic Molecular Diagnostic laboratory. The services include Ms. Branham’s on-site genetic counseling, both before and after the testing.

“I like to think of myself as an advocate for my patients,” says Ms. Branham. “I am their resource when it comes to sharing the most up-to-date information on their disease, and I’m there to help them find the support they need.”

Kellogg’s genetic counselors see about 400 patients per year. They also work with clinicians and genetic counselors throughout the country to help patients get the information they need. In addition, they are involved heavily in research and clinical trials.

Donald Moore, 64, has been diagnosed with Stargardt disease—a disease characterized by progressive loss of central vision. He is one of many patients who find Kellogg’s genetic counseling valuable. “I am so surprised that other eye centers don’t have counselors to help patients with their diseases,” says Mr. Moore. “Having genetic counselors really increases a person’s confidence in an eye center.”

Currently, Mr. Moore’s vision is stable and he visits Kellogg once a year for a routine eye examination. He hopes to see a cure for his disease in his lifetime and says, if that happens, he believes that Kellogg will have played a key role in the discovery. “I’ve never heard of an eye center more on top of these diseases,” says Mr. Moore. “I have a feeling they’re going to solve the next big thing.”

Donald Moore has a greater understanding of his disease after speaking with genetic counselor Kari Branham.
HOW THE COMPOSITE IMAGE WAS CREATED

Capturing a sharp and seamless image of the inner eye

A GOOD OPHTHALMIC PHOTOGRAPHER CAN ILLUMINATE IMAGES of the eye’s interior, providing the ophthalmologist with important details about the structure of the eye and the health of a patient’s vision. The Kellogg Eye Center has an outstanding group of ophthalmic photographers, and they are directed by Richard E. Hackel, C.R.A., FOPS. He has won numerous national awards for his work, edits a column in EyeNet, and a little over ten years ago, developed an imaging technique that changed the nature of ophthalmic photography.

Ophthalmic photographers produce detailed images of the retina, optic nerve, and other structures that may reveal the course of a particular disease. However, photos taken through the patient’s pupil capture only a small part of the whole, much like the limited view of a room as seen through a keyhole. Photographers traditionally pasted multiple images together, but the process left visible edges and a less than perfect image.

Richard Hackel’s achievement in 1995 was to stitch together some 92 images to create one clear seamless image. The result: the first digital composite of the retina.

“I was on vacation when I received the images for the cover of a journal I was editing at the time,” says Mr. Hackel. “I spent the better part of the week scanning digital photos and then piecing them together with a software imaging program.” Word spread quickly, and software developers responded by adding a montage feature to imaging software.

With today’s software the process is much simpler. “You can create a fairly good composite rendering in 5 to 10 minutes,” explains Mr. Hackel. “But the image will be much more useful if you spend the extra time refining it.

If that takes 3 to 4 hours, it’s still better than the 60-plus hours I spent on the very first image.”

Mr. Hackel and colleagues Robert Prusak and Linda Goings photograph the eyes of 30 to 60 patients a day. They know that a large part of their job is to help patients feel comfortable as they enter an unfamiliar setting. “Patients are often afraid and worried about their vision,” he observes. “The photos are unlike any they’ve seen before, so it helps to explain what appears on the computer screen.”

The academic setting creates another set of challenges. While Mr. Hackel provides images for case presentations and journal articles, he is also involved in research, including the current Kellogg initiative to develop the first metabolic imaging device (see related story on p. 6).

Then there is the constant need to keep pace with the newest technology. The Department will soon have high-speed spectral domain imaging equipment that will display three-dimensional cross-sections of the retina in exceptional detail. When Eye Center clinics move into a new facility in 2010, Mr. Hackel and his staff will occupy a newly designed photography lab equipped with state-of-the-art equipment to serve Kellogg’s patients and faculty.
RECOGNIZING PEDIATRIC GLAUCOMA

A grandmother’s concern and a physician’s expertise help save a baby’s vision

WHEN PEOPLE COMMENTED ON HER BABY GRANDSON’S BIG BLUE EYES, AUDREY SMITH FELT UNEASY. From the time Jackson was born, she had worried that the eyes everyone noticed looked different than other children’s eyes. In addition to being big, they were cloudy and had a film over them, she says. She finally suggested that her daughter-in-law ask Jackson’s doctor about it.

“I kept watching his eyes, because I had never seen anything like that before,” she says. “I wanted them to be checked.”

Mrs. Smith, who has glaucoma, never dreamed Jackson might have a congenital form of the disease. The child’s parents took him to see his pediatrician, who then referred him to the Kellogg Eye Center, where the condition was diagnosed.

In pediatric glaucoma, pressure builds up in the eye and can damage the eye and lead to vision loss. The key symptoms include pain, abnormal sensitivity to light, tearing, enlarged corneas, and redness of the eyes. Jackson’s tests revealed high intraocular pressure, corneal swelling, and signs of optic nerve damage, says Maya Eibschitz, M.D., a pediatric glaucoma specialist in Kellogg’s Skillman Children’s Eye Care Clinic.

Primary congenital glaucoma is relatively rare, appearing in only one in 10,000 births. “But when that one patient walks into your office, prompt diagnosis and treatment are crucial to preserving vision,” Dr. Eibschitz says. Jackson had surgery at the age of five months, the day after he was seen in the clinic.

