

# Vision *for the* Future

VOLUME VII, ISSUE V  
University of Rochester  
Flaum Eye Institute  
newsletter

MESSAGE FROM  
THE DIRECTOR



## Harvesting Intellectual Capital

*I am pleased to report that the Flaum Eye Institute (FEI) is enjoying increased momentum in the area of translational research. If you've been reading previous editions of Vision for the Future, you may be familiar with Krystal Huxlin, Ph.D., and her work in restoring vision to people who have suffered cortical blindness due to stroke. What she started in a laboratory more than five years ago evolved into early studies with a handful of patient volunteers. Her results of experiments with these volunteers — proving the possibility of vision restoration — were then reported by major scientific journals. Just recently a patent was awarded for the technology. Inside you will learn how a software developer has taken the next step and licensed this technology. Soon there may be help for tens of thousands of stroke patients to regain vision once thought lost forever.*

*As one of the only eye institutes in the world with a stated mission of technology transfer, I am excited and proud of the work we are doing to diagnose, treat and cure blindness. Inside you will find more examples of our bench-side to bed-side approach to ophthalmology and the promise it can bring. I congratulate the hundreds of people working and collaborating with FEI to make these breakthroughs possible.*

*I would also like to welcome new faculty, staff, residents and fellows to FEI. This is highlighted by the addition of Yousuf Khalifa, M.D., to our cornea service. In addition to his expertise in treating corneal disease, Dr. Khalifa is fellowship-trained in uveitis, providing patients regional access to a doctor specifically devoted to the care of their disease.*

*As always, I am grateful for the continuing support FEI receives from our Advisory Board chaired by Danny Chessin and the generosity of our donors. I would especially like to acknowledge the Snell and Kennedy families for all their help. Recently, we all lost a great friend and supporter of ophthalmology in Rochester when Albert Snell Jr., M.D., passed away. The Snell Foundation is an ardent supporter of FEI's educational mission. Dr. Snell was instrumental in laying the foundation for resident education in ophthalmology at the University of Rochester School of Medicine and Dentistry.*

Sincerely,

Steven E. Feldon, M.D., M.B.A.

Director, David and Ilene Flaum Eye Institute  
Chair, Department of Ophthalmology  
University of Rochester School of Medicine & Dentistry

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## OUR MISSION

**The mission of the Eye Institute is to develop and apply advanced technologies for the preservation, enhancement and restoration of vision through a partnership of academic medicine, private industry and the community we serve.**

The David and Ilene Flaum Eye Institute is most grateful to its donors for their generous gifts and ongoing support. We are especially appreciative to the friends, patients, alumni and faculty who contributed to our Eye Institute Annual Fund. The Annual Fund is an essential source of funding that will help continue our groundbreaking work in vision care and research.

The following donors have contributed in various ways to FEI between Nov. 1, 2009, and June 1, 2010. Gifts can be designated to the Annual Fund and mailed to: Desirae Jourdan, Director of Development, FEI, 210 Crittenden Blvd., Box 659, Rochester, NY 14642. Or make a gift online by going to [eyeinstitute.urmc.edu](http://eyeinstitute.urmc.edu) and clicking on "Support the Eye Institute."

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## Alumni News

### Calling All Alumni

Ophthalmologists who are graduates of the Department of Ophthalmology residency program, or ophthalmologists who received their medical degree or undergraduate degrees at the University of Rochester, are invited to attend a reception at this year's AAO meeting in Chicago. The reception is at the Westin Michigan Avenue and is on Sunday, Oct. 17, from 6 to 9 p.m.

For more information or to R.S.V.P., please contact **Desirae Jourdan** at 585-275-3594 or e-mail [djourdan@admin.rochester.edu](mailto:djourdan@admin.rochester.edu).

### Couple Establishes Endowed Fund to Support Eye institute

FEI recently received a gift of \$25,000 to create the **Louis and Susan Brescia Fund for Ophthalmology**. The Brescias became acquainted with the Eye Institute through their long-time friends David and Ilene Flaum. The couple were guests of the Flaums at a March dinner held in appreciation of donors to the Eye Institute. From there, the relationship with the Eye Institute blossomed.

