University Hospitals
Case Medical Center

Cleveland | Ohio


## DEPARTMENT OF OPHTHALMOLOGY & VISUAL SCIENCES

BEST HOSPITALS
U.S.News & WORLD REPORT
HONOR ROLL
2013-14

# DEAR COLLEAGUE:

As one of just 18 hospitals named to the **U.S. News & World Report Honor Roll**, University Hospitals Case Medical Center is committed to building upon a legacy of medical discovery that began nearly 150 years ago and continues today.

Through our collaboration with Case Western Reserve University School of Medicine, our physicians – many of whom also serve as faculty at the School of Medicine – are forging the future of medicine through a number of programs and initiatives:

- A strengthened commitment to research and the treatment of complex and high-risk cases of adult and pediatric glaucoma
- UH Case Medical Center's status as just one of 12 hospitals selected to implant the Argus II, a bionic eye implant that restores functional vision to those with profound visual loss brought on by retinitis pigmentosa
- Our leadership in the Cornea Preservation Time Study, which is through the School of Medicine and is the largest ongoing clinical corneal research study
- An Ophthalmology Residency Program that is one of the most prestigious in the nation

We welcome your feedback on how we can work together to further enhance the field of ophthalmology

**P.S.** *We look forward to seeing you at the American Academy of Ophthalmology's Annual Meeting in Chicago in November.*

**Douglas J. Rhee, MD**
*Chair and Professor*
*Department of Ophthalmology & Visual Sciences*
*UH Case Medical Center*
*and Case Western Reserve University School of Medicine*

# Department of Ophthalmology & Visual Sciences

The Case Western Reserve University School of Medicine's Case Visual Sciences Research Center is ranked fifth in funding in the nation by the National Eye Institute of the National Institutes of Health.

University Hospitals Eye Institute at UH Case Medical Center and the Department of Ophthalmology & Visual Sciences at Case Western Reserve University School of Medicine focus on pioneering translational and clinical research and providing patients with leading-edge treatments and superior clinical outcomes. Through its affiliation with the School of Medicine and its partnership with basic science departments as part of the Visual Sciences Research Center, the institute has access to emerging technologies and medical research that enhance its clinical care. The institute has extended its vision of translational science and discovery to tackle public health issues via national collaborations and research. Its National Eye Institute-funded Cornea Preservation Time Study through the School of Medicine is currently the largest clinical trial in corneal disease.

# UH CASE MEDICAL CENTER

Among the nation's leading academic medical centers, UH Case Medical Center is the **primary affiliate of Case Western Reserve University School of Medicine**.

**TO HEAL. TO TEACH. TO DISCOVER.**

With more than 1,000 registered beds, UH Case Medical Center provides primary, specialty and subspecialty medical and surgical care. Located in the heart of Cleveland's University Circle on a beautiful 35-acre campus, UH Case Medical Center includes general medical, intensive care and surgical units, as well as three major specialty hospitals:

University Hospitals Seidman Cancer Center

University Hospitals MacDonald Women's Hospital

University Hospitals Rainbow Babies & Children's Hospital

Our physicians and researchers – who also serve as faculty at Case Western Reserve University School of Medicine – are leaders in their respective fields, and their ongoing clinical research programs push the boundaries of medical progress.

Our dedication to clinical research and education has played a major role in building UH Case Medical Center's rich legacy of medical innovation, and continues to this day. Coupled with a commitment to implementing the latest therapies and integrating with the most technologically advanced hospitals and community facilities, UH Case Medical Center offers a depth of care and scope of services unmatched by any other medical center in Ohio.

**1,000+**
registered beds

**35**
acre campus

**3**
major specialty hospitals

## THE PRIMARY AFFILIATE OF
Case Western Reserve University School of Medicine

The commitment to exceptional patient care begins with revolutionary discovery. **University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine**, a national leader in medical research and education, and consistently ranked among the top research medical schools in the country by U.S. News & World Report. Through their faculty appointments at Case Western Reserve University School of Medicine, physicians at UH Case Medical Center are advancing medical care through innovative research and discovery that bring the latest treatment options to patients.


*Dr. Rony Sayegh*

# Department of Ophthalmology & Visual Sciences

The UH Eye Institute's expert physicians and clinicians specialize in diseases and conditions affecting the eye and maintaining visual health. The highly ranked clinicians and the UH Eye Institute are under new leadership and have placed a new emphasis on collaboration with various basic science departments, particularly pharmacology. The UH Eye Institute includes four Centers of Excellence:

**CENTERS OF EXCELLENCE**

Center for Anterior Segment Diseases & Surgery
Center for Pediatric Ophthalmology & Adult Strabismus
Center for Retina and Macular Diseases & Surgery
Center for Oculoplastics & Neuro-Ophthalmology

*To contact the department directly, email Eye@UHhospitals.org.*

**The physicians and clinicians in the Department of Ophthalmology & Visual Sciences are ranked among the best in the country, specializing in diseases and conditions affecting the eye and maintenance of visual health.**

**These highly trained physicians hold full-time faculty appointments at Case Western Reserve University School of Medicine and participate in activities of the School of Medicine's Case Visual Sciences Research Center and Visual Sciences Training Program.**

**Douglas J. Rhee, MD**, *Chair and Professor of Ophthalmology, Department of Ophthalmology & Visual Sciences, UH Case Medical Center and Case Western Reserve University School of Medicine*, serves as the new Director of the UH Eye Institute. An accomplished glaucoma specialist, surgeon, educator and author, Dr. Rhee is an expert in adult and childhood glaucoma. He has served in a variety of leadership positions and developed leading-edge procedures in the treatment of complex, high-risk glaucoma and has won numerous research supporting awards from federal, corporate and private sources and recognition for his work. He reviews for several ophthalmic journals. Dr. Rhee is an accomplished educator, having published five textbooks and serving on and leading committees that develop the curricula for the American Academy of Ophthalmology, American Society of Cataract and Refractive Surgery and American Glaucoma Society.