While adults with glaucoma usually try medication to lower intraocular pressure first, the primary course of treatment for infants is typically surgery to improve drainage in the eyes. The success rates for such surgeries in infants are as high as 75 percent to 95 percent. But children have to be followed closely by their physicians after an operation, says Dr. Eibschitz, who is one of just a few dozen pediatric glaucoma specialists in the country.

Jackson was in that successful majority, Dr. Eibschitz reports. “He is doing very well. His vision is normal, his intraocular pressures are normal, his corneal edema has resolved, and his optic nerve cupping has returned to normal.”

His parents, Sharen and Almount Smith, are grateful to Dr. Eibschitz and Jackson’s grandmother. “We thought his eyes were beautiful,” Sharen Smith says. “We just didn’t know.”

Audrey Smith, Jackson’s grandmother, is delighted that her grandson is doing so well.
During a trip that was “not only gratifying but enlightening,” Dr. Del Monte performed multiple surgeries, including a complex procedure for a mother and son suffering from a rare genetic syndrome.

-Monte A. Del Monte, M.D.
RARE EYE MUSCLE SYNDROME TREATED

Kellogg Expert Takes Eye Care to Guatemala

AMONG THE MANY SURPRISING MOMENTS FOR MONTE DEL MONTE, M.D., on a recent trip to Guatemala was his encounter with a family who had a rare hereditary syndrome. Dr. Del Monte, the Skillman Professor of Pediatric Ophthalmology at the U-M Kellogg Eye Center, traveled under the auspices of the World Eye Mission for a week of teaching, examining patients, and performing strabismus surgery to correct vision problems related to abnormal eye alignment. He visited two hospitals in Guatemala City and one in the Petén, a remote jungle region of northern Guatemala.

The family had a hereditary syndrome known as congenital fibrosis of the extraocular muscles type 1. The mother and son had severely limited visual function due to restrictive strabismus, in which the already misaligned eyes have such limited movement that affected individuals must assume abnormal and uncomfortable head positions in order to see. Because corrective surgery is complex and not available in Central America, the family accompanied Dr. Del Monte to the Petén, where he performed the complicated procedure. The surgery was successful in establishing eye alignment and in improving the range of eye movement—and thus vision—in both patients.

In a fortuitous coincidence, Dr. Del Monte has been involved with a research project that isolated the gene for one form of the syndrome. He sent blood samples to the laboratory of his long-time collaborator Dr. Elizabeth Engle at Harvard Medical School. If the gene affecting this family can be identified, Dr. Del Monte will have contributed useful knowledge about a region where little is known about genetic patterns of this disorder.

The entire trip was, according to Dr. Del Monte, “not only gratifying but enlightening.” At the Visualiza Clinic in Guatemala City, Dr. Del Monte examined 15–20 clinic patients, and performed or assisted in half a dozen eye muscle procedures in a surgical suite within the clinic.

At his second stop in Guatemala City, Roosevelt Hospital, Dr. Del Monte spent a great deal of time working with the local residents. They presented complicated cases at a special Grand Rounds and also assisted Dr. Del Monte in the surgical procedures performed at that hospital. In the evenings, Dr. Del Monte led teaching conferences and presented several lectures each night, which often led to lengthy question-and-answer sessions, especially concerning those procedures that were new to this part of the world.

After leaving Guatemala City, Dr. Del Monte traveled to the remote northern province of Petén to visit the state-of-the-art Vincent Pescatore Eye Clinic, a unique clinical model for developing countries. The clinic has two fee structures: the revenue from “private” patients helps fund care for “social” patients who are unable to pay. The care, of course, is the same. This model is being duplicated in other countries in Central America, including Nicaragua and El Salvador.

At the Pescatore Clinic, Dr. Del Monte examined strabismus patients, children and adults, and performed surgeries assisted by one of his hosts, Dr. Edwin Arias. Despite being the only eye clinic in this poor jungle area, the rural Pescatore Eye Clinic was observed by Dr. Del Monte to be “well equipped with most modern instruments and supplies so I needed to bring only a few specialized instruments and sutures.” He added, “This clinic really did have almost anything you would need.”

Board members of the World Eye Mission were instrumental in arranging Dr. Del Monte’s travels. They are President Jeevak Lal, M.D., an Albion, Michigan ophthalmologist and Bartley R. Frueh, M.D., eye plastics specialist at the Kellogg Eye Center.
"I have been able to thrive in this environment, and I want to help Kellogg continue as a center of excellence."

—Bartley R. Frueh, M.D.
LEGACIES OF LOVE, ACHIEVEMENT

Physician honors parents by establishing professorship fund

While neither of Dr. Bartley R. Frueh’s parents attended college, they both valued education and knowledge—and they imparted the importance of both to their children. Dr. Frueh, a Professor of Ophthalmology and Visual Sciences, and his wife, Cheryl, have decided to honor those values by establishing a fund to create the Lloyd and Virginia Frueh Research Professorship in Eye Plastics and Orbital Surgery at the University of Michigan. Dr. Frueh’s father, Lloyd, a business owner, passed away in 1994. His mother, Virginia, lives in Massachusetts.

“When I was growing up, I thought everyone’s parents were like mine, but I realized later that I was extremely lucky,” Dr. Frueh says. “My parents taught me values, integrity, and independence, and they always supported my decisions.”