"By the end of the dinner, I knew that I wanted to become involved," said Brescia, a regional real estate developer and certified public accountant. During a subsequent room-by-room tour of FEI, Brescia became even more impressed with the scope of FEI's research and patient care operations, stating he was "amazed by the equipment and people." Brescia cited his mother as the primary reason for starting the fund.

"She lost 98% of her vision in one eye due to narrow angle glaucoma," he said. "It was gone before she knew it. I have the same condition and am lucky to have caught it early. It is gratifying to know that we can support a local institution that is helping to treat and cure blinding disease on a national level."

"We are grateful for the Brescias' generosity," said FEI Director **Steven Feldon, M.D.** "I hope that the fund will continue to grow as the Brescia family and others add to the legacy of philanthropy supporting FEI's mission."

Income generated by the fund will be used to support mission critical needs at the Eye Institute.

# Ocular Surface Research Lab Opens for Business

***Blink and you might miss the next innovation in dry eye treatment. And chan***



James Aquavella, M.D., ***is internationally recognized as a pioneer in corneal and ocular surface research, including dry eye disease. He was a founder and past president of the Cornea Society, a director of the Eye Bank Association of America, and served as a consultant to the Food and Drug Administration and Tissue Banks International. He is well known for his work in the development of therapeutic contact lenses and the collagen shield, as well as his significant contributions in the development and implantation of artificial corneas. He is an internationally recognized lecturer, textbook author and researcher with more than 350 publications. Dr. Aquavella received his A.B. from Johns Hopkins University and his medical degree from the University of Naples. He has been a member of the health staff at the Kings County Medical Center, Brooklyn Eye and Ear Hospital, Massachusetts Eye and Ear Infirmary, Harvard University and the Schepens Institute in Boston.***

FEI's James Aquavella, M.D., and his collaborators Geunyoung, Ph.D., and James Zavislan, Ph.D., have begun to unravel the mystery of the human tear film. They recently opened a center for the study of the ocular surface that is unique. In a specially controlled environmental chamber, one-of-a-kind instrumentation noninvasively measures the tear film of human subjects. *Vision for the Future* interviewed Dr. Aquavella to learn more about the new laboratory and why it is attracting national attention.

## **Why is there such a large interest in the ocular surface and dry eye disease?**

Ocular surface disorders, including dry eye, are becoming more pervasive and are a growing public health concern. Some estimate that up to 25 percent of patients who visit eye specialists report symptoms. The disease can result in reduced vision and inflammatory signs on the ocular surface. Yet for such a widespread condition, we know relatively little about dry eye and even less about which treatments work best to relieve it, or why they do. This isn't surprising considering the many contributing factors to the condition and the subjectivity of patient symptoms when diagnosing it.

## **What is the goal of the Flaum Eye Institute ocular surface laboratory?**

Our aim is to objectively measure the physical characteristics of the human tear-film as related to the ocular surface. We believe that this approach will lead to better methods to diagnose dry eye. We also want to use the laboratory to help scientists and physicians better understand which therapies, such as artificial tears, best relieve symptoms under a variety of conditions. These could be contact lens wear, autoimmune disease, allergies, or LASIK surgery. The ultimate hope is to help find new therapies that provide relief and even improve a patient's ability to produce quality tears on his/her own.

## **What can the laboratory measure?**

We can noninvasively measure a variety of tear film properties with human subjects including:

- Total tear film thickness down to 1/1000 of a millimeter (about 1/25th the thickness of a human hair)
- Total volume of the tear film across the ocular surface
- The length of time it takes the tear film to degrade (commonly referred to as tear film breakup)
- The optical refractive properties of the tear film (how it affects our visual acuity)
- Tear film lipid layer thickness and refractive index
- Evaporation and drainage rates
- Eye blink rates
- Temperature of the ocular surface

We can measure nearly all of these properties simultaneously. This provides a tremendous advantage as it allows us to gather data showing how these factors interact with each other at any given time during the normal blink cycle. Moreover, we can change environmental factors in the laboratory such as temperature, humidity and airflow to simulate different conditions a patient might experience during their daily routines.