*Dr. Douglas Rhee*

# NATIONALLY RECOGNIZED EXPERTS

## DEPARTMENT OF OPHTHALMOLOGY & VISUAL SCIENCES

# NATIONALLY RECOGNIZED EXPERTS

**Jonathan H. Lass, MD**, is the *past Chairman, Department of Ophthalmology & Visual Sciences, UH Case Medical Center and Case Western Reserve University School of Medicine; past Director of the University Hospitals Eye Institute; current member of the Center for Anterior Segment Diseases & Surgery of the UH Eye Institute; and Charles I Thomas Professor, Case Western Reserve University School of Medicine*. Dr. Lass is a cornea-fellowship-trained ophthalmologist with more than 30 years of experience in clinical research. He has served in leadership positions in national and international organizations dedicated to the advancement of the management of corneal diseases, most notably the Cornea Society, and is currently the medical director of the Cleveland Eye Bank, a nonprofit organization dedicated to restoring sight by providing tissue for transplantation, clinical research and teaching. Dr. Lass is Study Chair of the National Eye Institute-sponsored Cornea Preservation Time Study, which could ultimately lead to the availability of more donor corneas for transplantation.

Named one of the area's "Best Doctors" by Best Doctors Inc. and one of "America's Top Ophthalmologists" in 2008 by Consumers Research Council of America, **Edward Burney, MD, FACS**, is *Director, Center for Anterior Segment Diseases & Surgery, UH Eye Institute; and Professor, Department of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*. He leads the glaucoma service at UH Case Medical Center and for the past 25 years has served as the director of ophthalmology for the Louis Stokes Cleveland VA Medical Center.

**Suber S. Huang, MD, MBA**, is the *Director, Center for Retina and Macular Diseases & Surgery, UH Eye Institute; and Philip F. and Elizabeth G. Searle – Suber Huang Professor of Ophthalmology, Case Western Reserve University School of Medicine*. An expert in retinal conditions, Dr. Huang served as immediate past president of the American Society of Retina Specialists (ASRS) and is currently the chair of the American Retina Foundation, the charitable arm for ASRS. In 2005, Dr. Huang received the foundation's senior honor award. In 2002, he received the American Academy of Ophthalmology Achievement Award and he has been included in the "Best Doctors in America" list for multiple years. In 2011, the Elisabeth Severance Prentiss Foundation awarded $5 million to UH to support the UH Eye Institute and the work of Dr. Huang and the Center for Retina and Macular Diseases & Surgery.

**Faruk H. Örge, MD**, is the *William R. and Margaret E. Althans Chair in Pediatric Ophthalmology and Director, Center for Pediatric Ophthalmology & Adult Strabismus, UH Eye Institute and UH Rainbow Babies & Children's Hospital; and Associate Professor of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*. He has an international reputation for successfully treating complex and technically difficult pediatric vision procedures. Dr. Örge was the first in the nation and second in the world to perform an endoscopic goniotomy, a complicated pediatric procedure for congenital glaucoma.

**David Bardenstein, MD**, *is Director, UH Eye Institute Center for Oculoplastics & Neuro-Ophthalmology, and Professor of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*. He is currently studying prospective validation of a multigene prognostic assay in uveal melanoma. Highlighted in the prestigious "Best Doctors in America" peer-to-peer survey of specialists in the U.S., he also serves as Director of Oculoplastics, Reconstructive Surgery & Oncology at UH Case Medical Center.

***To see our Grand Rounds schedule, visit UHhospitals.org/Eye/GrandRounds.***

# New Leadership for Advances in Research and Departmental Expansion

## An Accomplished Chair Begins a New Era

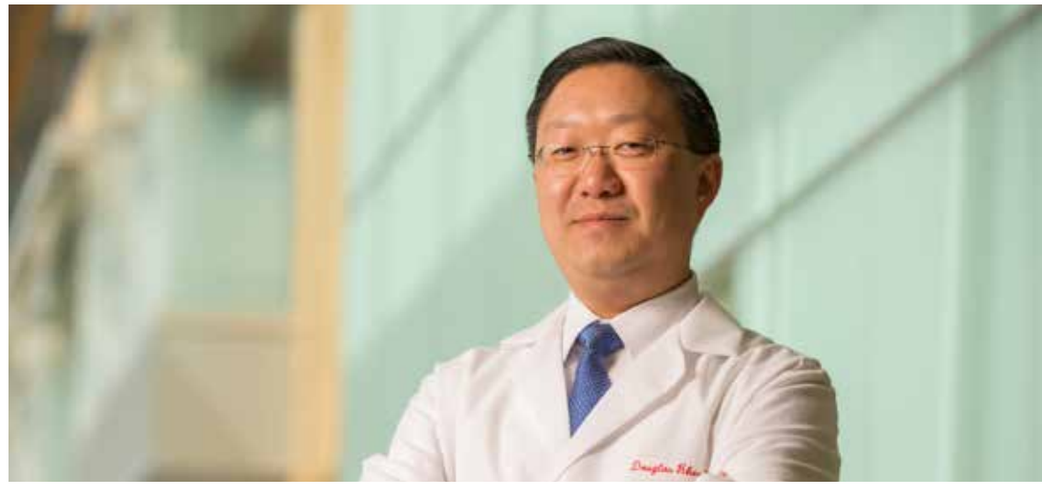
After an extensive national search, UH Case Medical Center and Case Western Reserve University School of Medicine named **Dr. Douglas Rhee** to lead its Department of Ophthalmology & Visual Sciences.