“They wanted their children to be successful and happy,” adds Cheryl Frueh, an occupational therapist and a consultant with Vision Care, Inc.

Dr. and Mrs. Frueh will contribute to the professorship until it is fully funded. They hope it will then serve as a tool to enable the Department to recruit outstanding physicians who are interested in research, Dr. Frueh says. “One of the goals of academic medicine is to advance the field and ask, ‘How can we do what we do better?’ Only through asking questions and examining data to answer those questions can we push the boundaries forward.”

Dr. Frueh earned an undergraduate degree in chemical engineering from Cornell University before deciding to attend medical school at Columbia University. He completed his ophthalmology residency at U-M in 1970 and served as the Director of Ophthalmic Plastic and Reconstructive Surgery at the University of Missouri Medical Center from 1971 to 1979. He then returned to U-M to start the Eye Plastics and Orbital Surgery Service. Under his leadership it has grown to four ophthalmologists. His own research has sought to define the uniqueness and the properties of eye movement muscles, including the eyelid lifting muscle. Cheryl Frueh also has a long history with the Kellogg Eye Center. Hired as an ophthalmic technician in 1984, she later became an occupational therapist and added this new skill to Kellogg’s low-vision program.

“I have been able to thrive in this environment,” Dr. Frueh says, “and I would like to see it continue as a center of excellence.”

Ultrasound pioneer grateful for support

A national pioneer in the use of ultrasound in ophthalmology, Michael A. Wainstock, M.D., led the ultrasound unit within the University of Michigan’s Department of Ophthalmology and Visual Sciences for close to 25 years. Through a bequest, he will establish the Michael A. Wainstock Collegiate Professorship in Ophthalmology and Visual Sciences, which will commemorate his groundbreaking contributions to the field of ophthalmology and support the work of a tenured faculty member at the Kellogg Eye Center in perpetuity. “I was trained in the use of ultrasound in Vienna in 1965, and the University of Michigan was very supportive when I wanted to help introduce this new technology in the United States,” Dr. Wainstock says. “The staff and faculty were wonderful to work with, and I feel very good about giving back.”
GROUNDBREAKING MOMENT,
GROUNDBREAKING YEAR

September event ushers in era of growth; state-of-the-art building designed to facilitate the best in patient care, research, and education

FALL WINDS AND THE THREAT OF RAIN DIDN’T DAMPEN THE SPIRITS of the more than 300 people who gathered at the W.K. Kellogg Eye Center groundbreaking ceremony in September. The event drew donors, alumni, faculty, staff, and University of Michigan leadership to celebrate what had been achieved and to look ahead to new milestones.

“The groundbreaking served to commemorate the work that has gone into this project and acknowledge the work yet to be done,” says Paul R. Lichter, M.D., Chair of the Department of Ophthalmology and Visual Sciences.

An endeavor that will cover more than a decade from start to finish, the expansion effort grew from a 1999 faculty assessment of how the Department could best meet the needs of a growing patient population and enable a successful research program to reach its full potential. Projections showing an increasing need for ophthalmology services and strong donor support demonstrated to the University of Michigan Board of Regents that the project could succeed. The Regents approved plans to go forward in 2006, and more than half of the $20 million fundraising goal for the new building had been pledged by the time construction began.

The 230,000-square-foot addition to the current Kellogg tower will increase by 50 percent the space available for patient care, research, and medical education. It will house all patient care clinics and operating rooms as well as new suites for refractive and cosmetic surgery. It will include innovatively designed space for vision research. And it will be the home of the Delores S. and William K. Brehm Center for Type 1 Diabetes Research and Analysis.

“When the new building opens in 2010, it will be the culmination of years of dreaming, planning, and dedicated effort on the part of many individuals,” Dr. Lichter says. “This facility will enable us to continue to make strides in vision care for decades to come.”
The following individuals and organizations have made gifts and multi-year pledges in support of the expansion of the Kellogg Eye Center. We recognize their gifts here with deep appreciation. These contributions will help us provide the best in patient care, conduct groundbreaking vision research, and train the next generation of ophthalmologists and vision scientists.

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We make every effort to ensure the honor roll is as accurate as possible. Please let us know if you note any errors.
Early leadership gifts key to moving forward

The ability to break ground on the Kellogg Eye Center expansion took many years of planning and dedicated effort from faculty and staff. It also required a strong showing of support from the community. The expansion campaign received seven early-stage leadership gifts, which enabled construction to begin. The foresight and dedication of the following individuals has been crucial to reaching this point:

LYNN H. AND ROBERT W. BROWNE, D.D.S.
Dr. and Mrs. Browne have a long history of supporting growth at the University of Michigan. Having earned a D.D.S. and a master’s degree in orthodontics from the U-M School of Dentistry, Dr. Browne practiced in Grand Rapids for 20 years. He also founded Care Corporation, a publicly held long-term care company. Today he is CEO of Trust Investment Management Corporation.

Making a gift to the Kellogg expansion is a smart investment, Dr. Browne believes, because of the Eye Center’s strong leadership and successful research program. “You can’t invest in something that will pay more dividends than the work being done at Kellogg,” he says. “The research and care is second to none, and I hope it will benefit my children and my grandchildren. Loss of vision is not life-threatening, but it is a quality of life issue and something we all face as we get older.”