## **Why is the FEI ocular surface laboratory different?**

Most other labs studying the tear film are primarily engaged in the biology — or composition — of tears. The FEI lab is unique because we are also interested in the geometry of tear film. By this, I mean that we are able to look at a patient with dry eye and objectively measure the physical appearance of his or her tear film. We can then compare dry eye patients to each other and to normal people in our study database of over 1,000 subjects. As we collect these data, we feel that, over time, we will be able to isolate commonalities in patients with dry eye. This will result in a better differential diagnosis for clinicians treating the condition. Currently doctors are using diagnostic methods that have changed little in the past 50 years and rely too much on how a patient feels at the time of examination. By taking subjectivity out of the equation — or at least discovering which physical characteristics are most highly correlated with subjective impressions — clinicians will be able to make better therapeutic choices when treating patients.

## **How could this lead to better patient care?**

Each year, Americans spend over one billion dollars on over-the-counter or prescription remedies for dry eye. Our laboratory is uniquely positioned to help the companies that create and market



## ces are that the Flaum Eye Institute will have a hand in it.

dry eye products determine what factors contribute to tear film deficiency. We believe we can help improve current treatments by better understanding which ones work best in given circumstances. For instance, we may be able to determine that a particular artificial tear is best for contact lens users whereas a different one might provide better relief for people with an autoimmune disease such as Sjögrens.

In addition, industry is constantly developing new products for the relief of dry eye. Some of these include a new class of pharmaceuticals that treat patients with low tear volume or poor tear film quality by stimulating the production of high-quality tears. Development of new pharmaceutical agents is an expensive and time consuming process. In our laboratory we can take new compounds provided by industry and test them on a handful of patients. What we report can help them to determine which new agents look most promising and worthy of investing in large-scale (and expensive) clinical trials. And, because of our ability to control environmental factors, we can environmentally stress subjects using these new treatments to understand each product's therapeutic window (the range in which it performs best). This can improve the odds of success while reducing costs and time-to-market.

### What's the future for this technology?

We are currently engaged in improving our measuring techniques and looking for new ways to image the tear film. There also might be the possibility of developing an instrument that could help doctors diagnose the occurrence and severity of dry eye. We will have to be careful here, though, because environmental factors in doctors' offices (humidity for instance) cannot be controlled in the same way as in our laboratory.



*Interested in contributing to better health care? The ocular surface lab is continually adding study subjects to its database. If you are diagnosed with or think you have dry eye, you may be able to help by being available for upcoming studies. For more information please contact us at: 585-276-8734*



### Better By Any Measure

*The FEI ocular surface lab uses numerous technologies that have been configured to measure the human tear film. Combined, they are a formidable arsenal for unlocking the mysteries that lie on the surface of the eye.*

#### ■ Micrometer Resolution Optical Coherence Tomography (OCT)

FEI investigators have adapted this method of imaging the middle and back of the eye to the ocular surface. With it they can measure both the thickness and volume of the tear film at resolutions to 1/1000 of a millimeter.

■ **Ellipsometry** measures the polarization of light reflected from the corneal surface to enable measurement of the thickness and refractive index of the lipid layer. The lipid layer is responsible for the integrity of the tear film and helps to protect the ocular surface.

■ **High-resolution Wavefront Sensing** objectively quantifies tear dynamics, tear breakup and their impacts on the quality of the image traveling to the retina.

■ **Thermal Imaging** allows researchers to see what thermal "cooling" effect specific agents may have on the tear film and how long the effects last.

## CLINICAL TRIALS — OPEN TO ENROLLMENT

- A Non-Treatment Study of Risk Factors for Nonarteritic Anterior Ischemic Optic Neuropathy (NAION) (D. Friedman, M.D., M.P.H.)
- Idiopathic Intracranial Hypertension Treatment Trial (Z. Williams, M.D.)
- Prospective Randomized investigation to Evaluate incidence of headache reduction in subjects with Migraine and PFO Using the AMPLATZER PFO Occluder compared to Medical Management (D. Friedman, M.D., M.P.H.)
- A Phase 1 open label, dose escalation trial of QPI-1007 delivered by a single intravitreal injection to patients with optic nerve atrophy (stratum 1) and acute non-arteritic anterior ischemic optic neuropathy (NAION) (stratum 2) (D. Friedman, M.D., M.P.H.)
- Placebo-controlled study in subjects with advanced dry, age-related macular degeneration (AMD) including geographic atrophy (M. Chung, M.D., M.P.H.)
- Evaluate the Safety, Tolerability, and Efficacy of Telcagepant for Prevention of Menstrually Related Migraine in Female Patients with Episodic Migraine (D. Friedman, M.D., M.P.H.)
- A randomized trial of bilateral lateral rectus recession versus unilateral lateral rectus recession with medial rectus resection for intermittent exotropia (M. Gearinger, M.D.)
- A randomized clinical trial of observation versus occlusion therapy for intermittent exotropia (M. Gearinger, M.D.)

