



## Vision for the Future: Robert Burch Family Eye Center Opens

**The ribbon cutting made it official:** On March 4th, the Robert Burch Family Eye Center, ColumbiaDoctors Ophthalmology's third and newest location, opened the doors to the facility it now shares with Lighthouse Guild Inter-

national at 15 West 65th Street, near Lincoln Center and Columbus Circle. The ceremony was multifaceted: In addition to celebrating the arrival of cutting-edge eye care to Manhattan's West Side, it recognized Columbia's longtime collaboration with Lighthouse Guild, and also honored Robert L. Burch III, whose gracious philanthropy made the center possible.

Mr. Burch's support for the center conveys his deep gratitude to Stanley Chang, M.D., who began treating him in 1996 for macular degeneration. "Dr. Chang and his department literally saved my eyesight—what was remaining of it," Mr. Burch said. "I wanted to do anything I could to make sure that as many New Yorkers as possible had access to the same superb eye care that I have enjoyed."

As the population of young families working and living on the West Side has grown, so has the need for local family- and children-centered eye care, said Lee Goldman, M.D., Harold and Margaret Hatch Professor, Dean of the Faculties of Health Sciences and Medicine, and Executive Vice President for Health and Biomedical Sciences at Columbia University Medical Center. "Our patients will be able to have all their ophthalmological needs met in a location that's inviting, easy to get to and state-of-the-art," Dr. Goldman said.



The Burch Family from L. to R.: Dale, Serena, Robert V., Kate, and Robert III.

With a giant pair of scissors, Mr. Burch's 4-year-old grandson, Robert L. Burch V, cut the blue ribbon, as Mr. and Mrs. (Dale) Burch and their daughter Kate and granddaughter Serena proudly looked on. Other donors, as well as executives, staff, and physicians from Columbia University Medical Center and the Department of Ophthalmology, and Lighthouse Guild leadership joined them. "This is a great place," Mr. Burch said of the center, which shares Lighthouse Guild's main floor. "The entire building is devoted to eye care in one form or other, particularly for children," he said. "It's a natural location for patients living on the West Side."

ColumbiaDoctors Ophthalmology physicians, full-time faculty members of the Department, will staff the center, which will address all vision needs, including pediatric ophthalmology. Steven E. Brooks, M.D., the Anne S. Cohen Professor of Pediatric Ophthalmology, will direct the pediatric ophthalmology service (see pg. 6). The Center features two waiting rooms—including a separate waiting room for children and families—as well as five exam rooms and a diagnostic suite. "We are especially pleased that one focus of the work here will be on our youngest and most vulnerable patients—our children," said Dr. Goldman, who also thanked the Mendik Family, the Jerome A. & Estelle R. Newman Assistance Fund, Newman's Own Foundation,



The family cuts the ceremonial blue ribbon.

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## Columbia Ophthalmology Wins Two Major Grants

**Columbia Ophthalmology has received two prestigious grants** from its longtime supporter, Research to Prevent Blindness (RPB). Indeed, securing the first grant—which is unrestricted—positioned the Department to apply for and win RPB's premier award, the Jules & Doris

Stein RPB Professorship. Together, the funding amounts to more than \$1 million, which will finance Columbia's ongoing research into the causes, treatment, and prevention of diseases that may cause blindness. The unrestricted grant will provide the Department with financial backing for

at least five years. What makes this gift notable is its flexibility. It is not bound to a specific project. Such support is unusual in the philanthropic world, according to Brian F. Hofland, Ph.D., RPB's president. Typically, funders want to know the exact parameters of the research they are sponsoring: its

purpose, goals, and duration. Yet, RPB's mission historically has been to expand research capacity in laboratories and allow researchers to develop new scientific inquiries, Hofland said. "With flexible funding, researchers can pursue breakthrough investigations and, with a

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## Dear Friends,

It gives me great pleasure to report on the tremendous strides Columbia Ophthalmology has made so far this year. The past six months have exemplified the rapid pace of change that we see throughout medicine, and our Department continues to grow to meet the clinical and research challenges of the future.

In March, we celebrated the opening of the Robert Burch Family Eye Center, our joint venture with Lighthouse Guild International at 15 West 65th Street, near Lincoln Center and Columbus Circle. This state-of-the-art facility provides comprehensive primary and subspecialty eye care for families and young children on Manhattan's West Side. We are deeply grateful to all our funders, especially Robert L. Burch III, for the philanthropy that made this new site possible.

