The dedicated men and women who serve as advisors to Wilmer have played a pivotal role in advancing the Institute’s sight-saving mission around the world.
“The time to repair the roof is when the sun is shining.”
—John F. Kennedy, 35th President of the U.S.

Dear Wilmer Friends and Family,

This is an unprecedented time of growth within the profession of Ophthalmology and for the Wilmer Institute. In response to the demographic tidal wave of baby boomers (including Yours Truly), the demand from patients and referring physicians in the U.S. and around the world for Wilmer’s services has never been greater. Between 2003 and 2009, our clinical practice doubled, and we are now well on our way to doubling again. Thanks to our newest building and our satellite locations, we have been able to add a large number of brilliant scientists, talented surgeons, and dedicated clinician-scientists to our faculty. In most of our subspecialty areas, waits for appointments are minimal; we are about to open up yet another state-of-the-art eye operating room; the number of research projects and scientific publications is way up; and Wilmer is thriving.

So why, if things are going so well, are we in the midst of planning a major redesign of our patient care spaces in our historical Wilmer, Woods, and Maumenee buildings? The answer is that we have become limited in our ability to grow in our downtown location, particularly in finding space to add new clinicians to meet the burgeoning demand in the coming years and decades. A striking measure of this space limitation is that Wilmer doctors now see more patients at our satellite locations than in our original Wilmer facility, with its iconic dome, on the East Baltimore Medical Campus.

Led by our Vice Chair for Clinical Practice, Michael Repka, Wilmer’s faculty, staff, and administration have devoted many hours working with a top architectural firm to develop a vision for a redesigned Wilmer that will:

- Permit our practice to grow,
- Be more patient-centered,
- Improve efficiency and reduce patient waiting, and
- Better serve patients who need the services of multiple Wilmer doctors in multiple subspecialties.

As the Robert H. and Clarice Smith Building has transformed our laboratory research and surgery at Wilmer, so this redesign process in our older buildings will allow us to provide better care for more patients well into the future.

The sun is truly shining on the Wilmer Institute.

Peter J. McDonnell, MD
William Holland Wilmer Professor and Director

Peter J. McDonnell, MD
A Radical New Direction in Macular Degeneration Research

Recent funding from Research to Prevent Blindness is helping James Handa, MD, take what he calls “a radical new idea” to the next level. The $150,000 Senior Scientific Investigator Award enables Handa, Wilmer’s Robert Bond Welch Professor, to expand a breakthrough research study on the function of CFH (complement factor H), a regulatory protein that he and collaborators studied to define its role in the onset of age-related macular degeneration.

The research that laid the foundation for this increased funding involved a multinational team effort by Handa; his Wilmer colleagues Hendrik Scholl, MD, and researcher Marisol Cano, PhD; and scientists from the University of California San Diego, University of Vienna in Austria, and Liebnitz Institute in Germany. The groundbreaking results of the study were published in the international weekly science journal *Nature*.

The team already knew that regulatory proteins, like CFH, play a vital role in the immune system by working to protect the body from infection and other “foreign invaders.” But when CFH doesn’t “behave” as it should, excessive inflammation and disease can result. Although genetic abnormalities in CFH had been linked previously with the risk of developing age-related macular degeneration, Handa and the other researchers set out to determine exactly how these abnormalities cause the disease.

They found their answer in a particle known as MDA, an oxidized lipid that damages tissues by causing excessive inflammation that can lead to age-related macular degeneration as well as cardiovascular diseases. When abnormalities exist in the CFH protein, it does not bind to MDA as it does under normal circumstances and thus does not protect the eye from MDA’s toxic effects. Left unchecked by CFH, the MDA becomes highly abundant in the bloodstream, accumulating in and damaging the macula.

“Now I’m proposing that we look at other molecules that have the same potential function,” Handa explains. “Most who have studied macular degeneration have looked at everything that happens—but only in the eye, to the exclusion of the bloodstream or what happens elsewhere in the body. The reality is that the eye is not completely separate from the body,” he continues. “Looking at other molecules that might bind these toxic compounds gives us a new direction to study.”

The Research to Prevent Blindness award will be combined with other funding from the National Eye Institute, international grant-making organizations, and private donors. Handa is grateful for the support—and eager to see where this new research will lead.

“It’s filling a critical area of knowledge in how macular degeneration is developed,” he says. “It’s a radically different approach that might offer a solution and, with that, a whole constellation of treatments that we could then explore to try to prevent or slow down this disease at an early stage.” Age-related macular degeneration is the leading cause of blindness in Western societies. More than 7 million people in the United States have early stages of the disease.