Among other gifts to the University of Michigan, the Brownes have established the Robert W. Browne Orthodontics Wing at the School of Dentistry and have endowed professorships and scholarships.
RICHARD AND JANE MANOOGIAN

Pleased to support a facility dedicated to preserving sight, Mr. and Mrs. Manoogian have made a leadership gift to the Kellogg Eye Center expansion campaign.

Mr. Manoogian is the Executive Chairman of Masco Corporation. Founded in Detroit in 1929 by Mr. Manoogian’s father, Alex Manoogian, today Masco is a $12.8 billion corporation that globally provides branded products and services for new residential construction and home improvement. Mr. Manoogian is also a Director of Ford Motor Company as well as JPMorgan Chase & Co. The Manoogians are active in numerous civic, cultural, and educational organizations. They have generously hosted two special events for the Kellogg Eye Center at Masco headquarters, inviting guests to view their art collection, which is commonly referred to as one of the best private collections of American art formed in this century. The most recent event, a Celebration of Achievement for the Department’s faculty, took place in April.

“I am motivated to support the Eye Center because I saw what macular degeneration did to reduce my father’s quality of life in his later years,” says Mr. Manoogian. “Sight is our most precious sense, and supporting one of the world’s best centers for eye care and vision research is how I can play a role in working to cure this devastating disease.”

Mr. and Mrs. Manoogian’s philanthropic efforts also include major contributions to the Detroit Institute of Arts, the Detroit Zoological Society, the Barbara Ann Katmanos Cancer Institute, the College for Creative Studies, The Henry Ford, and the St. John Hospital and Medical Center.

EDWIN E. AND MARY U. MEADER

Mr. and Mrs. Meader are longtime supporters of the Kellogg Eye Center. Their most recent gift supports the expansion and will provide for naming the lobby of the new building.

Over the years, the Meaders have also made major gifts that have resulted in significant growth in the Eye Center’s research program. They established the Paul R. Lichter Professorship in Ophthalmic Genetics, which supported the genetic studies of Dr. Paul Sieving, who today is the director of the National Eye Institute. Dr. John Heckenlively, an internationally recognized retina specialist, today holds the chair. The Meaders also created the Edwin E. and Mary U. Meader Vision Research Fund.

The Meaders’ generosity extends throughout the University of Michigan, from which Mr. Meader graduated with a degree in geography in 1933.

Their gifts have been wide-ranging, including support of the Depression Center, the Kelsey Museum of Archaeology, the Departments of Chemistry and Psychiatry, the School of Music, and Hill Auditorium. The University and the Eye Center lost a true friend when Mr. Meader passed away on February 1.
**LARRY G. MILLER**

Mr. Miller made a leadership gift to the Kellogg Eye Center at a key moment in the building campaign—just after the University of Michigan Regents had approved the project. “Eyesight is such a critical part of our lives,” Mr. Miller says. “I’m pleased to be able to make research possible—and better.”

Mr. Miller was a founding partner of Molmec, Inc., a major supplier of molded plastic components for the automotive industry. When the company was sold in 1997, it had grown to 1,000 employees and five manufacturing plants in Michigan. Mr. Miller earned a bachelor’s degree and a master’s degree from the U-M College of Engineering, where he was awarded one of the first degrees in materials engineering.

Mr. Miller’s gift to Kellogg grew out his own experience at the Eye Center. He happened to meet Dr. Paul Lichter after he developed double vision, and Dr. Lichter encouraged him to make an appointment. After being successfully treated at Kellogg, Mr. Miller accepted Dr. Lichter’s invitation to tour the facility. “My support comes from a personal connection to individuals, and then having the opportunity to learn about the needs of the Eye Center,” he says. “When I toured the research laboratories with Paul, I could see how crowded the facilities had become. It seemed that the time was right to contribute to the growth of the research program.”

In addition to his gift to the Kellogg Eye Center, Mr. Miller has also supported the U-M College of Engineering and the U-M Cancer Center.

**HAROLD AND MARIAN POLING**

Stalwarts in the area of health care philanthropy, Mr. and Mrs. Poling have made a generous gift to the Kellogg Eye Center expansion.

Mr. Poling retired from his position as Chairman of the Board and Chief Executive Officer of Ford Motor Company in 1993 after a long and distinguished career with the automaker. Today he is Chairman of Eclipse Aviation Corp., serves on the board of Beaumont Hospitals, and helps guide numerous other businesses and organizations.

During a tour of the Eye Center, Mr. Poling met several faculty members doing scientific and clinical research aimed at finding more effective treatments and cures for eye disease. He was particularly impressed with the gene microarray studies being conducted, which allow scientists to investigate thousands of DNA segments at once. The Kellogg Eye Center was one of the first ophthalmology departments in the country to be granted funding from the National Eye Institute to create a gene microarray facility.

“I hope our gift will help Kellogg researchers keep advancing vision research,” says Mr. Poling, citing his high regard for the University of Michigan as a key reason for his support.
Mr. Stern, an Ann Arbor businessman and philanthropist, has been helping to lead the Kellogg Eye Center’s expansion campaign since its inception. Chairing the Community Advisory Board that guided the first steps of the effort as well as giving a major gift to the campaign, Mr. Stern was instrumental in building the support that ushered the Eye Center from an idea to reality.