Among the many services the eye center provides is pediatric ophthalmology. I am delighted that Steven E. Brooks, M.D. has joined the Department as the Anne S. Cohen Professor of Pediatric Ophthalmology, and Chief, Pediatric Ophthalmology Service. An expert on retinopathy of prematurity (ROP), Dr. Brooks is working to re-establish pediatric ophthalmology at Columbia by raising awareness that we provide this specialty at all of our locations.

I am also pleased to introduce another new member of our Department: Tongalp H. Tezel, M.D., an internationally renowned vitreoretinal specialist and former Columbia fellow. After more than a decade of conducting pioneering research at the University of Kentucky, Dr. Tezel has returned to direct Columbia's retina service.

Groundbreaking science is a hallmark of Columbia Ophthalmology. This *Viewpoint* focuses special attention on the accomplishments of two scientists: Konstantin Petrukhin, Ph.D. and Stephen Tsang, M.D., Ph.D. For the past four years, Dr. Petrukhin, Associate Professor of Ophthalmology, has been



investigating treatments for dry-form age-related macular degeneration and Stargardt disease. In just the last few months, he has identified two compounds with extraordinary therapeutic potential: One of these compounds is due to be produced for upcoming clinical trials.

Dr. Tsang, the Laszlo Z. Bitó Associate Professor of Ophthalmology, and Pathology & Cell Biology, continues to advance the treatment of retinal diseases through his study of inherited retinal degenerations, and his innovations in stem cell research and gene therapy. For this, the Foundation Fighting Blindness duly honored him this year with its Visionary Award.

Of course, none of the Department's great strides in science or clinical care would be possible without financial support. We are especially fortunate and thankful for the generous gifts from our longtime and first-time donors. One dedicated funder, Research to Prevent Blindness (RPB), awarded the Department two grants totaling more than \$1 million. One grant is for the prestigious Jules & Doris Stein RPB Professorship, which will subsidize Dr. Xin Zhang's award-winning research on the genetics of eye disease for the next five to seven years. Thanks to Laurel Schwartz, the Department's second glaucoma fellowship will have funding for this year. And, Peter G. Peterson's gift will sponsor a retina fellowship for three years. These fellowships greatly enrich the advanced training that our young doctors receive.

It has been a fruitful and thrilling year here at Columbia, both clinically and scientifically. As always, we deeply appreciate your steadfast support as we continue to investigate, challenge, and discover what is possible in ophthalmologic research and care.

Sincerely,



G. A. (Jack) Cioffi, M.D.  
Jean and Richard Deems Professor  
Edward S. Harkness Professor  
Chairman, Department of Ophthalmology

## Two New Fellowships for Columbia Ophthalmology

The Department of Ophthalmology is very excited to report that it has obtained funding for two new fellowships. One gift, which was made possible by the generosity of first-time donor Peter G. Peterson, will sponsor a retina fellowship for three years. The other gift, which philanthropist Laurel Schwartz provided, will support the Department's second glaucoma fellowship for one year. The funding for both fellowships is critical to the advanced training of Columbia's young doctors and to producing the leaders of tomorrow. ■

## Columbia Ophthalmology Wins Two Major Grants

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substantiated hypothesis, go to the National Eye Institute and get a bigger grant," he said.

With this grant, Columbia Ophthalmology researchers can expand existing studies into new vitreoretinal surgery procedures, the genetics of retinal diseases, stem cell therapy for retinitis pigmentosa, retinopathy of prematurity, and techniques for detecting glaucoma. More important, they can design and pilot new studies, said Department Chairman Jack Cioffi, M.D.

"The novel research ventures that result will increase Columbia's eligibility for future funding, like the Stein Professorship," he added.

The Stein Professorship will subsidize the research of Associate Professor Xin Zhang, Ph.D. for the next five to seven years; the gift also covers the cost of laboratory upgrades. Like the unrestricted grant, the Professorship is a noteworthy honor. First, it is highly competitive. "We were the only institution in the

country to receive this grant last year," Dr. Cioffi said. Second, it is reserved for basic scientists who conduct ophthalmological research but are not necessarily or exclusively based in ophthalmology departments. Dr. Zhang is such a scientist: While his primary appointment is in the Department of Ophthalmology, he has a secondary appointment in the Department of Pathology & Cell Biology. He is conducting his award-winning research on the genetics of eye disease within the Ophthalmology Department's clinical program.

As Dr. Hofland noted, the Stein Professorship reflects one of RPB's founding principles—to bring the bench to the bedside by combining basic science and clinical applications to advance ophthalmological research, and to use research findings to prevent and treat eye disease. "You need pairings, either physician–scientist or basic scientist–clinician, to get firsthand observations from patients that lead to research hypotheses," Hofland said.