With this support for Drs. Jim Handa and Susan Bressler (see page 13), Research to Prevent Blindness does this year what it has done for decades—accelerates cutting-edge vision research by world-class scientists here at Wilmer and Johns Hopkins. We are most grateful.

—Peter J. McDonnell, MD

—Marlene England
The most recent addition to Hendrik Scholl’s lab isn’t another researcher but rather the Macular Pigment Reflectometer. This machine—MPR for short—is part of a new research program that could bring Scholl, MD, and clinician-scientist Emily Fletcher, MD, one step closer to developing treatments for ocular albinism, a rare hereditary condition that until now has garnered very little attention from researchers.

Patients with the genetic disorder have no pigments in the iris and at the back of the eye, a condition that contributes to low vision. The MPR measures the macular pigment in the retina and provides separate estimates of the concentration of the carotenoids lutein and zeaxanthin—information that should prove valuable to the researchers as they investigate how these carotenoids affect vision. They will also study the developmental abnormalities of ocular albinism and how the abnormal structure of the retina correlates to its function.

Custom-made in the Netherlands for Scholl’s lab, by colleagues he worked with before coming to Wilmer in 2010, the MPR would never have made its way to Baltimore if the A. James Clark family, longtime Wilmer supporters, hadn’t expressed an interest in ocular albinism research. Courtney Clark Pastrick’s son was diagnosed with ocular albinism at age 3 and has been a patient at Wilmer for the last 17 years. The genetic mutation that causes the disorder passes from mother to son, so Pastrick’s concern extends to her two daughters and their future children.

“Ocular albinism is going to be in our family for a long time,” says Pastrick, who is hopeful that treatments will be developed to improve vision for those who have the disorder.

A $1.25 million gift from the Clark family launched the ocular albinism research program in Scholl’s lab. This generous contribution then became the catalyst for a $65,000 Clinical Research Fellowship Award from the Foundation Fighting Blindness, which enabled Scholl to recruit Fletcher from Oxford University in England. “We really needed the commitment of the family to get this project going, and I am so grateful,” says Scholl.

The two-year research program will look not only at macular pigment but also at other structural and genetic abnormalities of the retina in ocular albinism and how these abnormalities affect vision. Scholl and Fletcher are collaborating with Judy Goldstein, OD, chief of Lions Low Vision Rehabilitation Center at Wilmer, to identify and recruit patients to participate in imaging, functional, and genetic studies. Because ocular albinism is such a rare disorder, affecting approximately 1 in 60,000 people, such
I think it’s very rewarding to fund areas that other people have not been funding.
—Courtney Clark Pastrick

Newly equipped with a Macular Pigment Reflectometer, Wilmer researchers Hendrik Scholl and Emily Fletcher are one step closer to developing treatments for ocular albinism.

collaboration is crucial to the recruitment of a significant number of patients.

After collecting high-resolution images from patients and mapping their retinal function, Scholl and Fletcher hope to launch a clinical trial to determine whether lutein and zeaxanthin supplementation will increase pigmentation in the retina and help improve visual performance.

Speaking on behalf of the Clark family, Pastrick says they are thrilled to support research that may lead to a new therapy for patients with ocular albinism. “I think it’s very rewarding to fund areas that other people have not been funding,” she says. “It’s a grassroots impetus, and we’re happy to be part of it.”

—ME
The dedicated men and women who serve as advisors to Wilmer have played a pivotal role in advancing the Institute’s sight-saving mission around the world.

By Marlene England
Illustration by Daniel Baxter
The Council is composed of nearly 50 volunteers from around the world who have demonstrated their interest in and commitment to Wilmer. Members are invited to serve renewable two-year terms and encouraged to attend an annual meeting and special events throughout the year. While much of the Council members’ support happens behind the scenes, every director of Wilmer for the past five-plus decades has been fully aware of how vital this volunteer group is to moving the institution—and its mission—forward. “They’re the giants who’ve gotten us where we are now, and we’re standing on their shoulders,” says Wilmer Director Peter McDonnell, MD. “I really understand now how valuable and helpful this group has been to my predecessors in this role, and I’m grateful they’re here to look out for Wilmer.”

The role of volunteer philanthropists at Wilmer dates to 1922 and the formation of the William Holland Wilmer Foundation, which raised the initial $3 million to endow Dr. Wilmer’s position and to remodel the former Women’s Ward of Johns Hopkins Hospital into the current Wilmer building. Early records are scant, but it is believed that Edward Maumenee, director of Wilmer from 1955 until 1979, formally established the Advisory Council in the 1960s and invited pharmacist William Conner, co-founder of Alcon, to serve as the inaugural chair. Under Conner’s leadership, the Council supported the construction of the Alan C. Woods Building, Wilmer’s first building devoted to research.