## Rochester Ophthalmology Conference Turns 55



In March, hundreds attended the annual Rochester Ophthalmology Conference hosted by FEI at the University of Rochester Medical Center. The Albert C. Snell Memorial Lecture about Fungal Keratitis was delivered by Bascom Palmer Chair *Eduardo Alfonso, M.D.* Duke University Eye Center's Vice Dean of Medical Education and noted pediatric ophthalmologist *Edward Buckley, M.D.*, delivered the Bausch + Lomb Visiting Professor Lecture. The conference was also highlighted by lectures about translational research in vision which included a talk by the University of Rochester's *David Williams, Ph.D.*

The two-day conference continues to grow and draw internationally renowned speakers, providing a world-class forum for ophthalmic education. FEI thanks everyone who attended and is especially grateful to underwriters and exhibitors who supported the event.

## Resident Update

**With each new academic year we look with anticipation to welcoming new residents and fellows to FEI's growing program and bid fond farewells to those departing.**

**At our annual residents' dinner we said goodbye to:**

- **Candy Chan, M.D., Ph.D.**, who won a prestigious Heed Foundation fellowship and is completing subspecialty study in retina at the University of California San Diego's Shiley Eye Institute.
- **Rose Ngan, M.D.**, who returned to Pittsburgh to begin private practice.
- **Mithra Gonzalez, M.D.**, who traveled to University of Colorado Rocky Mountain Eye Institute to begin his fellowship in oculoplastics.
- We also say goodbye to cornea fellow **Mohammad Ali Haider, D.O.**, who accepted a faculty position at the University of Louisville's in the Department of Ophthalmology.

**In July we welcomed three new residents at our annual breakfast:**



**Alex Manguikian, M.D., Ph.D.**, comes to FEI after completing his internship at Fairfax Hospital in Falls Church, Virginia. He is a graduate of the George Washington University School of Medicine.



**Brooke Miller, M.D.**, joins us as a transfer from the University of Rochester School of Medicine and Dentistry's (URSM&D) pediatric residency program. She completed her medical degree at UR SM&D.



**Seth Pantanelli, M.D.**, completed medical school at UR SM&D and interned in medicine at the University of Rochester Medical Center.



**Tofik Ali, M.D.**, who has begun a corneal fellowship. He completed his residency in ophthalmology at the Albert Einstein College of Medicine.

## Software Developer *EnVisions* Rehabilitating the Blind

A Rochester, N.Y., based software developer has licensed one of the most promising technologies to recently come out of FEI with the hope of helping people with cortical blindness regain functional vision. **Jonathan A. Sacks, CEO of EnVision LLC**, is a self-confessed serial entrepreneur. He has built and sold two highly successful software companies worth tens of millions of dollars and started two aviation firms, one of them specializing in aerial mapping.

Recently, he reached an agreement with the University of Rochester to license **Krystal Huxlin's, Ph.D.**, newly awarded patent for retaining visually impaired patients with damage to the primary visual cortex. This damage, most commonly associated with stroke, causes what many once believed to be irreparable cortical blindness. Through tireless research and experimentation, Dr. Huxlin proved that the damaged part of the brain could be circumvented. So far, she has been able to partially restore vision to about a dozen patients who participated in clinical studies she conducted during the past few years. Now Sacks is bringing his substantial business acumen to help commercialize the technology.

"We are pleased to see Dr. Huxlin's work being recognized as unique by the U.S. Patent Office and as a viable technology by the both the scientific and medical communities," said FEI's Director **Steven Feldon, M.D., M.B.A.** "I believe that this technology has the potential to help tens if not hundreds of thousands of people regain lost vision. What's more, we may be able to improve vision in other circumstances where there is visual system damage."