Dr. Cioffi pointed out that RPB's support, particularly the possibility of winning the Stein Professorship, provided powerful incentives that drew Dr. Zhang to the Department last year from the Indiana University School of Medicine. "Here at Columbia, we are committed to continued excellence in vision science and to training the next generation of top scientists and clinicians," he said. "The recruitment of Dr. Xin Zhang signifies our commitment to this mission and is a major step in expanding our research group." ■

## Science Insight:

# Konstantin Petrukhin, Ph.D. Surpasses Research Milestones

Ever since he began researching a therapeutic agent to retard the course of dry-form age-related macular degeneration (AMD) and Stargardt disease, Konstantin Petrukhin, Ph.D. has surpassed expectations. He identified not one but several lead compounds with drug development potential. He singled out two of the most promising compounds, one of which will soon be produced for clinical trials. And, he isolated a serum biomarker that demonstrates compound activity in animal models and therefore suggests effectiveness in humans. Moreover, he achieved these milestones faster than anyone would have imagined.

Since 2011, Dr. Petrukhin has belonged to the National Institutes of Health's (NIH) Blueprint Neurotherapeutics Network, a five-year program that supports investigators in their efforts to develop new drugs. In addition to funding his research, the Blueprint Network has been providing Dr. Petrukhin with millions of dollars in services typically earmarked for pharmaceutical companies. These services include the assistance of pharmaceutical and biotechnology industry consultants throughout the drug development process, from chemical optimization, to biological testing, to early-stage clinical trials.

Under the terms of his funding agreement, and to maintain access to Blueprint resources, Dr. Petrukhin and his co-investigators must meet a new research milestone every six months. They have done more than that. As Department Chairman Jack Cioffi, M.D. noted, "They have met or exceeded every milestone every step of the way." Dr. Petrukhin, an Associate Professor of Ophthalmology, acknowledged that these six-month milestones are very unusual, but meeting them is the only way to make sure taxpayers' money is being spent the right way. The NIH Steering Committee that oversees the project can terminate funding at any time during the grant period if the milestone objectives are not met.

Dry-form AMD and Stargardt disease occur when photoreceptor cells in the eye degenerate. This deterioration is believed to stem partly from the toxicity produced by derivatives of retinol, which is needed for vision. Dr. Petrukhin and his team are studying compounds that would reduce the levels of toxic retinoids in the eye.

They began their research by optimizing a single compound: transforming its chemical structure into a drug that they tested *in vitro*—in test tubes—and *in vivo*—in live animal models. One of their first milestones was to identify the compound's absorption, distribution, metabolic, and excretion properties. The milestone also involved establishing a "clean off-target" profile, to make sure the compound would not react with other proteins. "Over a period of three years, more than 400 analogs of the compound were synthesized and

characterized in *in vitro* and *in vivo* efficacy assays," Dr. Petrukhin explained. From these analogs, he identified a handful of advanced lead compounds belonging to different structural classes that he will continue studying as potential therapies for dry-form AMD and Stargardt disease.

Another major early milestone was the validation of serum retinol-binding protein 4, RBP4, a serum biomarker that can prove compound activity in animal models and help determine an effective dose in human clinical trials. RBP4 concentration is easily measured in patients' blood samples. Biomarkers are very important in drug trials because they allow clinicians to determine if the drug is working in advance of changes in the eye. Administration of test compounds identified in the Blueprint project should reduce the concentration of serum RBP4 which, in turn, correlates with inhibition of atrophic lesion growth in a patient's retina. Researchers administered their advanced lead compounds in rats, mice, and monkeys, and demonstrated remarkable reduction of RBP4 levels in the animals' blood. The reduction of RBP4 in a mouse model of Stargardt disease correlated with the profound inhibition of the accumulation of cytotoxic retinoid derivatives in the retina.

Dr. Petrukhin noted that the availability of this easily measurable serum biomarker will be important for future clinical development. "In the absence of a biomarker, you have to wait for results of Phase II clinical trials before you see evidence of drug activity," he said. "In our case, a simple blood test will tell us from day one of a Phase I clinical trial whether the drug is working as expected."