During the tenure of Arnall Patz, MD, as director of Wilmer (1979–1989), Howard Brownstein, CEO of National Property Analysts, served as Council chair for several years. “Arnall really looked to the Council for advice and guidance,” Brownstein recalls, adding that Council membership has always been considered a prestigious honor. Three Supreme Court justices—one sitting and two retired—were among those serving with Brownstein.

Council meetings, then held twice a year, were much anticipated by members, Brownstein says. The two-day events would include the Director’s report on the state of Wilmer, several presentations from faculty, and plenty of time for conversation. As is still the tradition, Wilmer faculty and staff would dine with Council members, providing an informal opportunity to get better acquainted.

“You got to know the faculty members on a personal level,” says Brownstein, recalling an experience with Gerard Lutty, PhD, then a junior faculty member. “Arnall said, ‘Dr. Lutty is really promising, but he’s not getting any funding so I may have to let him go.’” Advisory Council members rallied around the young doctor, raised the funds needed, and now—nearly 30 years later—Lutty is director of Wilmer’s Ocular Vasculogenesis and Angiogenesis Laboratory, conducting vital research on how blood vessels respond to age-related macular degeneration, diabetic retinopathy, and other diseases.

Other initiatives required Council members’ attention over the years. “The first one was adding the fifth floor to Wilmer and then the Edward Maumenee building,” Brownstein says of projects during his tenure as chair. “There was always something physical to work on.

Ambassadors. Confidants. Donors. Advisors. Fundraisers. Liaisons. Friends. There is no shortage of words to describe the many different—and essential—roles of the members of the Wilmer Advisory Council. Indeed, nearly every success at Wilmer, from endowment funds to buildings, in some way has been made possible by the Council’s multifaceted contributions.
Excellence was Arnall’s motto, and the question was always: How do we maintain that excellence? You can’t live in the past.”

When Morton Goldberg, MD, was named director of Wilmer in 1989, he chaired the Council for the first two years of his administration and encouraged the members to maintain a forward focus by creating endowment funds for professorships. During Goldberg's 14 years as director, the Council was instrumental in establishing 14 new endowed professorships. This investment in the future ensured that Wilmer could continue to attract and keep the finest ophthalmologists and scientists on staff.

“They were all very generous,” Goldberg says of Council members. “They were also a source of referrals for patients, acting as informal counselors to make sure others got to see the right people at Wilmer and at Hopkins. In addition, they were advocates for Wilmer in the community and generated support from friends and business colleagues.”

For Peter McDonnell, who became Wilmer’s director in 2003, the support of the Advisory Council has been—and continues to be—invaluable.

“The members of our Advisory Council have been successful in many walks of life, and they’re often able to help us better understand how to help Wilmer be successful,” McDonnell says. With vision research poised for dramatic discoveries and demand for Wilmer’s services at an all-time high, McDonnell considered carefully whom to invite to serve as the Council’s next chair. He reached out to Sanford (Sandy) Greenberg, PhD, chair and CEO of TEI Industries, Inc.

“Sandy is an extremely successful businessman, inventor, and government and policy leader,” McDonnell says. “He’s been a trustee for Hopkins and a valued advisor to university presidents, medical school deans, and individuals like myself. I felt that having the ability to rely on the advice and wisdom and counsel of a person like him would just be a tremendous help to me—and to Wilmer.”

Greenberg brings another unique perspective to the Advisory Council. He is blind, having lost his eyesight to glaucoma at the age of 19.

Serving as Advisory Council chair is a role that brings Greenberg one step closer to fulfilling what he calls his “contract with life”—a commitment he made just days after blindness struck him as a junior in college. “I made a decision then that my challenge was so enormous and unexpected that I would do everything in my power to make sure no other person would have to go through the agony that I did,” he says. Since the 1980s, Greenberg has been working on this very challenge with scientists around the world, as well as the National Institutes of Health and other organizations.

Last November, in his first meeting as Council chair, Greenberg...
passionately put forth a goal for his fellow volunteers and Wilmer staff: end blindness in the next decade.

He recognizes the boldness of the mission—and understands that his plan may stir controversy. “There will be much nay-saying from all quarters, but in my life, had I listened to the advice I got, I would be back in Buffalo making screwdrivers,” Greenberg says. “There is one institution in the world that has the capacity and therefore the moral obligation to end this blight on humankind. I know we will succeed. Because what else are we on Earth to do that is greater than diminishing human suffering?”