An accomplished glaucoma specialist, eye surgeon and researcher, Dr. Rhee assumed his role in September 2013. An expert in adult and childhood glaucomas – specializing in complex and high-risk cases – he also has an interest in rare clinical syndromes as well as more common forms of glaucoma. He has been responsible for the introduction of new technologies and procedures, such as trabectome and canaloplasty, and in training of other clinicians on how to perform these surgeries.

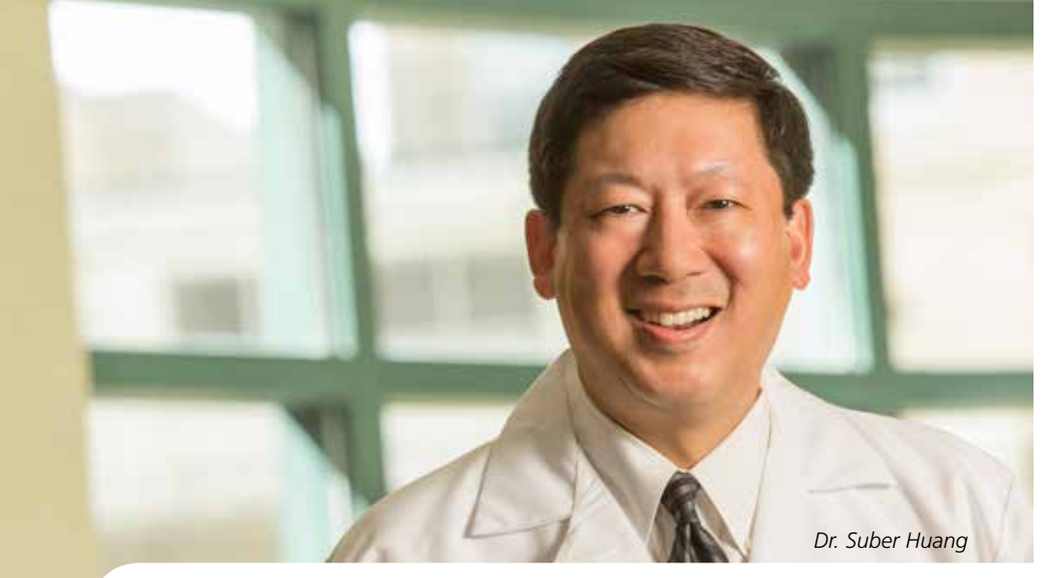
Between 2007 and 2012, Dr. Rhee served in a succession of leadership roles, including Medical Director of Massachusetts Eye and Ear locations in Stoneham and East Bridgewater; Medical Director of Strategic Network Development; and Associate Chief of Operations and Practice Development. In 2009, Dr. Rhee became Vice President of the Massachusetts Society of Eye Physicians and Surgeons. In 2012, he was named President of the Korean American Ophthalmologic Society.

Dr. Rhee received the American Glaucoma Society's Clinician-Scientist Award in 2004 and 2005, and in 2008 was honored again with the Mid-Career Physician-Scientist Award. That same year, he was awarded the RPB Physician-Scientist Award from Research to Prevent Blindness, Inc., the largest nonprofit foundation in the United States funding eye research. These awards provided support for his research into eye pressure regulation; which has been funded by various public and private sources, including the National Eye Institute and Massachusetts Lions Eye Research Fund.

His plan for the future of the Department of Ophthalmology & Visual Sciences at UH Case Medical Center is to change the way ophthalmology and ophthalmologic conditions are diagnosed and treated, as well as how ophthalmologic disease is understood. His plans also include expansion in numerous research and clinical areas, particularly in glaucoma, retina, general ophthalmology and neuro-ophthalmology.



*Dr. Douglas Rhee*



*Dr. Suber Huang*

# BRINGING SECOND SIGHT
## to the Profoundly Blind

### UH CASE MEDICAL CENTER CHOSEN AS IMPLANT CENTER FOR THE ARGUS II BIONIC EYE

UH Case Medical Center has been chosen as one of only 12 sites in the country to implant the Argus II, a bionic eye implant that restores functional vision to those with profound visual loss brought on by retinitis pigmentosa.

Retinitis pigmentosa is a blinding disease characterized by progressive loss of the photoreceptors, the light-sensing cells of the eyes. Beginning in early adulthood, peripheral vision constricts at a rate of about 5 percent a year, until the loss of sight is incapacitating.

**Dr. Suber S. Huang** has been involved with the development of the Argus II for nearly five years, serving as the Independent Medical Safety Monitor for clinical studies in Europe and the United States. His past Presidency of the American Society of Retina Specialists and his position on its board, his role as Chair of the Research Regulatory and External Affairs Committee for the American Academy of Ophthalmology, his internationally recognized reputation as a retina surgeon, and his exemplary collaboration with the Cleveland Sight Center were significant in establishing UH Case Medical Center as one of the first implementation centers in the U.S.

The Argus II device is comprised of three components. A small electronic power and vision data processing unit (VPU) is worn by the patient on a belt or strap. The VPU is connected by a cord to a miniature camera mounted just above the nose piece on a pair of glasses. The camera "sees" a field of approximately 15 degrees (normal visual field is 160 – 170 degrees) and sends that information to the VPU which, in turn, sends the data to a receiver mounted on the temple of the glasses. That receiver wirelessly sends a signal and power to a tablet-sized receiver mounted on the eye. The receiver delivers the visual signal via a fine cable to the electrode array seated onto the macula, connecting with the working, undamaged cells of the retina that would normally receive signals from the photoreceptors.