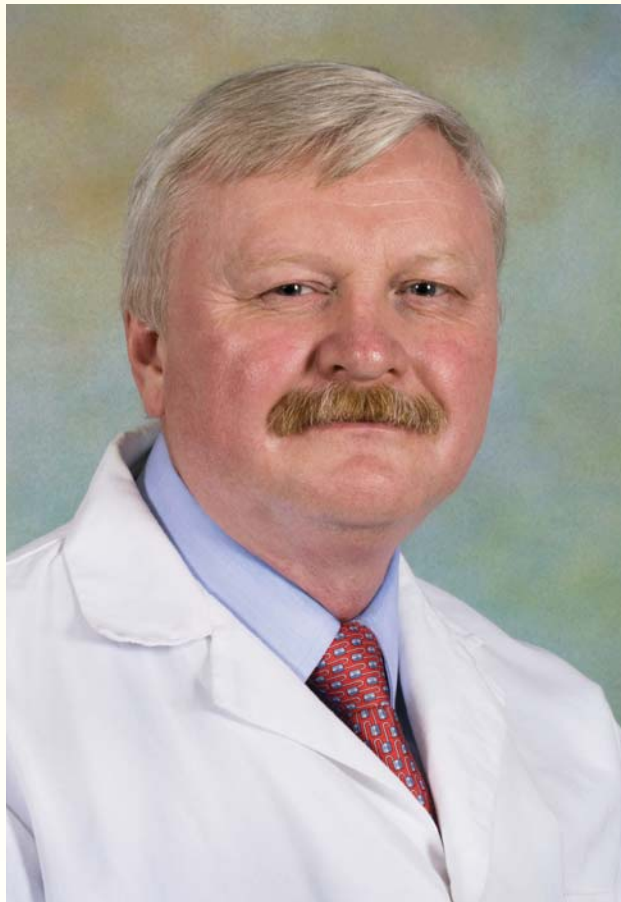
To meet their most recent milestone, Dr. Petrukhin and his co-researchers had to characterize advanced lead compounds and then nominate a single pre-clinical candidate for Investigational New Drug (IND)—enabling studies. From the more than 400 analogs comprising five novel structural classes, they identified two advanced lead compounds with exceptional *in vivo* and *in vitro* properties. "The two compounds are so potent, interesting, and good-looking that the NIH Steering Committee agreed to support parallel preclinical characterizations of two advanced leads for a very short time, so compound prioritization can be done after additional toxicology studies," Dr.

Petrukhin said. "Because the two compounds are so perfect, it's impossible to decide at this point which one will be produced for clinical trials." Once a single compound is chosen, the researchers will produce kilogram quantities of a drug candidate with which to conduct the required additional preclinical development studies and begin Phase I clinical trials. Trials are expected to begin one year from now.

While Dr. Petrukhin's main goals are to find therapies for dry-form AMD and Stargardt disease, the benefits of his research extend beyond drug development. He said, "My research is important for gaining new basic knowledge about retinoid metabolism in the eye and for defining the role of RBP4 in the pathogenesis of other disorders, such as diabetes and obesity, where it may play an important role."



Konstantin Petrukhin, Ph.D. at work.



Konstantin Petrukhin, Ph.D.

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## Foundation Fighting Blindness Honors Stephen Tsang, M.D., Ph.D.

**Stephen Tsang, M.D., Ph.D.**, whose trailblazing research is advancing treatments and hope for patients with retinal diseases, received the Foundation Fighting Blindness' (FFB) Visionary Award at its *Banking on a Cure* dinner, held in April at the Pierre Hotel.

FFB's Chief Executive Officer, William Schmidt, introduced Dr. Tsang, the Laszlo Z. Bito Associate Professor of Ophthalmology,

his appreciation for FFB's critical and continuous backing that has allowed him to assess the severity, progression, and prognosis of various retinal diseases, including RP and Stargardt disease, as well as correlate disease genetics with the nature and magnitude of vision loss.



Above L. to R.: William Schmidt, CEO, Foundation Fighting Blindness, with Honoree Stephen Tsang, M.D., Ph.D.

Left: Columbia faculty at the award dinner from L. to R.: Jack Cioffi, M.D., Michael Shelanski, M.D., Ph.D., Stephen Tsang, M.D., Ph.D., and Stanley Chang, M.D.

and Pathology & Cell Biology, praising his groundbreaking, internationally recognized investigations into inherited retinal degenerations, including retinitis pigmentosa (RP). With effusive admiration, Mr. Schmidt applauded Dr. Tsang for his work in gene therapy, which is being developed into clinical trials for RP patients. He also commended him for his use of induced pluripotent stem cells to create a patient-specific model of age-related macular degeneration (AMD), which was partially supported by the Foundation's *Career Development Award* more than 10 years ago. "This is all incredibly important, cutting edge, and exciting work that contributes to the development of treatments for retinal diseases," Mr. Schmidt told the 260 guests, whose donations raised more than \$1 million for retinal disease research. "And it's coming from just one doctor who also takes care of patients—450 of them."