There will be much incremental research needed, Greenberg realizes, but he is confident the goal is within reach. He is quick to point out that optic nerve regeneration was once a dream. “It’s coming together now. We’re making progress. And if we can end this affliction of blindness, it will help immeasurably in curing other diseases in the central nervous system.”

While some may consider Greenberg’s goal to end blindness a quixotic dream, McDonnell does not. “When you break it down into its component pieces, you can accomplish parts of it and then finally achieve the whole vision,” McDonnell says. “All of us wish to see an end put to blindness; and one clear priority that we feel is one day possible is to regenerate the optic nerve. I believe it will be accomplished—by setting an ambitious goal and attracting the right teams of people.”

Greenberg is ready for the challenges—and achievements—that lie ahead. For him, there is no greater cause, and no better time to put blindness on notice. “How many more hours, how many more days do we want the blind to suffer?”

In his remarks to the members of the Advisory Council, Greenberg said he awaits eagerly the day when they will speak together on behalf of countless generations of blind people and say: “Veni, vidi, vici. We came, we saw, we conquered blindness.”

---

**2011-2012 Wilmer Advisory Council**

- Mrs. Kim Alkire
- Edward E. Birch, PhD
- Ms. Paula Brooks
- Mr. and Mrs. Howard N. Brownstein
- Bob Butchofsky
- Gerald D. Cagle, PhD
- Liz and Dick Dubin
- Mr. and Mrs. Robert B. Feduniak
- Sandy and Rick Forsythe
- Heather and James P. Gills
- Myrna D. and Morton F. Goldberg
- Mrs. Virginia Gomprecht
- Mrs. Samuel G. Gorn
- Dr. and Mrs. Sanford Greenberg
- Mr. M. Alan Guerrieri
- David R. Guyer, MD
- Mrs. Martha Head
- Timothy and Cynthia Hultquist
- Dr. and Mrs. Allan D. Jensen
- Robert E. and Lynne Katz
- Mr. Jack Kay
- Mr. and Mrs. Raymond P.L. Kwok
- Jeffrey A. and Harriet Legum
- Dr. William May
- Mr. James V. Mazza
- Kenneth A. Merlau
- Mrs. Agnes E. Nixon
- Mr. Ralph S. O’Connor
- Ms. Cherie Ort
- Ms. Marlee Ort
- Mrs. Ellen Patz
- Mr. T. Boone Pickens
- Mr. David E.I. Pyott
- Stephen F. Raab and Marie Brickley-Raab
- Ann and Ted Reiver
- Louis E. Slesin and Lesli Rice
- Mrs. Clarice Smith
- Dr. Niel F. Starksen
- Ms. Rebecca Atkinson
- Sturz
- Bill and Norma Kline Tiefel
- Albert W. and Therese L. Turner
- Dr. and Mrs. Robert B. Welch
- William J. Wood MD

---

**Courage and Conviction**

Glucoma may have claimed Sandy Greenberg’s eyesight, but it certainly didn’t diminish his determination. Despite the unexpected challenge of going blind his junior year in college, he received his BA degree (Phi Beta Kappa) and his MBA from Columbia University and his MA and PhD from Harvard University. He was a Marshall Scholar at Oxford University and attended Harvard Law School.

Greenberg, chair and CEO ofTEI Industries, Inc., is the inventor ofVariable Speech Control, a patented device for the compression and expansion of human speech. He founded and served as chair and CEO of Focus Technologies, Inc., a leading international esoteric reference laboratory, which created the world’s largest electronic laboratory surveillance network and antimicrobial profiling database. He has also founded and/or served as an officer or director of a number of companies, including Bill Lyndon, Tishman Realty and Construction Co., Inc., Arthur Garfunkel Enterprises, and ECC International Corp.

Greenberg served as founding chairman of the Rural Health Care Corporation, created by Congress in 1997 to bring the benefits of telemedicine to America’s rural health care facilities. Appointed by President Clinton in 1994 to the National Science Board, which oversees the National Science Foundation, Greenberg had previously served as a member of the White House Science Advisory Staff under President Johnson.

Since 1962, Greenberg has been married to Sue, who first captured his heart in the sixth grade. The couple lives in Washington, DC, and has three children.

—ME
The days of lone wolf research are long gone, says Harry Quigley, MD, director of the Glaucoma Center of Excellence (GCE) at Wilmer. “There are too many levels of expertise needed to do high-level research—and so many wonderful new glaucoma research findings and techniques developing rapidly that no one person can know what they all are,” he notes.

