

Vision *for the* Future

UNIVERSITY OF ROCHESTER

FLAUM EYE INSTITUTE

SPRING 2018 NEWSLETTER

INSIDE

- 2 Director's message
- 2 FEI in the community
- 3 Advancing the vision
- 6 News bytes
- 7 New faculty
- 7 Grants
- 9 Publications
- 9 Clinical trials
- 11 Education
- 11 ARVO update

FEI first in New York to implant "bionic eye"

A 71-year-old woman blinded by an inherited disease recently thrilled FEI Assistant Professor of Ophthalmology **Ajay Kuriyan, M.D.**, when she reached out and grabbed his hand. Their connection was the result of her receiving a "bionic eye" device that allows her to distinguish light and motion. She hadn't been able to do that in decades.

"I saw his hand – I couldn't miss that," said Khaleda Rahman, a Syracuse-area resident who once competed in the Olympics.

As a young girl, growing up in what is now Bangladesh, she gradually began losing her sight to retinitis pigmentosa. The disease is a rare, hereditary condition that causes progressive degeneration of the light-sensitive cells of the retina, leading to blindness. Retinitis pigmentosa affects about 1.2 million people worldwide and there is no treatment. Some of Rahman's relatives in Bangladesh have the disease, as well.

"I used to run track and field and was a badminton champion," Rahman said. "But as a teenager the cork (shuttlecock) became too hard to see, and I gave it up. I still kept competing in track at the University of Dhaka and was a member of the East Pakistan Olympic team."

She and her husband Bazlur came to the U.S. in 1970 and settled in Syracuse where she raised a son, studied at Syracuse University

and worked in several jobs, including teaching. Before her vision worsened, she used to walk around Syracuse by herself aided with a white cane.

"I would love to return to that, but I'll take what I can get," she said prior to her surgery.

Rahman is the first person in New York to receive the FDA-approved **Argus II Retinal Prosthesis System**. There are fewer than 100 people in the U.S. that have the device, designed for people who have lost their vision as a result of retinitis pigmentosa. FEI's Associate Professor of Ophthalmology, **Mina Chung, M.D.**, and Kuriyan performed the surgery in late August and activated

(CONTINUED ON PAGE 10)



A sense of relief

Laura Matson loves life, her family, reading the *Wall Street Journal* and watching professional hockey. And now she likes to carry FEI brochures in her purse and tell people about her miracle.

In March 2015, Matson woke up and everything looked cloudy. "It was like there was a hand in front of my face. I was fearful," she said.

She rapidly lost vision. She couldn't work. She couldn't drive. She couldn't do many of the things she enjoyed. She went to a local optometrist near her home in Elmira, New York, where she wasn't even able to read the eye chart. He said that it looked like someone had spilled acid in her eye.

Desperate for answers, Laura was referred to a local ophthalmologist, in whom she had complete trust. He recognized that Laura had a corneal injury to her left eye that had become infected, immediately prescribed drugs that might help relieve her symptoms, and began to treat her with powerful antibiotics. For the next few months,

Matson struggled with infections and the corneal surface developed a severe ulcer. To treat her cornea, he sewed her eyelid shut (called a tarsorrhaphy) to protect it and let it heal. When the sutures were removed, the eye was still infected and getting worse. In the meantime, her right eye had also become infected.

Understanding the seriousness of the situation, her ophthalmologist sent her to Flaum Eye Institute where she was seen by the cornea service's **David Shiple, M.D.** Matson was sensitive to light and in pain. During the next months, she would be a frequent visitor to FEI. She was given different combinations of topical and systemic antibiotics to quiet the infections.

"My ophthalmologist at home – who was following me and was in constant contact with FEI – was impressed with the treatment I received," Matson said. "But he also commented that he thought I would never see perfectly out of the left eye again."

(CONTINUED PAGE 3)

DIRECTOR'S MESSAGE

Progress across all missions continues at the Flaum Eye Institute

Our clinical care enterprise continues to grow as we welcome three optometrists (page 7) and the patients from the University of Rochester Medical Faculty Group's acquisition of the **Lifetime Health Care Network** (page 6). Equally important, we continue to be the regional leader in offering the latest in vision treatment and translational research.