Mr. Stern is President of Arcanum Corporation. He generously supports numerous schools and projects at U-M, and he believes in bolstering the university’s excellence as a whole. An avid art collector, he has been a major benefactor of the U-M Museum of Art. He has also endowed professorships in Chinese Studies and Humanities and has created scholarships for the College of Literature, Science, and the Arts, Rackham Graduate School, the School of Engineering, and the School of Public Policy. His philanthropic efforts are driven by his interests, but also by recognizing strong leadership, he says. “I get motivated primarily by the quality of the people involved.”

With Kellogg’s top-notch ophthalmologists, scientists, and leadership team, it is important to think beyond the new Eye Center building to the programmatic support needed to keep vision research programs strong, he says. “We have truly outstanding people here. We need them to achieve our goals in terms of research to find cures for the eye diseases that so many of us face.”

“IT IS A WONDERFUL TIME TO BE ALIVE,” says Mr. Thompson, who along with his wife, Ellen, supports medical research and other health care efforts. “We see so many dramatic breakthroughs in health care today.” Those breakthroughs take years of scientific investigation, so creating the best possible environment in which such work can take place is important to progress, he believes. And the expansion of the Kellogg Eye Center fits that bill. “We are hopeful for many more great breakthroughs,” Mr. Thompson says. “And we are just happy to be able to help.”

Making a significant contribution to the expansion campaign and supporting age-related macular degeneration research at Kellogg come naturally to the Thompsons, who became philanthropists when Mr. Thompson sold the asphalt paving business he founded, gave his employees a generous share of the proceeds, and pledged to give much of the remainder away.

The Thompsons have supported cardiology research at the University of Michigan and created the Ellen Thompson Women’s Health Center at St. Joseph Mercy Hospital, among many other endeavors.
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Thanking Our Donors Who Have Made Gifts This Year

Maintaining her sight means the world to Ruth F. Clarke, a retired human resources administrator who has experienced vision problems since she was a child.

“At 91 years old, I am lucky that I have been able to keep my vision so that I can continue to take care of myself,” she says. “Eye disease runs in my family; my mother was nearly blind when she passed away and she had many difficulties.”

The strength of Mrs. Clarke’s resolve and the skill of her ophthalmologists have brought her through three cornea transplants and many years of treatment for glaucoma. “I have been coming to Kellogg since 1991, and I have a great deal of respect for my doctors,” she says.

Mrs. Clarke has been making gifts to the Kellogg Eye Center Annual Fund to support research since she became a patient, increasing her support over time. She has also participated in a clinical trial for a new surgical technique, and she plans to donate her eyes for research.

“Kellogg has been making such strides in research that I am happy to do what I can,” she says. “This is the only way I can repay all of the people who have helped me over the years.”
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2007 ANNUAL REPORT
Alum Wants to Carry on Tradition

A sense of pride and loyalty inspires Douglas P. Felt, M.D., and his wife, Shelley, to give to the Kellogg Eye Center.

“The University of Michigan represents the best in ophthalmology not only in this country, but worldwide,” says Dr. Felt, who completed his residency in the Department in 1983 and a fellowship in oculoplastics in 1984. “I’m proud to have been a part of it, and feel an obligation to help that tradition continue for others.”

After years of private practice in Utah, Dr. Felt still relies on lessons learned during his training, he says. “The way I practice today is the way I was taught back then. My instructors and mentors always put a strong focus on making sure the patient’s needs were met and that they were getting the best possible outcome they could have.”

To benefit the Eye Center and its tradition of excellence, the Felts support the Alumni Annual Fund and the Kellogg Eye Center expansion campaign, making gifts through their family foundation. “Kellogg scientists are doing some great research, and I hope the expansion will help facilitate even more of that,” Dr. Felt says.
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Wanting to reward organizations that work to benefit others, Elizabeth M. Potter left the majority of her estate to charities when she passed away last year.

Mrs. Potter had undergone eye surgeries, yet remained an avid reader. “She was aware of the good works of the Kellogg Eye Center,” explains Chester C. Lawrence, Mrs. Potter’s attorney. She made a generous bequest to age-related macular degeneration research at Kellogg, where scientists are studying the multi-faceted disease from many angles.

Born in 1911, Mrs. Potter worked for years as a legal secretary. She moved from Birmingham, Michigan, to the Detroit area for her retirement, spending time at the Oakwood Common Retirement Community in Dearborn.

“She was a very kind and giving lady,” Mr. Lawrence says.
ANNUAL HONOR ROLL OF DONORS

Faculty, staff, and alumni donors
Multi-year campaign pledges

Gifts received from July 1, 2006 through June 30, 2007

We make every effort to ensure the honor roll is as accurate as possible. Please let us know if you note any errors.
Steven M. Archer, M.D.

Awards/Honors/Leadership
• Best Doctors in America
• Election to active membership, American Ophthalmological Society

Publications


Radha Ayyagari, Ph.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Scientific Advisory Board Member, Foundation Fighting Blindness
• Reviewer, Foundation Fighting Blindness
• Member, National Ophthalmic Disease Genotyping Network (eyeGene), NEI
• Member, Steering Committee, Center for Human Genetics in Health and Medicine, University of Michigan

Publications


Terry J. Bergstrom, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
Professor Emeritus, University of Michigan Faculty Advisor, Galens Medical Society, University of Michigan

Outreach
Glaucoma screenings in local communities throughout the year

Christina A. Bruno, M.D.