Although the team approach has long been the norm among glaucoma doctors and scientists at Wilmer, the importance of interdivisional collaboration for research—as well as for clinical care and education—was formally recognized and celebrated when the Glaucoma Center of Excellence was dedicated in the fall.

One of the leading glaucoma divisions in the world, the Center has eight faculty members and 30 researchers. “The Glaucoma Center of Excellence shows the wisdom of Dr. Quigley and his colleagues in recognizing that the future of biomedical science is with strong teams of people with complementary skills who work together to solve problems,” says Wilmer Director Peter McDonnell, MD. “I applaud this, and I believe this will be copied with great success by scientists who are interested in diabetic retina diseases, trachoma, neurological diseases like multiple sclerosis, and other conditions that rob vision. It's a model we can follow.”

While the Center's laboratory efforts and main surgical pavilion are housed in the new Robert H. and Clarice Smith Building, its reach far exceeds a single bricks-and-mortar structure. “Modern science and interdisciplinary collaboration put the Center in ‘the cloud,’ much like the computer cloud,” Quigley explains. “Being intellectually integrated is at least as important as being physically integrated.”

For example, Center researchers have joined forces with The Dana Center for Preventive Ophthalmology at Wilmer, a collaboration between faculty of the School of Medicine and the Bloomberg School of Public Health. The Dana Center was founded by yet another Wilmer glaucoma specialist, Alfred Sommer, MD, MHS, and is now directed by Glaucoma Center member David Friedman, MD, MPH, PhD. Teams of Wilmer/Dana investigators are working with colleagues from London, Singapore, and China on angle closure glaucoma, a blinding eye disease that can often be cured if detected in the earliest stages. Closer to home, Center researcher Pradeep
Modern science and interdisciplinary collaboration put the Center in ‘the cloud,’ much like the computer cloud. Being intellectually integrated is at least as important as being physically integrated.

— Harry Quigley, MD, director of the Glaucoma Center of Excellence at Wilmer
When the onset of the wet form of AMD is detected as early as possible, notes Bressler, treatment can reduce the magnitude of vision impairment and prevent blindness. But many patients do not seek or receive medical treatment until moderate or substantial vision loss from AMD has already occurred. By that point, doctors may be successful in minimizing additional vision loss, but—in 60 to 70 percent of affected individuals—doctors may not be able to restore the vision that was already lost.

“It’s natural for us to start looking at how best to screen high-risk patients,” Bressler says “now that our treatments for those with neovascular AMD have improved substantially in what they can accomplish.”

Individuals with select features of the non-neovascular, or dry, form of AMD are most likely to develop the wet—and significantly more damaging—form of AMD. Although for years, doctors have instructed patients to do at-home tests by covering first one eye and then the other and reporting any changes in vision, such as new development of blank areas in their vision or distortion of the image they see, such testing is subjective and the results not always reliable.

Last summer, Bressler launched a 12-month study to determine whether a monitoring device, called the ForeseeHome Vision Monitor, can effectively be used by patients in their homes to reliably identify the onset of the wet form of AMD. Through
clinical exams, she has identified 125 high-risk patients and recruited them as participants. The patients have been trained to use the ForeseeHome device, which has the ability to detect vision changes, potentially before patients notice any symptoms of vision loss.

The device is used in conjunction with telemmedicine operations; thus, the results of the individual’s monitoring sessions are transferred through their telephone line to a monitoring center where the test results are regularly reviewed by a team. If the test results suggest that the macular degeneration may have progressed, the monitoring center contacts the individual and the retina specialist to generate “an alert.” Any alert leads to a prompt in-office exam to determine if neovascular AMD has developed. If it has, then treatment is promptly instituted. The device weighs about three pounds, is slightly larger than a shoe box, sits on a desk or table, and can be used anywhere that there is access to land or cell phone lines.

During the non-invasive monitoring test, patients see a flashing series of dotted lines on a screen and, using a computer mouse, move the cursor to the spot where the dotted line first appears distorted to them. Use of the device requires a level of comfort with technology as well as rapid response time—two factors that can be challenging for some elderly patients.

Patients who are able to use the device successfully are instructed to test their eyes, individually, several times a week, with data from each test automatically sent by phone line to the monitoring center.

With RPB’s Physician-Scientist Award funds, Bressler and her team plan to expand the study to examine, among other issues, the true positive and false negative rates among patients using the device, and how this data relates to demographics and information obtained through clinical exams and retinal imaging. The team will also look at the demographic and ocular characteristics of study participants who could not successfully use the device. This data will help determine which patients might best use the in-home monitoring in the future.