Mr. Schmidt oversees FFB's 13 centers worldwide, each based at a different university hospital. FFB centers are selected for their excellence in patient care and innovative research. Dr. Tsang and Luz Amaro-Quireza, O.D. direct the Electrodiagnostic Clinic of the Greater New York Regional Research Center at Columbia.

Soft-spoken and unaccustomed to such lavish acclaim, Dr. Tsang eloquently expressed

When FFB began financing Dr. Tsang's work in 1999, stem cell research was in its infancy, but the Foundation believed in its potential. Since then, FFB's comprehensive support has made it possible for the retina expert to develop high-risk, high-payoff projects in gene and stem cell-based therapies. Results from his studies have provided feasibility data for a human gene therapy trial titled, *Bringing Gene Supplementation Therapy for Phosphodiesterase-associated Retinopathies in Clinical Practice*.

The *Banking on a Cure* dinner also honored FFB trustee Gary Katcher, co-founder and chairman, GRK Partners LP, a leader in the financial world, for his extraordinary generosity and commitment to the foundation's mission to cure retinal diseases. Mr. Katcher's involvement with FFB began when his brother, Mitch, a trustee and a patient of Dr. Tsang, received a diagnosis of RP. Mitch Katcher's fight became his brother's inspiration to support FFB in its ongoing work to cure blindness.

As the evening drew to a close, what became apparent was a continuum of gratitude: profound appreciation for philanthropists like Mr. Katcher, whose charity allows FFB to sustain academic research, and for the work of one scientist, Dr. Tsang, whose accomplishments are bringing cures for blindness closer every day. ■



Mark Blumenkranz, M.D., guest lecturer, and Jack Cioffi, M.D. at the Stanley Chang, M.D. Lectureship.



Mark Blumenkranz, M.D. flanked by Stanley Chang, M.D. and Jack Cioffi, M.D.



The Gloria and Louis Flanzer Amphitheater

Max Forbes, M.D. in center joined by Jeffrey Leibmann, M.D., guest lecturer, and Jack Cioffi, M.D. at the Max Forbes, M.D. Lectureship.



Jeffrey Leibmann, M.D. giving the presentation.

# Guest Lectureships Keep Columbia Ophthalmology on the Cutting Edge

Keeping faculty and students at the forefront of ophthalmologic science and practice is a vital part of medical education at Columbia Ophthalmology. To augment the training of its doctors, fellows, and residents, the Department regularly invites guest lecturers from other institutions to share the latest findings and insights on research and clinical applications. This year, Columbia hosted the Max Forbes, M.D. and Stanley Chang, M.D. Lectureships—both named in honor of these two revered physicians.

The Forbes Lectureship was established in 2004 through the generosity of David George, a former trustee of New York-Presbyterian Hospital. It recognizes Dr. Forbes, Professor Emeritus and renowned glaucoma expert who pioneered a special technique of indentation gonioscopy to improve the diagnosis and management of angle-closure glaucoma. He joined the Department in 1963, and directed the Glaucoma Division from 1972 until his retirement in 2001. One of the founding members of the American Glaucoma Society, he won numerous awards during the course of his career and co-authored *Medical Management of Glaucoma*.

The Chang Lectureship was established in 2011 through the joint philanthropy of Hilel Lewis, M.D., chair emeritus at the Cleveland Clinic, and the Annenberg Foundation. This annual lectureship honors the work of Dr. Chang, an active clinician and world-famous retina specialist, for his contributions to the field of retina and his 17 years of leadership as Department Chair.

In addition to paying tribute to Drs. Forbes' and Chang's outstanding contributions to the Department, these lectureships provide a critical platform for renowned figures in ophthalmology to educate and illuminate Columbia's community of providers. "These are honorary positions that attract the best and brightest to the Eye Institute," said Jack Cioffi, M.D., Department Chairman.

This year's Forbes lecture, "Glaucoma: What Not to Miss," was presented in February by Jeffrey M. Liebmann, M.D., clinical professor of ophthalmology at New York University School of Medicine and director of glaucoma services at Manhattan

Eye, Ear, and Throat Hospital and NYU's Langone Medical Center. In his talk, Dr. Liebmann explained how greater life expectancy has increased the prevalence of glaucoma. He discussed glaucoma's effect on central visual field loss, emphasizing the importance of taking every opportunity to screen patients for the disease and to more accurately diagnose those especially at high risk.



Jack Cioffi, M.D. with Jeffrey Leibmann, M.D.

President-elect of the World Glaucoma Association and immediate past-president of the American Glaucoma Society, Dr. Liebmann is a co-editor of the *Journal of Glaucoma*. He also co-founded the New York Glaucoma Research Institute and the American Glaucoma Society Foundation.