No specific timeline has yet been set for release of the product. If successful, the venture could employ scores of software developers and support staff. A portion of royalties from product sales will return to FEI through the University to help FEI continue its technology transfer mission.

## FEI Researcher Receives Awards Totaling Over \$2 million

**Krystal Huxlin, Ph.D.**, is the recipient of a prestigious **Lew R. Wasserman Award from Research to Prevent Blindness**. Dr. Huxlin will use her award to



further her work in restoring vision to persons suffering from cortical blindness

following brain injuries such as stroke. Dr. Huxlin's lab has already proven that through rigorous visual training, individuals with damaged primary visual cortices may regain sight previously thought lost forever. New experiments will look at understanding precisely what areas of the brain are activated during visual retraining to better predict the level of recovery patients might expect from therapy. These experiments will also determine if it is possible to retrain the brain to see static images (useful in everyday tasks such as reading) versus motion images (vision needed to do things like drive a car or walk down a busy street). Dr. Huxlin is only the second FEI researcher to receive the award that supports the promising work of mid-career vision scientists and clinicians.

Dr. Huxlin also received from the **National Eye Institute** an **RO1 award** of more than \$1.9 million to continue her work studying ways to reduce scarring associated with corneal wounds. Scarring occurs when there is disruption to the cornea's normal structure or function and can be brought about by ocular trauma, infection, surgery, or corneal dystrophies. She and her collaborators **Richard Phipps, Ph.D.**, **Patricia Sime, M.D.**, and **Scott MacRae, M.D.**, think that

ligands of peroxisome proliferator activated receptor gamma (PPAR $\gamma$ ) could prove much more effective and safer at controlling corneal scarring than current therapies. PPAR $\gamma$  is a protein that plays an essential role in the regulation of cellular differentiation and metabolism. Dr. Huxlin's research could pave the way for a new class of pharmaceuticals that may greatly improve final vision for those who suffer corneal insults.

## Concept of Miniature Fundus Camera Receives NIH Attention

Obtaining clear photographic images of the retina is crucial in diagnosing and treating many vision threatening diseases. However, equipment used to obtain retinal images is large and primarily relegated to doctors' offices. Rochester-based **Lumetrics, Inc.** plans to change this paradigm with help from collaborators at FEI, Eyeon Therapeutics and ASE Optics Inc. And the National Institutes of Health (NIH) is backing the effort.

Lumetrics received a \$100,000 Small Business Innovation Research (SBIR) grant from NIH to develop a laboratory prototype of a hand-held device that will do the same work that the table-top model of a fundus camera can do. The initial idea was the brainchild of FEI's **Steven Feldon, M.D.** — who, along with **Geunyoung Yoon, Ph.D.**, — is awaiting a patent on the device concept. **David Kleinman, M.D.**, president of Eyeon Therapeutics, and a retinal specialist on FEI's faculty, has been actively involved in moving this promising technology forward.

"This project represents a perfect example of combining two areas of expertise Rochester is famous for — precision optical engineering and clinical ophthalmology — to develop a cutting-edge new product," said **Filipp Igantovich**, Principal Scientist at Lumetrics. "We have engaged an excellent team of local optical engineers along with the world-renowned clinicians of the University of Rochester, and are well positioned in developing this novel optical instrument for practical and affordable medical use."

If successful, the camera could prove invaluable in screening for eye disease, especially in remote areas and in countries with limited access to ophthalmology clinics.

## CTSI Funds Study Targeting Earlier Detection of Age-related Macular Degeneration

The University of Rochester Center for Clinical Translational Science (CTSI) has awarded **Mina Chung, M.D.**, \$236,000 to develop methods for earlier diagnosis of age-related macular degeneration (AMD). By using FEI's innovative Fluorescence Adaptive Optics Scanning Laser Ophthalmoscope, Dr. Chung and her collaborators at the **Center for Visual Science** hope to distinguish between the earliest onset of the disease and normal aging of the macula. They plan to do this by building a normative database that will allow novel statistical modeling that differentiates between normal age-related and AMD changes to the photoreceptor (PR) layer and retinal pigment epithelium (RPE) cell mosaic. By using high-resolution imaging and analyzing areas of the retina next to visible lesions associated with AMD, the team hopes to define a clinically relevant metric for early detection and progression of the disease. Early detection and more accurate knowledge of disease progression will prove important in administering current AMD treatments to patients at the most opportune times.