“We have known for years which of our patients are at greatest risk of progressing to neovascular AMD, and ultimately loss of their central vision, but we have not known the best way to follow these patients to foster early detection of the transformation from dry to wet disease,” notes Bressler. “As our treatments for wet disease have improved so dramatically, it is time for us to shift some of our focus to early detection of wet disease, to further minimize the proportion of people who will have severe vision loss from neovascular AMD.”

—ME
Kim Ort Alkire and her sisters, Marlee, Cherie, and Karen, understand the importance of research—and an innovative idea.

Fibred-Maryland, Inc., their family-owned company, manufactures and sells an insoluble dietary fiber called FI-1 Soy Fibre®, considered the highest quality fiber product on the market. The company evolved from the entrepreneurial success of their late father, baker-turned-businessman Lewis J. Ort, who developed the country’s first low-calorie bread in the 1950s. After extensive research, he determined how to extract fiber from soy products and in 1986 constructed a soy fiber processing plant in Cumberland, Md.

Around that same time, Ort was doing philanthropic work overseas when he suffered a detached retina. As his daughter Marlee recalls, “He crawled his way to Baltimore and Wilmer and described to his family that he’d found the best eye facility in the world.”

In gratitude for the excellent care he received, Ort gave generously to Wilmer and served as chair of the Advisory Council from 1987 to 1990.

Pushing the Edges of Science

Through a long-term pledge, the family established the Lewis J. Ort Chair in Ophthalmology, a professorship awarded last year to Justin Hanes, PhD, director of the Center for Nanomedicine at Wilmer.

Carrying on their father’s legacy, Ort’s daughters serve on the Wilmer Advisory Council. At a recent meeting, they met Wilmer’s Jennifer Elisseef, PhD, who holds the Jules and Doris Stein Professorship funded through Research to Prevent Blindness (RPB). Alkire and her sisters learned about Elisseef’s work with biomaterials and tissue engineering and how new technologies being investigated in her lab might dramatically alter the treatment of eye disease.

The sisters were impressed. “What we see in Dr. Elisseef is that there are no boundaries,” says Kim Ort Alkire, now Fibred’s president. “The possibilities are endless for her, and she’s always thinking outside of what technology has given her to date.”

When Alkire and her sisters were asked to support Elisseef’s work, they were quick to say yes. Their contribution of $150,000 met a matching gift requirement from Research to Prevent Blindness, which would double the money available for her lab equipment. The Ort family’s generous support already made it possible for Elisseef to purchase a rheometer, a device that is critical to her research. She had been struggling to get by with an “inherited” rheometer that was so old the manufacturer had stopped making replacement parts. If awarded, the RPB matching gift will enable her to purchase a Seahorse analyzer, which has been on her wish list for years.

With the new rheometer, Elisseef hopes to shed new light on the physical and chemical changes that lead to dry eye disease—factors that have remained a mystery to researchers. She will

What we see in Dr. Elisseef is that there are no boundaries. The possibilities are endless for her, and she’s always thinking outside of what technology has given her to date.

—Kim Ort Alkire
Funding is so tight, yet if we really want to change medicine, we have to do some high-risk research.

—Jennifer Elisseff, PhD, *Jules and Doris Stein Professor*

examine how the structure and fluidity of the tear film in the eye influence stability so that treatments for dry eye disease can be improved. The tear film covers the surface of the eye, protects the cornea, and lubricates the eyelid.

The Seahorse analyzer would help Elisseff better understand the energy state of cells. “By looking at the energy state of a cell that’s regenerating, we can try to manipulate the energy state of other cells locally to promote regeneration,” she explains, adding that the metabolic activity of cells and its effect on the rest of the body is becoming an important and popular topic in research. “Having the Seahorse allows us to be cutting edge and do some things that are going to push the edges of the field.”

Elisseff believes that “pushing the edges” will lead to new and promising results. “Funding is so tight, yet if we really want to change medicine, we have to do some high-risk research,” she says, adding that traditional funding mechanisms typically don’t support untested research directions. “At this stage in my career, I want to do something different, something that pushes the boundaries.”

This winter, Elisseff visited the Ort family to provide an update on the research they are supporting and to tour the Fibred plant. Already, Elisseff is musing on how Fibred’s work might intersect with her own. “We use biomaterials to make new devices, and I’m working with collaborators who are making contact lenses out of cellulose … so I’m curious. It would be fun to try industrial materials,” she says.

“It would be absolutely fascinating for us to be able to offer her something that would be useful in her work,” Alkire says. In a way, it would bring Lewis Ort’s legacy with Wilmer full circle.