Publications


Theresa M. Cooney, M.D.

Awards/Honors/Leadership
Michigan Society of Eye Physicians and Surgeons, delegate to the Michigan State Medical Society

Publications


Wayne T. Cornblath, M.D.

Awards/Honors/Leadership
• Best Doctors in America
• Co-Director, Walsh in Asia Symposium, International Neuroophthalmology Society, Tokyo, Japan, 2006
• Director, Top Ten Neuro-ophthalmic Diagnoses You Can’t Afford to Miss; American Academy of Neurology, 2007
• Director, Now You See It, Now You Know It, Pathognomonic Neuro-Ophthalmology Findings, American Academy of Neurology, 2007
• Director, Top Ten Neuro-Ophthalmic Diagnoses You Can’t Afford to Miss; Indian Health Service Biennial Eye Care Conference 2006
• Director, Now You See It, Now You Know It, Pathognomonic Neuro-Ophthalmology Findings, Indian Health Service Biennial Eye Care Conference, 2006
Publications


Monte A. Del Monte, M.D.
Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Vice Chairman, International Affairs Committee, American Association for Pediatric Ophthalmology and Strabismus
• Special Invited Guest Speaker, Asia Pacific Association of Ophthalmology 21st Annual Meeting, Singapore

Outreach
• Visiting Professor and Mentor, ORBIS, San Jose, Costa Rica
• Special Guest Lecturer, World Eye Mission, Guatemala City, Guatemala

Publications


Susan G. Elner, M.D.
Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Board of Directors, American Association of Ophthalmic Pathologists
• Elected to Verhoeff-Zimmerman Society
• First place, Ann Arbor SPARK Entrepreneur awards
• Featured Speaker, Canadian Ophthalmological Society
• Visiting Professor, Canadian Ophthalmic Pathology Society
• Member, International Thyroid Eye Disease Study Group
• Reviewer, study sections: SBIR (NEI), Sjogren’s Syndrome (NIDCR), Study Section C (NEI)

Publications


Jonathan B. Demb, Ph.D.
Grants
see grants, pages 48-51

Publications


Maya Eibschitz, M.D.
Grants
see grants, pages 48-51

Publications


Victor Elner, cont’d


Richard E. Hackel, C.R.A.

Awards/Honors/Leadership
• Secretariat Award, American Academy of Ophthalmology, 2006
• Best of Show, Ophthalmic Photographers’ Society, 2006
• Best article in Journal of Ophthalmic Photography, Ophthalmic Photographers’ Society, 2006

Section editor, “Blink,” Eyenet

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Featured photograph, Map: Right Back at You, Discover April 2007

Cover photograph, Ophthalmology 2007;14:February

Publications


Adam S. Hassan, M.D.

Publications


Philip J. Gage, Ph.D.

Grants
see grants, pages 48-51

Publications


Daniel G. Green, M.D.

Grants
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Publications

Bartley R. Frueh, M.D.

Awards/Honors/Leadership
• Best Doctors in America

Publications


Richard E. Hackel, C.R.A.

Awards/Honors/Leadership
• Secretariat Award, American Academy of Ophthalmology, 2006
• Best of Show, Ophthalmic Photographers’ Society, 2006
• Best article in Journal of Ophthalmic Photography, Ophthalmic Photographers’ Society, 2006

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Publications


Adam S. Hassan, M.D.

Publications


John R. Heckenlively, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Senior Achievement Award, American Academy of Ophthalmology
• Keynote Speaker, Department of Ophthalmology Research Day 2006, University of Alberta

Publications


Peter F. Hitchcock, Ph.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Invited lecture, Neuroscience Graduate Studies Program and the Department of Neuroscience, Ohio State University
• Invited lecture, University of Ottawa Eye Institute, Center for Vision Research
• Session organizer, 18th Spring Brain Conference, Sedona, AZ
• Director, University of Michigan Interdepartmental Neuroscience Graduate Program
• Member, Cell Biology Review Panel, National Institutes of Health
• Grant reviewer, The Wellcome Trust, London

Publications


Mark W. Johnson, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Moderator and presenter, Fluorescein Angiography Conference, Combined Meeting Club Jules Gonin and Retina Society, Cape Town, South Africa
• Editorial Board Member, American Journal of Ophthalmology
• Top Ten Reviewers, Archives of Ophthalmology
• Reviewer, Ophthalmic Surgery, Lasers & Imaging

Publications

Mark Johnson, cont’d


Huynh TH, Johnson MW. The behavior of surgically repaired idiopathic macular holes in the setting of subsequent cystoid macular edema. Retina 2007 [in press].


Naheed W. Khan, Ph.D.

Awards/Honors/Leadership

Reviewer, Visual Neuroscience

Publications


Hemant Khanna, Ph.D.

Publications


Andrei L. Kindzelski, M.D., Ph.D.

Publications


Thellea K. Leveque, M.D., M.P.H.

Grants

see grants, pages 48-51

Awards/Honors/Leadership

Contributing expert, “Women and the Aging Eye,” Mind, Body & Soul

Publications


Erika M. Levin, M.D.

Grants

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Publications


Paul R. Lichter, M.D.