Only patients with retinitis pigmentosa and profound vision loss (bare light or no light perception) qualify for the Argus II at this time. Patients have only partial restoration of vision. Most are able to identify sources of light, sort socks, make out the shape of a doorway or a face, see the edge of a sidewalk and recognize obstacles with their assistive devices. Simply being able to function visually again is an emotional and profoundly moving experience for recipients. While the Argus II is designed to be permanent, it easily can be updated with improved software; exchanged when new, upgraded devices are developed; or even removed if new therapies become available.

# RESIDENCY PROGRAM

The Ophthalmology Residency Program is one of the most prestigious in the nation. It accepts only six residents a year, for a total of 18 across the three-year program. As there are no fellows affiliated with the program, on a daily basis residents get unparalleled opportunities to manage complicated cases alongside the faculty.

The program emphasizes a progressive increase in medical and surgical ophthalmic knowledge and skills over the three years. Strong didactics and diverse clinical experiences ensure that each resident is well-qualified either to enter practice following completion of the residency or pursue a fellowship.

The didactic program includes basic science and clinically related lectures, guest lectures, grand rounds, specialty conferences and a surgical training program. Residents are able to participate in semiannual surgical wet lab courses and an established in-house surgical wet lab. Residents also benefit from experience with a surgical simulator at one of the program's affiliate hospitals, the Louis Stokes Cleveland VA Medical Center.

There are two major hospitals affiliated with the residency program. UH Case Medical Center is the home institution and the site of all major subspecialty rotations. The recently renovated Wade Park Campus of the Louis Stokes Cleveland VA Medical Center hosts residents for four months, providing advanced training by combining a busy clinical and surgical population in a new state-of-the-art facility that includes more than 8,000 square feet dedicated to patient care, research and the Eyesi Surgical simulator.

The unique traits of these locations and their faculties ensure that residents experience a diverse patient population and a wide range of pathology.

In addition, senior residents can opt for a three-week elective rotation at the prestigious L V Prasad Eye Institute (LVPEI) in Hyderabad, India. Founded in 1986 by Gullapalli N. Rao, MD, LVPEI is a world-renowned organization that focuses on providing comprehensive patient care blended with clinical research, sight enhancement and rehabilitation, community eye health and education.

Residents who travel to LVPEI gain medical and surgical experience in all the ophthalmic subspecialty areas as well as substantial surgical experience, primarily in cataract. One of the three weeks is spent at an outlying rural satellite eye clinic, where residents receive additional surgical experience.

Further, second-year residents are sent to a board review course, and chief residents attend either the annual American Academy of Ophthalmology meeting or another major conference of their choice, as well as a surgical wet lab course in Fort Worth, Texas.

Residents can participate in community outreach programs, such as Prevent Blindness Ohio vision screenings, an Annual MedWorks Cleveland vision screening and the Cleveland Free Clinic monthly eye clinic in conjunction with Case Western Reserve University School of Medicine Ophthalmology Interest Group and undergraduate group, Case for Sight.

Other scheduled education conferences cover topics such as cornea, fluorescein angiography, ethics, glaucoma, oculoplastics, pediatric ophthalmology and neuro-ophthalmology. Throughout the year, the UH Eye Institute sponsors four major symposia: an annual CME meeting for comprehensive ophthalmologists with the Purnell Lecture; an oculoplastics conference with the Levine Lectureship; a pediatric ophthalmology conference with the Bruner lectureship; and the annual Visual Sciences Research Center conference with resident and medical student research participation that includes the Purnell Visiting Professor lectureship. At the conference, the best resident research project is awarded a cash prize in recognition of excellence. All area residents and ophthalmologists convene for the Cleveland Ophthalmological Society quarterly conference covering all the specialty areas and including the department-sponsored Lorand Johnson Lecture.


Dr. Jonathan Lass

# RESEARCH

The chronic shortage of organs and tissue for transplantation is well known, and efforts to address that situation are critical and ongoing. The Cornea Preservation Time Study through Case Western Reserve University School of Medicine, under the leadership of **Dr. Jonathan H. Lass**, is currently the **largest ongoing clinical corneal research study in the U.S.** The three-year study, that started enrolling patients in March 2012, aims to provide what Dr. Lass hopes to be an irrefutable answer regarding the viability of corneas for successful endothelial keratoplasty up to 14 days after death.

## CHANGING MINDS, CHANGING PRACTICE TO INCREASE AVAILABILITY OF CORNEAS

### Ongoing Study to Prove Viability of Corneas Beyond Seven Days

Dr. Lass emphasizes that the Cornea Preservation Time Study is not experimental, because according to the U.S. Food and Drug Administration, corneas in preservation solution at refrigerator temperature for up to 14 days are safe to use for transplantation. Surgeons and patients in the United States, however, are reluctant to use corneas more than seven days after death. And the excess supply of donated corneas in the U.S., about 20 percent annually, that have been in the preservation fluid for more than seven days are shipped overseas where surgeons are successfully using them. This serves to avoid waste, but does not serve to address the ongoing need for more corneas for transplant in the United States.

The three-year study draws on 23 eye banks to perform 1,330 corneal transplants at 40 sites across the country. The clinical trial is fully masked, so neither the surgeons, patients nor the coordinating center know whether corneas have been in preservation solution for up to seven days or eight to 14 days. The surgeries are performed in a randomized manner and results will be followed for three years, with results anticipated in 2017.

All National Eye Institute and National Institutes of Health (NEI/NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.

UH Case Medical Center's physicians, surgeons and scientists – all members of the faculty of Case Western Reserve University School of Medicine – are leaders in their respective fields, and their ongoing research programs are at the leading edge of medical progress. A strong emphasis on translational, or "bench-to-bedside," research means that new and innovative treatments and technologies transfer more rapidly from the research laboratory to actual patient care.