# ARVO Highlights

In May, FEI added a twist to the annual migration of the research faculty south to Ft. Lauderdale where the leaders in vision research gather. This year FEI held an event where scientists, executives and other professionals from leading ophthalmic pharmaceutical and device manufacturing companies learned about FEI's translational research capabilities. FEI hopes that the exchange of ideas shared will lead to fertile partnerships with organizations interested in the prevention and cure of eye disease. In addition to the translational research showcase for industry, FEI scientists, clinicians and collaborators presented more than two dozen scientific papers and posters at ARVO including:

## Evaluation of Corneal Wound Healing and Ocular Optics After Descemet's Stripping with Automated Endothelial Keratoplasty (DSAEK)

Incoming resident Brooke Miller, M.D., and a team of FEI collaborators presented a prospective observational study of 10 Fuchs' endothelial dystrophy patients who underwent partial thickness corneal transplants (DSAEK). Patients were measured to determine corneal geometry, post-operative corneal haze and the presence of higher order aberrations. The team's research may help better characterize the optical effects of partial thickness corneal transplants and contribute to better methods of intra- and post-operative treatments.

## Microscopic In Vivo Imaging of Human Inner Retina with a Phase Adaptive Optics Scanning Laser Ophthalmoscope

Alfredo Dubra, Ph.D., presented a paper co-authored by Yusufu Sulai of the Institute of Optics and David Williams, Ph.D., of the Center for Visual Science. It detailed the construction of a unique instrument to image the inner retina in living human subjects. The confocal laser scanning ophthalmoscope they developed aims to solve the problem of imaging the highly transparent structures of the inner retina such as retinal ganglion cells. The images taken from the instrument compare favorably in quality with those taken from post-mortem retinas using traditional microscopy methods. Safely imaging the inner retina in living humans has the potential for revealing changes to cells beneath its surface and could be useful in the study of glaucoma and other diseases.

## Measurement of Lipid Layer Dynamics Using Imaging Ellipsometry

James Zavislan, Ph.D., presented a poster that discussed the use of ellipsometry to noninvasively measure the human tear film. The device that he and his collaborators built uses light polarization to simultaneously and independently measure the refractive properties and thickness of the tear film lipid layer. The instrument will allow scientists to objectively characterize the role of the lipid layer in dry eye syndrome and the interaction between the lipid layer and aqueous layer of the tear film throughout the blink cycle.

## CME Calendar

Continuing professional education in the 2011 academic year promises to be outstanding as we continue to recruit sought-after speakers for the FEI Visiting Professor Series and the Rochester Ophthalmology Conference. Scheduled to-date are:

**October 23, 2010**    **Glaucoma**  
**Janet Serle, M.D.**  
*Professor of Ophthalmology,  
Resident Education Director,  
Mt. Saini School of Medicine*

**November 20, 2010**    **Retina**  
**Rajendra Apte, M.D., Ph.D.**  
*Assistant Professor of Ophthalmology,  
Washington University  
St. Louis School of Medicine*

**December 18, 2010**    **Pediatrics**  
**David Granet, M.D.**  
*Anne F. Ratner Professor of  
Ophthalmology & Pediatrics,  
Shiley Eye Institute, University of  
California San Diego School  
of Medicine*

**January 15, 2011**    **Cataract**  
**Rosa Braga-Mele, M.D.**  
*Associate Professor of Ophthalmology,  
University of Toronto, Director of  
Cataract Unit and Surgical Teaching,  
Mount Sinai Hospital, Toronto*

**February 19, 2011**    **TO BE ANNOUNCED**

**March 18-19, 2011**    **Save the Date:**  
**56th Rochester  
Ophthalmology Conference**  
**Glaucoma**  
**David Epstein, M.D.**  
*Professor of Ophthalmology, Chair of  
Ophthalmology, Duke University*

**Retina**  
**Joan Miller, M.D.**  
*Professor of Ophthalmology, Chair of  
Ophthalmology, Harvard University,  
Massachusetts Eye & Ear Infirmary*

**May 21, 2011**    **TO BE ANNOUNCED**

**June 18, 2011**    **Refractive/Cataract**  
**Roger Steinert, M.D.**  
*Professor of Ophthalmology  
Chair of Ophthalmology  
University of California Irvine*



# Eye on the Community

In addition to a busy resident clinic that serves the eye care needs of a large number of the area's economically challenged, FEI remains busy in the community through education and eye health check-ups. In March and July, the FEI student sight savers chapter of the **Friends of the Congressional Glaucoma Caucus** conducted glaucoma screenings at local community centers in neighborhoods with many citizens at risk for this disease.