“It’s gone back a long time, starting with our father,” reflects Marlee Ort. “Now the most exciting piece is what’s unfolding with these young doctors and the collaboration that’s happening at Wilmer. They’re pushing to advance science and improve people’s lives.”
For five decades, Helen Leighton heard nothing but bad news about her vision. Doctors told her they couldn’t fix her strabismus, or misaligned eyes. And neither could they fix her amblyopia, a sight-robbing visual impairment caused by the strabismus.

Ever hopeful, Helen made an appointment at Wilmer in 1992 to see David Guyton, MD, Zanvyl Krieger Professor of Pediatric Ophthalmology, who is internationally known for his research and inventions in the fields of optics and strabismus.

“Dr. Guyton did what Helen had been told for 50 years couldn’t be done,” David Leighton says of his wife, who died in March 2011. “He operated on her and with great success.” The eye muscle surgery resulted in dramatic improvement to her eyes’ alignment, and Helen—after decades of being self-conscious about her eyes—was thrilled.

A few years later, when Helen Leighton developed cataracts, Guyton referred her to Walter Stark, MD, Boone Pickens Professor and director of the Stark-Mosher Center for Cataract and Corneal Diseases at Wilmer. Another successful surgery heightened the Leightons’ gratitude to Wilmer, and in 2006, the couple contributed $1 million to Wilmer to benefit the work of Guyton and Stark. In 2010, the Leightons established a charitable gift annuity in the amount of $2 million for the same purpose. After his wife’s death, David honored her memory and her appreciation for Guyton and Stark with a $1 million charitable gift annuity.

The Leightons selected a charitable gift annuity as the vehicle for their giving because it provides a lifetime income to the donor and significant tax savings. With a charitable gift annuity, the donor transfers cash or marketable securities to Wilmer and receives fixed annuity payments for life, with Wilmer receiving interest payments. Upon the donor’s death, the balance of the annuity is available for Wilmer’s use as specified by the donor.

“It’s a very attractive approach because you reduce your vulnerability to taxes, and you give the money in your lifetime to the institution so they can invest at a higher rate of return than a person like me can do,” Leighton says. “Frankly, I have more faith in what I’ve invested in Wilmer than I do in my own investments, and when I die, my heirs don’t have to worry about it. It’s all taken care of.”

David Leighton has every confidence that Guyton and Stark will do good work with the funds entrusted to their care. “I’m very appreciative that the Leightons saw the potential in the work our teams are doing,” says Stark, who has also performed cataract surgery on David Leighton. “This magnificent gift will sustain our research for many years to come. It enables us to plan for the future and to maintain our leadership role in treating corneal and cataract disorders.” Stark notes that his lab is collaborating with biomedical engineers and basic researchers to explore the future of gene therapy and how nanotechnology can be used to deliver long-lasting medicines to the eye.

Guyton shares his colleague’s gratitude, praising the Leightons as being among his best supporters. Their previous gifts helped fund efforts by him and his colleagues to develop a pediatric vision screener, an automated device that determines amblyopia risk factors in young children at an age when the condition can be corrected. If the screener had been available when Helen Leighton was a child, her vision problems would have been detected and treated, Guyton notes.

“The Leightons’ gifts open up opportunities that we could never pursue otherwise and give us the freedom to take the time to do what we like to do best—to harness the laws of nature to work in ways that they have never worked before in the history of mankind,” says Guyton, who is passionate about inventing and building instruments that will bring better vision to more patients.

“I’m delighted that David shares the passion Helen had for helping us. He is continuing with the vision she had.”

—ME
Nearly a Thousand People Attend Dr. Neil Bressler’s Presentations: New Advances in Retina Research

Cosmos Club, Washington, DC
November 1, 2011

Retina Symposium hosts Mr. William McSweeny and Mr. Richard Dubin, with the Chief of the Retina Division, Dr. Neil Bressler.

The Ritz-Carlton, Naples, FL
January 21, 2012

Naples Symposium host Rose Parapiglia (center), flanked by Wilmer alumnus Dr. Saurabh N. Patel (far right) and his wife Dr. Harmindar Gill-Patel, and Dr. Peter J. McDonnell.

Reception at the Home of Bill and Norma Tiefel, Palm Beach, FL
January 17, 2012

L to r: Mrs. Phyllis Attman, Dr. Susan Bressler, and Mr. Leonard Attman.

Mr. Bill Tiefel and Mr. and Mrs. Bernard Gewirz.

Mr. Ronald J. Daniels, president of Johns Hopkins University, presents Mrs. Norma K. Tiefel with the inaugural Aida Breckenridge Award for her friendship to the Wilmer Eye Institute.