In April, Mark S. Blumenkranz, M.D., H.J. Smead Professor and chairman, department of ophthalmology, Stanford University and director, Byers Eye Institute at Stanford, delivered the Chang Lecture, "Evolving Concepts in Innovation and Technology Transfer in the Academic Vitreoretinal World: Lessons Learned from Silicon Valley." Dr. Blumenkranz discussed the value of partnerships between academic faculty and industry in transforming research ideas into clinical products. He also noted the prohibitions among some institutions against their academics' involvement in the clinical testing arena. "In some ways, faculty members are being discouraged from participating in the development of technology because of conflict of interest policies at universities," he explained. "It is important that academic physicians navigate these conflicts to enhance our science and to help develop the best therapies for our patients."

A noted vitreoretinal surgeon, Dr. Blumenkranz has written more than 100 peer-reviewed papers and book chapters on vitreoretinal surgery. He helped develop the laser vision correction program at Stanford, and is a principal investigator on numerous clinical research trials evaluating the effects of laser and pharmacologic agents on eye disease.

By hosting Dr. Blumenkranz, Dr. Liebmann, and other esteemed speakers, Columbia ensures that its faculty, staff, and students will continue to be leaders in ophthalmology. "Sponsoring these lectureships is a great way to teach the next generation of ophthalmologists, medical students, residents, and fellows," Dr. Cioffi said.

## Faculty Spotlight:

# Steven E. Brooks, M.D. Takes Charge of Pediatric Ophthalmology

When Steven E. Brooks, M.D. received the offer to become the Anne S. Cohen Professor of Pediatric Ophthalmology, he saw several opportunities: to revitalize the Pediatric Ophthalmology Division that had been leaderless for the past few years, have a joint appointment at the Morgan Stanley Children's Hospital, resume his own research, and even return to the New York region where he grew up.



Steven E. Brooks, M.D.

The chance to reinvigorate pediatric ophthalmology at a major medical center was enticing; knowing that he would be instrumental in building the pediatric practice at the Robert Burch Family Eye Center at West 65th Street near Lincoln Center (see pg. 1)—where children are a clinical focus—made the offer too compelling to refuse.

“It was a great opportunity,” Dr. Brooks said.

Since arriving in September, Dr. Brooks has been harnessing his academic, clinical, and managerial expertise not only to revamp Pediatric Ophthalmology at Columbia, but also to raise public awareness of the

medical specialty. “We haven’t had a fulltime pediatric ophthalmologist who was actively

involved in seeing patients for about three years,” he said of the Division. “A lot of people don’t know that pediatric ophthalmology is a service that we provide at Columbia because it’s been so low profile.”

A 1984 graduate of Dartmouth College, Dr. Brooks earned his medical degree at the Johns Hopkins University School of Medicine four years later. He completed his residency in ophthalmology at the Doheny Eye Institute at the University of Southern California, followed by a fellowship in pediatric ophthalmology at the University of Michigan, and proceeded to establish a career in both academic and clinical medicine. In addition to teaching at the Medical College of Georgia in Augusta, where he was a tenured associate professor of ophthalmology and pediatrics, he founded a private ophthalmology practice. He is an expert on retinopathy of prematurity (ROP), and his research has been well-funded and widely published. “He is an exceedingly well-trained and experienced physician with tremendous leadership abilities,” said Jack Cioffi, M.D., Department Chairman.

In re-establishing the Pediatric Ophthalmology Division and helping to launch the Burch Eye Center, Dr. Brooks will be building a practice from the ground up. It is a tall order; however, it is made easier by Columbia’s outstanding reputation, the

pediatric provider network associated with the Morgan Stanley Children’s Hospital, and the Burch Center’s collaboration with Lighthouse Guild International, whose headquarters it shares.

Over the years, the West Side’s population has been burgeoning with young families and children, resulting in a growing need for pediatric primary eye care. While the Burch Center will concentrate on providing primary vision care, its partnership with the Lighthouse Guild will also position it to address the more complex ophthalmological needs of children with multiple disabilities.

Similarly, the Division’s close collaboration with ophthalmological specialists at both Harkness Eye Institute and Morgan Stanley Children’s Hospital will enable it to treat children with rare conditions, including pediatric tumors, glaucoma, or cataracts. Currently, the Division is also preparing to share space with a pediatric ear, nose, and throat practice on the fifth floor of Children’s Hospital, bringing with it the benefits of improved proximity to pediatricians—its main referral network—as well as pediatric endocrinologists, geneticists, neurologists, and rheumatologists, whose specialties overlap with many ocular syndromes. “Columbia’s connections to places like the Lighthouse Guild and the Children’s Hospital are very important, because they have a huge patient base and a huge need for services,” Dr. Cioffi said.