In June, **Steven Feldon, M.D.**, gave a talk in the FEI Gipner library to Graves' disease sufferers. More than 20 showed up,

including representatives from the **National Graves' Disease Foundation**. FEI hopes to establish a regional Graves' patient support group.

**Holly Hindman, M.D.**, and **Rajeev Ramchandran, M.D.**, spoke about eye health to a group of about 75 at the **Rochester Deaf Recreation Club**. The program was supported in part by the **National Center for Deaf Health Research (NCDHR)** at the University of Rochester.

## Eye on the News

### New Equipment Adds to Patient Care Arsenal

FEI recently announced the purchase of two pieces of equipment that will improve surgical and diagnostic care to patients, reinforcing the Eye Institute's regional reputation as a state-of-the-art eye center. The operating room has added the first of two **Carl Zeiss OPMI Lumera 700 surgical microscopes**.



FEI is the first location in the United States to receive the much heralded instrument. The microscope is unique in that it uses an innovative lighting system that allows surgeons to see

more clearly into the eye and change more quickly between cataract and retina procedures. In addition, the new microscope is better for the surgical training of residents and fellows because it provides superior illumination of the eye for both the surgeon and the student.

Also new to FEI is a **Heidelberg Engineering Spectralis HRA Retinal Imaging system**. The Spectralis has five separate imaging modalities and is the only instrument to offer wide field views of the retina while simultaneously allowing zoomed-in details of a quality unmatched by other technologies. Among its many uses, FEI diagnostic imaging services will employ the Spectralis to provide earlier diagnosis of damage to a patient's retinal pigment epithelium (RPE). Malfunction of the RPE is thought to be one of the earliest signs of retinal disease and will be helpful to FEI in ongoing clinical research. The new instrument is also proven highly useful in tracking the progression of age-related macular degeneration.

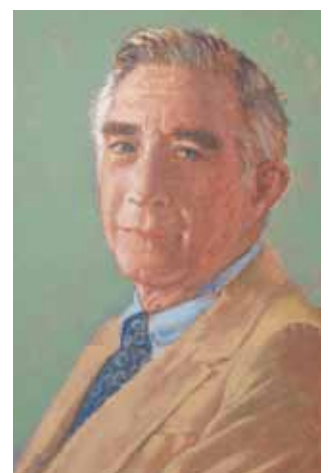
## *In Memoriam*

In April, the Flaum Eye Institute lost a great friend and Rochester said goodbye to a beloved ophthalmologist when **Albert C. Snell Jr., M.D. (M'40)**, died at the age of 97. Dr. Snell was a former head of the Division of Ophthalmology at the University of Rochester School of Medicine and Dentistry and a member of the School of Medicine and Dentistry faculty for 34 years. He became chief of the division in 1961 and remained in that position until 1978.

He was instrumental in the establishment of a research program in ophthalmology at the School of Medicine and Dentistry. He also was an active clinician and teacher. He trained more than 25 residents, and his work helped pave the way for the establishment of the Department of Ophthalmology in 1978.

"Dr. Snell will always be remembered as a superb teacher, clinician, and humanitarian," said **Steven Ching, M.D. (M'74, R'81)**, professor of ophthalmology at the Medical Center. "Patients to this day remember his kind and caring demeanor. Residents and students appreciated his keen intellect and encouragement. Under his guidance, the division of ophthalmology expanded in many areas."

Dr. Snell, a Rochester native, was the son of **Albert C. Snell, M.D.**, who organized the Division of Ophthalmology in 1929. In 1982, Dr. Snell received the Albert David Kaiser Medal for Distinguished Service, awarded by the Rochester Academy of Medicine.



Albert C. Snell Jr., M.D.