# TOMORROW'S CURES TODAY.

Case Western Reserve University School of Medicine's Department of Ophthalmology & Visual Sciences collaborates with more than 15 other departments in the School of Medicine as the Visual Sciences Research Center (VSRC) and is at the forefront of medical research and innovation in the field of visual health. The VSRC is **the beneficiary of more than 30 grants and awards and is ranked fifth in funding in the nation by the National Eye Institute of the National Institutes of Health (NEI/NIH)**.

## RESEARCH

Major areas of research include cataract, corneal inflammation and infections, diabetic retinopathy, genetic eye diseases, macular degeneration and other retinal degenerations, such as retinitis pigmentosa. With new chairman, **Dr. Douglas Rhee**, the department will be expanding its research efforts to include translational and clinical research in glaucoma. The department is also home to two state-of-the-art reading centers, the Cornea Image Analysis Reading Center (CIARC) and the Retina Diseases Image Analysis Reading Center (REDIARC), that analyze images of corneas and retinas for both federal and corporate clinical studies. The centers have expanded their services with relocation to a new 3,000-square-foot facility at Cleveland's new Midtown Tech Park as part of development of the Health Line along Euclid Avenue.

The Vision Research Coordinating Center is the coordinating site for the NEI-funded Fuchs' Endothelial Corneal Dystrophy (FECD) Genetics Multicenter Study, the largest of its kind to study the genetics of FECD, the most common inherited dystrophy of the cornea requiring corneal transplantation. This study demonstrated that central corneal thickness increases with increasing severity of FECD, including at stages of FECD where stromal or epithelial edema was not evident on slit-lamp examination. The study also found that smoking increased the odds of FECD by 30 percent. To date, smoking represents the only modifiable risk factor identified for FECD. Work in this area also has confirmed that the TCF4 gene plays a key role in causing FECD. This finding may lead to genetic tests to diagnose FECD earlier in the course of the disease, paving a way for preventive care and new therapies before vision loss occurs.

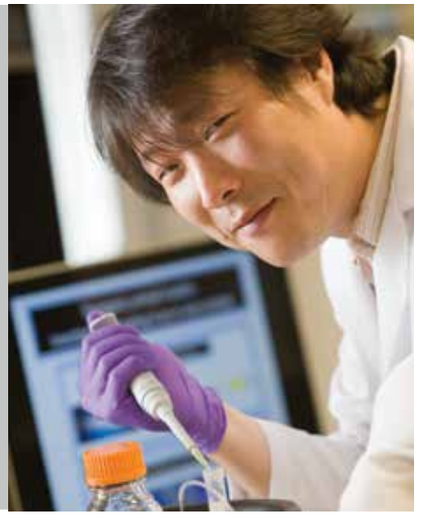
The Departments of Pharmacology, Biomedical Engineering, and Ophthalmology & Visual Sciences at Case Western Reserve University School of Medicine were awarded a $10.1 million grant from the NEI to research and develop new treatments for diseases of the retina. Led by **Krzysztof Palczewski, PhD**, *John H. Hord Professor, Chair of the Department of Pharmacology, Case Western Reserve University School of Medicine*, this interdisciplinary consortium of investigators is screening FDA-approved drugs for their potential application to the treatment of diseases affecting the retina with the goal of accelerating the rate at which basic science discoveries are used to develop new therapies for complex retinal disorders and diseases. Dr. Palczewski was named the Friedenwald Award winner for 2014 by the Association for Research in Vision and Ophthalmology. He will receive this award, one of the most prestigious in eye research internationally, at the organization's annual meeting in May 2014.

*Dr. Krzysztof Palczewski*

All National Eye Institute and National Institutes of Health (NEI/NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.

# TOMORROW'S CURES TODAY.

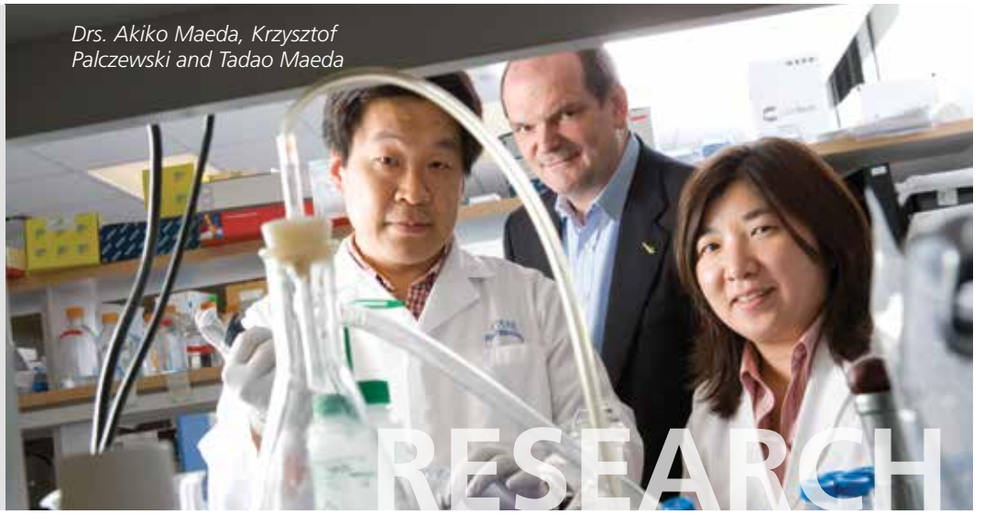
**Paul Park, PhD**, *Assistant Professor, Department of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*, with $1.9 million in NEI funding, is focused on understanding the structure and function of rhodopsin, the light receptor in photoreceptor cells of the retina that initiates vision. He is relating his findings to inherited retinal diseases such as retinitis pigmentosa and congenital night blindness.