Mrs. Ginger Gomprecht and Mrs. Shirley Small with Dr. Peter J. McDonnell.
Events

The Dr. Frieda Derdeyn Bambas Professorship honoring Dr. Hendrik Scholl
December 1, 2011

Professor Phil J. Luthert; Rajendra Singh, MS, PhD; Eberhart Zrenner, MD; Dr. Peter J. McDonnell, MD; William A. Baumgartner, MD; Colonel Conrad J. Derdeyn; and Hendrik P.N. Scholl, MD, MA.

Dr. Hendrik Scholl with his family.

Have your cake and eat it too.

Make a gift to the Wilmer Eye Institute now. Receive income for life.

Fund a Charitable Gift Annuity (CGA) and enjoy:
- Guaranteed, fixed payments for life
- Partially tax-free income
- Immediate charitable deduction

To learn more, please contact:
Richard J. Letocha, Esq., CFP®
Johns Hopkins Office of Gift Planning
410-516-7954 or 800-548-1268
giftplanning@jhu.edu | giving.jhu.edu/giftplanning

One-Life CGA Rates as of January 1, 2012

<table>
<thead>
<tr>
<th>Age</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
<td>9.0%</td>
</tr>
<tr>
<td>85</td>
<td>7.8%</td>
</tr>
<tr>
<td>80</td>
<td>6.8%</td>
</tr>
<tr>
<td>75</td>
<td>5.8%</td>
</tr>
<tr>
<td>70</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

CGAs require a minimum gift of $10,000 (cash or securities). Seek advice from a tax professional before entering into a gift annuity agreement. Johns Hopkins CGAs are not available in all states.
The following is a list of those Wilmer Residents Association members who supported Wilmer, through gifts and pledge payments, during fiscal year 2011, July 1, 2010, through June 30, 2011. If any donor was accidentally missed, or if you prefer to remain anonymous, please contact the Development Office at 410-955-2020.

20/20 Society [$20,000 – $49,999]
Charles J. Blair, MD
Allan D. Jensen, MD
John W. Payne, MD
Stephen J. Ryan Jr., MD

Helen Keller Society [$5,000 – $19,999]
Daniel Finkelstein, MD
Robert N. Frank, MD
Dr. and Mrs. Morton F. Goldberg
Drs. Peter J. and Jan M. McDonnell, MD
Dr. and Mrs. Albert T. Milauskas
Dr. and Mrs. Robert B. Welch

Wilmer Patrons [$1,000 – $4,999]
Drs. Henry D. and Risa M. Jampel
William H. Jarrett II, MD
Robert A. Liss, MD
Mathew W. MacCumber, MD, PhD
David Paton, MD
Jay S. Pepose, MD, PhD
Dr. and Mrs. Harry A. Quigley, MD
Dr. and Mrs. Alfred Sommer
Dr. and Mrs. John T. Thompson
Dr. and Mrs. Charles P. Wilkinson
Marco A. E. Zarbin, MD

Friends of Wilmer [$100 – $999]
Husam Ansari, MD, PhD
Serge N. de Bustros, MD
James H. Gray, MD, PA
Albert S. Jun, MD, PhD
Paul P. Lee, MD
John W. Pemberton, MD
Dr. and Mrs. Peter A. Rapoza
David A. Rosen, MD
Walter J. Stark Jr., MD

WRA at the Academy of Ophthalmology, Orlando, FL
October 22, 2011
AAO attendees dancing to the music of Treble Damage, led by Marc Schwartz, MD, Class of 1985.

Save the Date
WRA Day
June 8, 2012
WRA at the AAO
November 10, 2012
We're in your neighborhood

Wilmer Eye Institute at
The Johns Hopkins Hospital
600 N. Wolfe Street
Baltimore, MD 21287

Bayview Medical Center
4940 Eastern Avenue
Baltimore, MD 21224

Columbia
10700 Charter Drive, Suite 140
Columbia, MD 21044

Frederick
87 Thomas Johnson Drive, Suite 102
Frederick, MD 21702

Green Spring Station Eye Clinic and
The Wilmer Laser Vision Center
10753 Falls Rd., Pavilion 2, Suite 455
Lutherville, MD 21093

Odenton
1132 Annapolis Road
Odenton, MD 21113

White Marsh
4924 Campbell Blvd., Suite 100
White Marsh, MD 21236

Wyman Park Medical Center
3100 Wyman Park Drive
Baltimore, MD 21211

Appointments
410-955-5080

Toll-Free Directions
877-477-9519
www.wilmer.org