Dr. Brooks and his colleague, pediatric ophthalmologist Lauren Yeager, M.D., continue to conduct outreach to alert the city’s medical providers that the Department’s ophthalmologists and optometrists are accessible in Midtown—on Manhattan’s East and West sides—and on the Upper West Side in Washington Heights. “We’re letting them know that we’re here and have quite a few convenient locations to see kids,” he said. “We are trying very hard to make our services accessible, something that is particularly important for busy parents.”

The research power and world-class faculty at Columbia were major draws for Dr. Brooks. Although his initial efforts have been largely focused on the establishment of clinical services, he has become a co-investigator on an ongoing study, funded by the National Institutes of Health, to identify genes that affect the risk and progression of ROP. The study, which began four years ago under the leadership of former Columbia pediatric ophthalmologist Michael Chiang, M.D., is also evaluating the use of advanced imaging technology to diagnose and manage the condition, which results from abnormal blood vessel development in the retina of premature infants, and is the leading cause of blindness in infancy. “I’m a very research-oriented person,”

said Dr. Brooks, whose interests also include various clinical aspects of strabismus and amblyopia. “Hopefully by this time next year, we’ll have more projects on the ground.”

He also plans to create an ophthalmology fellowship within the Division as a way of addressing the persistent shortage of pediatric ophthalmologists. “Pediatric ophthalmology is a specialty that is in great demand but short supply, and Columbia should provide an outstanding place for training the next generation of specialists. Once our clinical volumes increase, we will be in a great position to start a program. Based on the experience of my first few months here, I don’t think it will take very long at all.”

Dr. Brooks is confident in his ability to develop a thriving division of pediatric ophthalmology, but he is also realistic. “We’ve got a lot of groundwork to cover to establish a clinically busy division, but there is no doubt in my mind that it will be successful and sustaining.”



Dr. Brooks examines a young patient accompanied by his mother.



Left: Jack Cioffi, M.D. talking to guests at the Burch Center opening.

Below: Robert L. Burch III commenting at the opening.

## Robert Burch Family Eye Center Opens

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the Graham Family Foundation, the Wolfensohn Family Foundation, and others for their support.

Jack Cioffi, M.D., Department Chairman, added his praise for the center and for Columbia's 10-year collaboration with Lighthouse Guild. "Sharing this facility and taking advantage of Lighthouse Guild's existing services and programs for children with learning and visual problems are natural progressions in our collaboration," he said. Sir Howard Stringer, Chair, Ophthalmology Board of Advisors, joined Drs. Goldman and Cioffi in extending appreciation to Mr. Burch and his family. "We are here to celebrate the Burch family whose generosity helped make this place happen," he said.

Columbia Ophthalmology and Lighthouse Guild—both renowned for their expertise in and provision of vision care—have been collaborating for the past decade to provide treatment and rehabilitation to the steadily increasing number of people with vision loss. Yet, their relationship reaches back some 40 years, when John Flynn, M.D., Emeritus Professor of Ophthalmology at the Harkness Eye Institute, first met Alan Morse, J.D., Ph.D., Lighthouse Guild's President and CEO, and Adjunct Professor of Ophthalmology. (Lighthouse Guild International formed last year when Jewish Guild Healthcare, formerly known as The Jewish Guild for the Blind, merged with Lighthouse International. Dr. Morse has headed The Guild as President & CEO since 1998.) The two shared a keen interest in helping children whose visual impairments accompanied other disabilities. "Alan hit on the idea of starting a school to teach visually impaired kids how to cope in school," Dr. Flynn recalled.

In addition to its highly esteemed school for visually impaired children, Lighthouse Guild's wide range of programs and services include low vision rehabilitation, adult day health care, mental health services, education

to Dr. Chang, then-Department chair. Soon, a partnership was born. "We were interested in combining our integrated vision and healthcare services with Columbia's clinical excellence," Dr. Morse said.

For the past decade, Columbia Ophthalmology resident and fellowship training has included a clinical rotation in low vision rehabilitation that residents fulfill by spending one day a week at Lighthouse Guild headquarters.



Lighthouse Guild also presents a low vision rehabilitation lecture series at Columbia for residents, fellows and attending physicians.



Above, L. to R.: Lee Goldman, M.D., Sir Howard Stringer, James Dubin, Alan Morse, J.D., Ph.D., Jack Cioffi, M.D. and Robert L. Burch III.

Far left: Sir Howard Stringer making some remarks.