## Eye on the News (CONTINUED)

### New Faculty

FEI is pleased to welcome **Yousuf Khalifa, M.D.**, to its faculty. He joins the cornea services team as assistant professor of ophthalmology and will also direct the Eye Institute's uveitis service. Dr. Khalifa's surgical skills encompass cornea transplantation techniques such as penetrating keratoplasty, deep anterior lamellar keratoplasty (DALK), and Descemet's stripping automated endothelial keratoplasty (DSAEK). He also performs Intacs implantation, pterygium surgery, cataract surgery, and laser refractive surgery. Dr. Khalifa also specializes in the diagnosis and treatment of uveitis, with a special research interest in biologic therapies for this inflammatory disease.



Yousuf Khalifa, M.D.

He is a 2004 graduate of the Medical College of Georgia, where he completed a residency in ophthalmology. As a Heed fellow, he completed his uveitis training at the University of California, San Francisco and went on to a subsequent fellowship in Cornea and Refractive Surgery at the Moran Eye Center at the University of Utah School of Medicine. Dr. Khalifa is certified by the American Board of Ophthalmology and is a member of the American Society for Cataract and Refractive Surgery and the American Academy of Ophthalmology.

### Additions and Distinctions

**Desirae Jourdan** has been promoted to Director of Development. She will continue important work raising funds for FEI's translational research, education and patient care missions.

**Chester Scerra, O.D.**, joins FEI part-time providing care at the Canandaigua VA facility. Dr. Scerra is a graduate of the Illinois College of Optometry and has a private practice in Newark, N.Y.

**Kelly King, A.B.O.**, joined FEI in February in the optical shop where she assists in dispensing spectacles and runs a new finishing lab making glasses.

The University of Rochester Medical Center is serious when it comes to improving patient satisfaction. The **Strong Star program** lets patients and their families single out employees for exemplary care and customer service. During the past six months, FEI doctors, allied health care professionals and staff were recognized with 72 strong stars! We also remind patients to also fill out our internal customer service patient at each visit so that we know how we can further improve your experience with us.

Congratulations also go out to **Daniel Castillo, Tammie Rich, Tina Richard, Tanya Smith, Kari Steinmetz** and **Yvonne Yu**, who all recently achieved the distinction of Certified Ophthalmic Assistant. This designation is awarded by Joint Commission on Allied Health Personnel in Ophthalmology and adheres to rigorous guidelines.

*Thanks to all for your dedication and hard work!*

### FACULTY PRACTICE

**Comprehensive Eye Care**  
Shobha Boghani, M.D.  
Rebecca Nally, O.D.  
Jill Schafer, O.D.

**Contact Lens Services**  
Rebecca Nally, O.D.  
Jill Schafer, O.D.

**Cornea and External Disease**  
James Aquavella, M.D.  
Steven Ching, M.D.  
Holly Hindman, M.D.  
Yousuf Khalifa, M.D.  
Ronald Plotnik, M.D.

**Glaucoma**  
Shakeel Shareef, M.D.

**Neuro-Ophthalmology and Orbit**  
Steven Feldon, M.D., M.B.A.  
Deborah Friedman, M.D., M.P.H.  
Zoë Williams, M.D.

**Pediatric Ophthalmology**  
Matthew Gearing, M.D.

**Refractive Surgery**  
Scott MacRae, M.D.  
Holly Hindman, M.D.  
Yousuf Khalifa, M.D.  
Joseph Stamm, O.D.

**Retina and Vitreous**  
Mina Chung, M.D.  
David DiLoreto, M.D., Ph.D.  
David Kleinman, M.D., M.B.A.  
Rajeev Ramchandran, M.D.

**Uveitis**  
Yousuf Khalifa, M.D.

### RESEARCH FACULTY

Alfredo Dubra, Ph.D.  
Charles Duffy, M.D., Ph.D.  
Lin Gan, Ph.D.  
Krystal Huxlin, Ph.D.  
Amy Kiernan, Ph.D.  
Richard Libby, Ph.D.  
William Merigan, Ph.D.  
Gary Paige, M.D.  
Richard Phipps, Ph.D.  
David Williams, Ph.D.  
Geunyoung Yoon, Ph.D.  
Jim Zavislan, Ph.D.