Grants

see grants, pages 48-51

Awards/Honors/Leadership

• Best Doctors in America
• Associate Editor, American Journal of Ophthalmology
• Secretary General, Academia Ophthalmologica Internationals
• Max Forbes Lectureship in Glaucoma, Columbia University
• William and Grace Snyder Lecturer, Pearls X Conference, Vanderbilt University
FACULTY HONORS, RECOGNITION, AND PUBLICATIONS

David C. Musch, Ph.D., M.P.H.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Chair, Special Emphasis Grant Review Panel, NEI/NIH
• Member, Editorial Board, Ophthalmology
• External referee, Michael Smith Foundation for Health Research, BC, Canada
• Methodologist, Cornea Panel, Ophthalmic Technology Assessment Committee, American Academy of Ophthalmology
• Member, Consulting Editorial Board, Journal of Neuro-Ophthalmology
• Reviewer, National Medical Research Council, Singapore
• Member, Advisory Group, Cochrane Collaboration Eyes and Vision Group US Project
• Consultant, Ophthalmic Devices Panel, Medical Devices Advisory Committee, Food and Drug Administration

Publications


Leveque TK, Yu L, Musch DC, Chervin RD, Zacks DN. Central serous chorioretinopathy and risk for obstructive sleep apnea. Sleep and Breathing 2007 [in press]


Christine C. Nelson, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Guide to America’s Top Ophthalmologists
• Editorial Advisory Board, EyeNet, American Academy of Ophthalmology
• Leadership Conference Committee for Strategic Planning, American Society of Ophthalmic Plastic and Reconstructive Surgery
• Chair, Preceptor Committee, American Society of Ophthalmic Plastic and Reconstructive Surgery

Publications


Bikash R. Pattnaik, Ph.D.

Publications

Hemant Pawar, Ph.D.

Publications


Howard R. Petty, Ph.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• First place, Ann Arbor SPARK Entrepreneur awards

Publications


Donald G. Puro, M.D., Ph.D.

Grants

see grants, pages 48-51

Awards/Honors/Lectures

• Editorial Board Member, Microcirculation

Publications


Venkat N. Reddy, Ph.D.

Publications


Julia E. Richards, Ph.D.

Grants

see grants, pages 48-51

Awards/Honors/Leadership

• Reviewer, The Glaucoma Foundation
• Reviewer, Fight for Sight.
• Member, Scientific Advisory Board, The Glaucoma Foundation
• Member, Steering Committee, Multicenter Study to Map Novel Genes for Fuchs Corneal Endothelial Dystrophy, Case Western Reserve University

Publications


Roni M. Shtein, M.D.

Publications


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Publications


H. Kaz Soong, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America

Publications


Anand Swaroop, Ph.D.

Grants
see grants, pages 48-51

Awards/Honors/Lectures
• Editorial Board, Investigative Ophthalmology & Visual Science
• Editorial Review Board, Molecular Vision
• Director, International Resource for Development and Degenerative Disease

Publications


Alan Sugar, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Immediate Past President 2006-2008, Cornea Society
• Chair, Committee on Ophthalmic Technology Assessment, American Academy of Ophthalmology

Publications


Debra A. Thompson, Ph.D.

Grants
see grants, pages 48-51

Publications


Susan S. Thoms, M.D.

Awards/Honors/Leadership
• Best Doctors in America
• Editorial Board Member, Comprehensive Ophthalmology Update

Publications

Jonathan D. Trobe, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• Chandler Lecture, Massachusetts Eye and Ear Infirmary, Boston
• Susan Alper Lecture, Washington Hospital Center, Washington, DC
• Keynote lecture, European Neuro-Ophthalmology Meeting, Istanbul, Turkey

Publications


Andrew K. Vine, M.D.

Grants
see grants, pages 48-51

Awards/Honors/Leadership
• Best Doctors in America
• America’s Top Doctors for Cancer

Publications

Jennifer S. Weizer, M.D.

Publications
Weizer JS. Acute angle-closure glaucoma. Up-to-Date, 2006 [in press].


Rebecca A. Wu, M.D.

Publications

Dongli Yang, M.D., Ph.D.

Publications

David N. Zacks, M.D., Ph.D.

Grants
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Publications


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<td>R. Ayyagari, Ph.D.</td>
<td>NIH</td>
<td>R01-EY13198-06</td>
<td>Macular Degeneration: Genetics of 4 Distinct Phenotypes</td>
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<td>J. Demb, Ph.D.</td>
<td>NIH</td>
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<td>RPE-MΦ Binding: Ca++ &amp; O2- Dependent AMD Responses</td>
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<td>Core Center for Vision Research (four core modules)</td>
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<td>M. Johnson, M.D.</td>
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<td>Ranibizumab in Naïve and Previously Treated Subjects with Choroidal Neovascularization Secondary to Age-Related Macular Degeneration</td>
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<td>T. Leveque, M.D.</td>
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<td>Prevalence of Obstructive Sleep Apnea in Patients with Central Serous Chorioretinopathy – funded by the General Clinical Research Center</td>
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<td>E. Levin, M.D.</td>
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<td>P. Lichter, M.D.</td>
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<td>Unrestricted Grant VisionCare Ophthalmic Technologies Implantable Miniature Telescope (IMT) for Central Vision Impairment Associated with Age-Related Macular Degeneration and Other Maculopathies</td>
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<td>M. Lipson, O.D.</td>
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<td>Stabilizing Myopia By Accelerated Reshaping Technique</td>
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<td>R03-EY15860-02</td>
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<td>C. Nelson, M.D.</td>
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<td>H. Petty, Ph.D.</td>
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<td>Signal Waves in Tumor Cell Killing: A Systems Biology Approach in Oncology</td>
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<td>Sequence Variants in CLCN3 and the Associated Risk of Glaucoma - Student Fellowship</td>
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<td>A. Sugar, M.D.</td>
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<td>A Randomized Dose-Ranging Study to Assess the Efficacy and Safety of LX201 for Prevention of Corneal Allograft Rejection Episodes and Graft Failure Following Penetrating Keratoplasty</td>
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## GRANTS