*Dr. Paul Park*

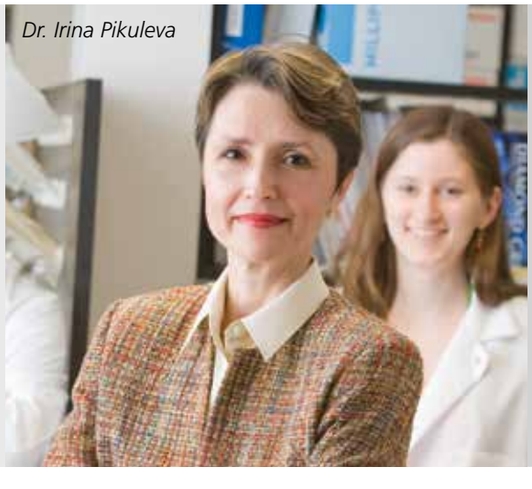
One of the leading Visual Sciences Research Center researchers, **Eric Pearlman, PhD**, *Professor and Research Director, Department of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*, is the principal investigator of a $2.4 million, five-year grant from the NEI to study fungal pathogens that cause severe corneal disease (keratitis). Dr. Pearlman is also the principal investigator of the Visual Sciences Research Center's NEI funded P30 core grant, which is in its 17th year of funding, and its T32 training grant in its 13th year.

**Akiko Maeda, MD, PhD**, *Assistant Professor*, and **Tadao Maeda, MD, PhD**, *Senior Instructor, both of the Department of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*, are studying biochemistry and molecular biology of the retina focusing on the retinoid metabolism. Their research, funded by NEI, is providing better insight into the pathogenesis of retinal degenerative diseases such as retinitis pigmentosa, Stargardt disease and AMD.




*Drs. Akiko Maeda, Krzysztof Palczewski and Tadao Maeda*

**Irina Pikuleva, PhD**, *Jules and Doris Stein RPB Professor of Ophthalmology and Pharmacology, Department of Ophthalmology & Visual Sciences, Case Western Reserve University School of Medicine*, is investigating the role of cholesterol in vision and the mechanisms for pathologic vascularization in the retina. Her NEI funded studies may lead to the identification of therapeutic targets for prevention and treatment of age-related macular degeneration (AMD).



*Dr. Irina Pikuleva*

**University Hospitals**
Case Medical Center

SCHOOL OF MEDICINE
CASE WESTERN RESERVE UNIVERSITY

The commitment to exceptional patient care begins with revolutionary discovery. University Hospitals Case Medical Center is the primary affiliate of Case Western Reserve University School of Medicine, a national leader in medical research and education and consistently ranked among the top research medical schools in the country by U.S. News & World Report. Through their faculty appointments at Case Western Reserve University School of Medicine, physicians at UH Case Medical Center are advancing medical care through innovative research and discovery that bring the latest treatment options to patients.

All National Eye Institute and National Institutes of Health (NEI/NIH) funding for basic and clinical research is awarded to the School of Medicine at Case Western Reserve University.

**The Harrington Project for Discovery & Development** is a $250 million national initiative to accelerate the development of medical breakthroughs by physician-scientists into medicines that benefit patients. It is a unique model that aligns, through mission and structure, nonprofit and for-profit resources into a system for drug development. The Harrington Project thereby addresses a set of major challenges in medicine that have created a development gap for promising discoveries.

**The Harrington Discovery Institute** at University Hospitals Case Medical Center, the nonprofit component of The Harrington Project, enables physician-scientists to translate their clinical insights and research into novel therapies that benefit patients and society. Through an annual competition, the Harrington Discovery Institute selects a group of medical innovators known as Harrington Scholar-Innovators whose projects are funded and actively guided by drug discovery experts toward the clinical realm.

HARRINGTON DISCOVERY INSTITUTE
AT UNIVERSITY HOSPITALS CASE MEDICAL CENTER

# A CATALYST FOR A NEW MODEL IN DRUG DEVELOPMENT

## 2014 SCHOLARS

The 2014 class of Harrington Scholar-Innovators selected by the institute's scientific advisory board are:

Jayakrishna Ambati, MD
*University of Kentucky*

Darren Carpizo, MD, PhD
*Rutgers Cancer Institute of New Jersey*

Garret FitzGerald, MD
*University of Pennsylvania*

Mark Humayun, MD, PhD
*University of Southern California*

John Kheir, MD
*Harvard University*

Rahul Kohli, MD, PhD
*University of Pennsylvania*

Gavril Pasternak, MD, PhD
*Memorial Sloan-Kettering Cancer Center*

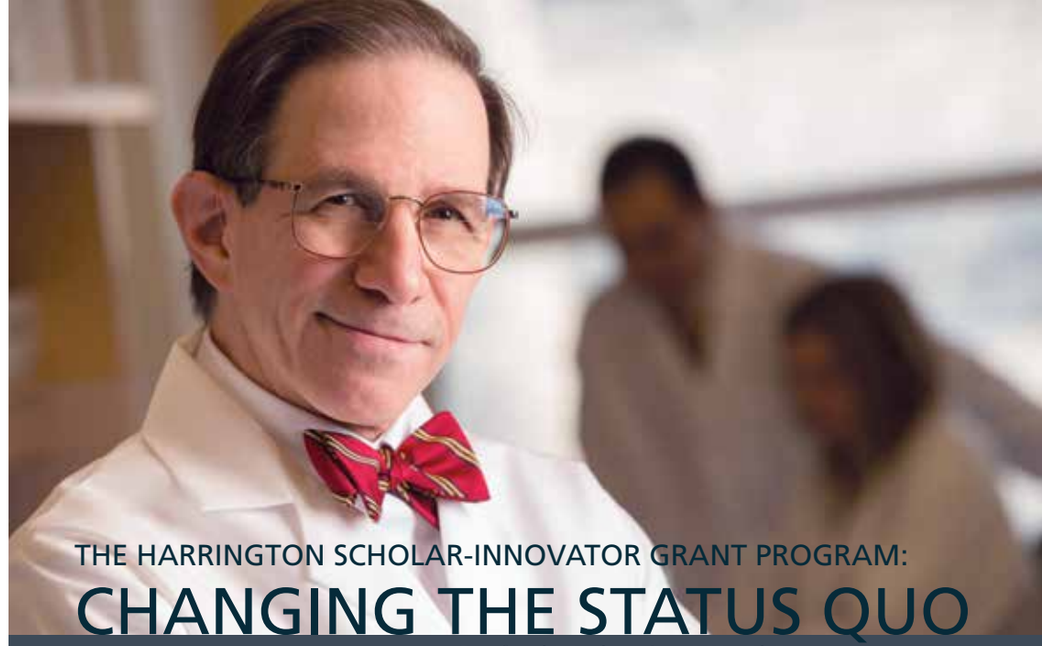
Irina Petrache, MD
*Indiana University*

David Rowitch, MD, PhD
*University of California, San Francisco*

Jean Tang, MD, PhD
*Stanford University*

David Wald, MD, PhD
*Case Western Reserve University*

***To learn more, visit HarringtonDiscovery.org.***



THE HARRINGTON SCHOLAR-INNOVATOR GRANT PROGRAM:

# CHANGING THE STATUS QUO

*Sanford Markowitz, MD, PhD*
*Harrington Scholar-Innovator, Class of 2013*
*Case Western Reserve University School of Medicine, Cleveland, Ohio*
*Colon cancer*

When Dr. Markowitz is not treating patients at UH Seidman Cancer Center, he is dedicated to understanding the genetic basis for colon cancer as the key to developing better treatments. He and his team have identified a genetic "switch" that controls cell division and tissue growth in colon cancer.

As exciting as he finds the basic research process, Dr. Markowitz is keenly aware of the need to translate scientific discoveries into commercially viable treatments – and the barriers to making that happen.

**"The biggest challenge for any academic laboratory is to get beyond the lab and develop a therapy," he explains. "By connecting academics with industry experts, the Harrington Discovery Institute is giving our ideas a fighting chance to succeed."**

Read more at HarringtonDiscovery.org/Scholar-Innovator2013.

***To be notified of the next Harrington Scholar-Innovator Grant call for proposals, email Natalie.Haynes@UHhospitals.org.***

In 1996, UH created a clinical trials office at what is now UH Case Medical Center. At the time of its creation, the focus and management of clinical trials was managed by a small staff. This team was charged with the fiscal management of a handful of clinical trials, as well as regulatory oversight of human subject protections. By 2000, the office became known as the UH Research Institute.

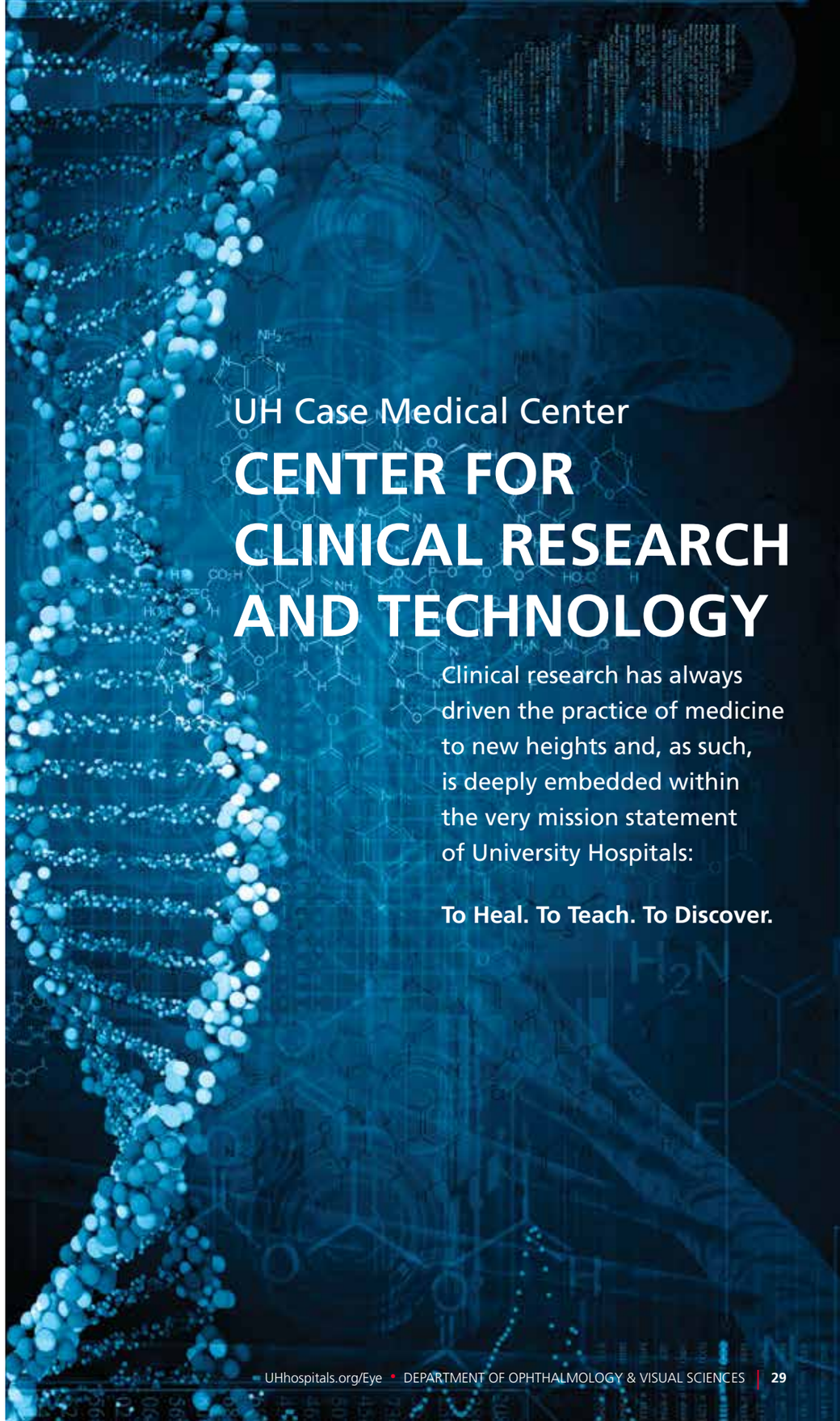
From 1996 to 2003, the clinical research enterprise at the academic medical center continued to expand, resulting in exponential growth of both the staff and the research activity managed. The institute grew into a much broader support department and became the Center for Clinical Research and Technology (CCRT), which consists of seven offices dedicated to developing a standardized platform ensuring the responsible conduct of research for patients through scientific, regulatory, legal, ethical and fiscal review.