Left: Polly Espy, Ophthalmology Board of Advisors member, with Jack Cioffi, M.D.



programs, and counseling for individuals—and their families—with developmental disabilities as well as deteriorating eyesight. "Columbia and Lighthouse Guild have always had the same goal: to improve the quality of life by preserving vision if possible, or by dealing with the after-effects of vision loss," Dr. Flynn added.

Upon his appointment as Director of Pediatric Ophthalmology in 2000, Dr. Flynn introduced Dr. Morse



"We've enjoyed a wonderful relationship with Lighthouse Guild," Dr. Chang said. "They have been extremely helpful in educating our residents."

Columbia's plans for the new Eye Center include expanding Lighthouse Guild's low vision rehabilitation clinic.

Dr. Cioffi added, "With this collaboration and the new space, we are in a position to be the best ophthalmologic program in the Tri-State region." Indeed, the advancements in vision care that Columbia Ophthalmology and Lighthouse Guild have achieved individually are a fraction of what they are about to accomplish together. ■



Above: Robert L. Burch V and Robert L. Burch III.

Left: Board of Advisors members, Hamburg and Miranda Tang, visiting an exam room.

Far left: Sister Joan Kirby with Columbia faculty, L. to R.: Stanley Chang, M.D., D. Jackson Coleman, M.D. and Stephen Trokel, M.D.

## Faculty Spotlight:

# Tongalp Tezel, M.D. Leads Columbia's Retina Service

### Internationally renowned vitreoretinal specialist Tongalp H. Tezel, M.D.

has returned to Columbia Ophthalmology, where he was a fellow in 2003, to direct the retina service.

A native of Ankara, Turkey, the Professor of Ophthalmology earned his medical degree in 1984 at the Hacettepe University School of Medicine in his home city and went on to complete three fellowships in his specialty. His second fellowship brought him to Washington University in St. Louis, where he participated in the initial trials of human retina transplantation. At that time, he decided to remain in the United States, and he repeated his residency training at Washington University. Finally, in 2002, Dr. Tezel began his third fellowship in vitreoretinal surgery at the Harkness Eye Institute, under the aegis of Stanley Chang, M.D.

Following the completion of his fellowship at Columbia, Dr. Tezel joined the faculty at the Kentucky Lions Eye Center at the University of Louisville, School of Medicine, where he became the Kentucky Lions Endowed Chair in the departments of



Tongalp H. Tezel, M.D.

ophthalmology and visual sciences, and anatomical sciences and neurobiology. He also directed the ophthalmology department's fellowship program in vitreoretinal diseases and surgery.

Dr. Tezel's research laboratory focuses on the molecular mechanisms of various retinal diseases. His main interests

include retinal cell transplantation, angiogenesis, pharmacologic vitreolysis, tissue engineering, and drug development for the treatment of age-related macular degeneration. Among the many achievements for which the vitreoretinal surgeon is known is the invention of *Maculoplasty*, a technique for recon-



Dr. Tezel examines a patient.

structing tissues inside the eye that have been damaged by macular degeneration. "The idea is to replenish lost cells by making an environment that will enable those cells to survive," he said.

In addition to his innovations in ophthalmological surgical reconstruction, Dr. Tezel has gained prominence for his use of cutting-edge research techniques, such as genomic and proteomic analyses to identify molecular pathways within retinal cells that lead to macular degeneration. His studies have revealed the local expression of hemoglobin in the eye, a discovery that has important implications for understanding how oxygen is transported to the retina, and how this mechanism's malfunction can lead to abnormalities, such as macular degeneration and diabetic eye disease. Dr. Tezel has also pioneered the use of minimally invasive, sutureless 25 and 27-gauge vitrectomy technology.

The author of more than 100 peer-reviewed scientific articles and 10 book chapters, he has received numerous honors, including the Research to Prevent Blindness Career Development Award, the National Eye Institute Clinician-Scientist Development Award, The American Society of Retina Specialists' Honor Award, the American Academy of Ophthalmology's Achievement Award, and the Patrick O'Connor Award for Excellence in Teaching. "He is a star and we are happy to have him as part of our retina service," said Jack Cioffi, M.D., Department Chairman.

Dr. Tezel is equally happy to be in the Department. "Columbia is one of the few centers where scientists can excel in both clinical and research fields, which is the perfect environment for a clinician-scientist like me," he said.

## Important Patient Care Information

**Specialties:** Cornea/External Ocular Disease  
Glaucoma  
Pediatric Ophthalmology and Strabismus  
Refractive Surgery/LASIK  
Vitreoretinal and Uveitis

*For inquiries and appointments, please call 212.305.9535*



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