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<td>Function of Ciliary Protein RPGR in Renal Epithelial Cells: Possible Implications for Renal-Retinal Disease, Subcontract, Roger Wiggins, M.D., U-M Medical School</td>
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<td>Functional Analysis of NRL: A Rod Photoreceptor Specific Transcription Factor</td>
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<td>Interactive and Integrated Genetic Databases for the Study of Age-Related Macular Degeneration</td>
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<td>Screen for Human Mutations in RD11, the Gene Responsible for the rd11 Mouse Retinopathy - Student Fellowship</td>
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<td><strong>D. Thompson, Ph.D.</strong></td>
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<td><strong>D. Zacks, M.D., Ph.D.</strong></td>
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<td>Apoptosis in Retinal Detachments Career Development Award Intravitreal Linezolid in Rabbits: An Electrophysiologic and Histopathologic Analysis</td>
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**Source Abbreviations**

- AHAF - American Health Assistance Foundation
- NIH – National Institutes of Health
- FFB – Foundation Fighting Blindness
- NSF – National Science Foundation
- LMRI - Lowy Medical Research Institute
- RPB – Research to Prevent Blindness
THIS IS OUR MISSION:

TO SOLVE THE PUZZLES OF BLINDING EYE DISEASE,
TO IMPROVE THE QUALITY OF LIFE FOR OUR PATIENTS, AND
TO TEACH THE NEXT GENERATION OF VISION SCIENTISTS AND CLINICIANS.

1. Sayoko E. Moroi, M.D., Ph.D.
2. Monte A. Del Monte, M.D.
3. Piyush Kohary, Ph.D.
4. Paul R. Lichter, M.D.
5. James G. Knaggs, M.D.
6. Susan S. Thoms, M.D.
8. David C. Musch, Ph.D., M.P.H.
9. Donna M. Wicker, O.D.
10. Bartley R. Frueh, M.D.
11. James L. Adams, M.D.
12. Shahzad I. Mian, M.D.
13. John R. Heckel, M.D.
14. Frank W. Roza, Ph.D.
15. Stephen J. Saxe, M.D.
16. Michael J. Lipson, O.D.
17. Wayne T. Cornblath, M.D.
18. Anand S. Kaur, M.D.
19. Naheed W. Khan, Ph.D.
20. Maya Eibschitz, M.D.
21. Thelma K. Leveque, M.D., M.P.H.
22. Jill E. Green, M.D.
23. Radha Ayyagari, Ph.D.
24. Jennifer S. Weizer, M.D.
25. Bikash R. Pattanik, Ph.D.
26. Dongli Yang, M.D., Ph.D.
27. Jonathan B. Demb, Ph.D.
28. Debra A. Thompson, Ph.D.
29. Steven M. Archer, M.D.
30. Gary S. Sandall, M.D.
31. Terry J. Bergstrom, M.D.
32. Donald S. Baser, M.D.
33. Gale A. Oren, M.I.L.S.
34. Alan Sugar, M.D.
35. Julio E. Richards, Ph.D.
36. Jonathan D. Trobe, M.D.
37. Philip J. Gage, Ph.D.
38. Howard R. Petty, Ph.D.
39. Susan G. Elner, M.D.
40. Roni M. Shtein, M.D.
41. Victor M. Elner, M.D., Ph.D.
42. Andrew K. Vine, M.D.
43. Peter F. Hitchcock, Ph.D.
44. H. Kaz Soong, M.D.
45. Donald G. Puro, M.D., Ph.D.
46. Michael W. Smith-Wheelock, M.D.
47. Jerome I. Finkelstein, M.D.
48. Theresa M. Cooney, M.D.
49. David N. Zack, M.D., Ph.D.
50. Helios T. Leung, Ph.D., O.D.

NOT PICTURED:
Robert C. Arends, M.D.
Christina A. Bruno, M.D.
Morton S. Cox, M.D.
Daniel G. Green, Ph.D.
Adam S. Hassan, M.D.
Bret A. Hughes, Ph.D.
Ida L. Iacobucci, C.O.
Mark W. Johnson, M.D.
Harjeet Kaur, M.D.
Hemant Khanna, Ph.D.
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Erika M. Levin, M.D.
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Adrienne L. West, M.D.
Rebecca A. Wu, M.D.
Beverly M. Yamash, Ph.D.

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Contributing photographers: Scott Galvin, Paul Jaronski, Lin Jones, Martin Vloet, U-M Photo Services;
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