The CCRT now provides infrastructure, programmatic, personnel and administrative support for all research activities performed at UH by UH medical or scientific staff. These medical scientists are national and international leaders in their respective fields and are committed to identifying standards of excellence and potential areas for improvement to promote and facilitate clinical and translational research.

By 2013, the CCRT activities amounted to over $42 million at UH and $167 million of UH activity related to the affiliation between UH and Case Western Reserve University School of Medicine. These funds emanate from nearly 1,200 active grants and contracts at UH and nearly 700 additional grants that annually fund the shared faculty of UH and the School of Medicine through nearly 2,300 active human research protocols.

***To learn more about the Center for Clinical Research and Technology directly, visit UHhospitals.org/Clinical-Research, call 216-844-5576 or email ClinicalResearch@UHhospitals.org.***





# Clinicians and Scientists at UH Case Medical Center and Case Western Reserve University School of Medicine

University Hospitals Case Medical Center

School of Medicine Case Western Reserve University

## Department of Ophthalmology & Visual Sciences

### Chairman

**Douglas J. Rhee, MD**
*Chair and Professor*
*Department of Ophthalmology & Visual Sciences*
*UH Case Medical Center and Case Western Reserve University School of Medicine*

**Jonathan H. Lass, MD**
*Center for Anterior Segment Diseases & Surgery*
*Charles I Thomas Professor*

**Danielle Alperin, OD**
*Center for Anterior Segment Diseases & Surgery*
*Optometric Service*
*Senior Instructor*

**David Bardenstein, MD**
*Director, Center for Oculoplastics & Neuro-Ophthalmology*
*Professor*

**Julie Belkin, MD**
*Center for Anterior Segment Diseases & Surgery*
*Assistant Professor*

**Edward Burney, MD, FACS**
*Director, Center for Anterior Segment Diseases & Surgery*
*Glaucoma Service*
*Professor*

**Atif Collins, MD**
*Center for Oculoplastics & Neuro-Ophthalmology*
*Director, Ocular Aesthetics*
*Assistant Professor*

**Florin Grigorian, MD**
*Center for Pediatric Ophthalmology & Adult Strabismus*
*Assistant Professor*

**Paula Grigorian, MD**
*Center for Pediatric Ophthalmology & Adult Strabismus*
*Assistant Professor*

**Pankaj Gupta, MD**
*Director, Cornea and Refractive Surgery*
*Center for Anterior Segment Diseases & Surgery*
*Assistant Professor*

**Suber S. Huang, MD, MBA**
*Director, Center for Retina and Macular Diseases & Surgery*
*Searle-Huang Professor and Vice Chairman, Department of Ophthalmology & Visual Sciences*

**Faruk Örge, MD**
*Director, Center for Pediatric Ophthalmology & Adult Strabismus*
*Althans Chair of Pediatric Ophthalmology*
*Associate Professor*

**David Pugh, MD**
*Center for Anterior Segment Diseases & Surgery*
*Senior Clinical Instructor*

**Rony Sayegh, MD**
*Center for Anterior Segment Diseases & Surgery*
*Assistant Professor*

**Sara Schoeck, OD**
*Center for Pediatric Ophthalmology & Adult Strabismus*
*Assistant Professor*

**Thomas J.W. Stokkermans, OD, PhD, FAAO**
*Director of Optometric Services*
*Center for Anterior Segment Diseases & Surgery*
*Assistant Professor*

**Loretta Szczotka-Flynn, OD, PhD, FAAO**
*Center for Anterior Segment Diseases & Surgery*
*Optometric Service*
*Professor*

### Research Scientists

**Eric Pearlman, PhD**
*Page-Reinhart Professor and Director of Research*

**Beth Ann Benetz, MA, CRA**
*Professor*

**Akiko Maeda, MD, PhD**
*Assistant Professor*

**Tadao Maeda, MD, PhD**
*Senior Instructor*

**Ram Nagaraj, PhD**
*Carl F. Asseff, MD Professor*

**Paul Park, PhD**
*Assistant Professor*

**Irina Pikuleva, PhD**
*Jules and Doris Stein Professor*

**Douglas J. Rhee, MD**
*Professor*

## Independent Specialist on Staff

**Robert Cherne, OD**
*Center for Anterior Segment Diseases & Surgery*
*Optometric Service*
*Senior Clinical Instructor*

**Physicians receive their academic appointments and their accompanying titles from Case Western Reserve University School of Medicine.**

To refer a patient or learn more about UH Eye Institute, call **216-844-3601** or visit **UHhospitals.org/Eye**

University Hospitals
Case Medical Center

Cleveland | Ohio