Our cover story is about a patient who received the region's first retinal prosthesis. This groundbreaking "bionic eye" restores a sense of vision and quality of life to people suffering from retinitis pigmentosa, and FEI is just one of 22 centers in North America to offer this technology.

You will also learn about another treatment unique in our region through the story of a patient whose eyesight was improved by a unique prosthesis that addresses damage to the front of the eye (cover). We are delighted to be able to offer this therapy thanks in part to FEI board member **Joe Hanna**, whose generosity helped launch this service.

Research into the fundamental causes of eye disease and the mechanisms of blindness also continue in earnest. Many of our research faculty and their laboratory personnel continue to distinguish themselves through publications (page 9) presentations and the funding to promote their efforts (page 7). Our continuing efforts to collaborate with our colleagues has resulted in yet another productive relationship. This time with **Maiken Nedergaard, M.D., D.M.Sc.**, who received a Research to Prevent Blindness Stein Innovation Award to work with a glaucoma model developed by FEI's **Richard Libby, Ph.D.**

We are also proud to announce that clinician-scientist **Rachel Wozniak, M.D., Ph.D.**, was recently recognized by the National Eye Institute with a Career Development Award (page 8). Her focus on bedside to bedside medicine is at the forefront of what we are doing to improve patient care through research.

We are pleased that all of our graduates have exciting plans to enter fellowships or go into private practice (page 11). Also, four of our trainees recently returned from making presentations at the Association for Research in Vision and Ophthalmology meeting. In future issues we will introduce our new group of residents arriving this July.

We have been extremely busy reaching out into the community to provide screenings and education to a variety of audiences. This includes our signature Glasses for Kids program. Much of this outreach wouldn't be possible without the support of gifts from philanthropists (page 4) and donors to our annual fund.

As always, I offer my sincere thanks to all of you who make our community a better place to live, work and play. This includes our faculty, staff, patients, donors and all those who cherish vision.

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



FEI in the Community

FEI continues to provide important information about eye care and community services through live educational programs, support groups and screenings. Future events can be found on our Friends of The Eye Institute Web page at www.foei.urmc.edu or by visiting our Facebook page.

It was a busy fall and winter for FEI's outreach team and doctors. The focus was to continue to educate the general public on eye health and eye-related diseases:

November 4, December 9, February 10 & March 3:

The Glover-Crask Foundation sponsored Eyeglasses for Kids program continued to provide free Saturday screenings for children. Its mission is to improve the confidence and academic performance of school-aged children who have routine vision problems, like nearsightedness or farsightedness, by pro-

viding them with free eyeglasses. If other vision problems are detected during the screenings, children are appropriately referred to FEI's pediatric ophthalmology team for care. Special thanks go to the faculty and residency program physicians, who provide the screenings, and to the opticians and staff who make the glasses and make the families welcome.

December 7: FEI's Director of Research, **Krystal Huxlin, Ph.D.**, spoke at one of the University of Rochester Medical Center's stroke support groups. She shared information about vision restoration research for stroke patients that is being done in her lab.

January 11: FEI hosted a screening of the movie *Sight: The Story of Vision* at the Dryden Theatre. Over 60 members from the community showed up to view the film. FEI Director, **Steven Feldon, M.D.**, introduced the film and led an engaging audience discussion following it.

January 31: **David DiLoreto, M.D., Ph.D.**, highlighted an FEI macular degeneration support group. This recently formed organization helps to inform people about current best practices for treating both dry and wet age-related macular degeneration. It also provides patients a forum to share what is happening with their eye health and to offer each other a shoulder to lean on as they face challenges caused by their disease.

March 19: One of FEI's newest optometrists, **Jessica daSilva, O.D.**, spoke to a group of residents at Ashton Place Senior Living in Clifton Springs, New York, about the aging eye.

IF YOU ARE INTERESTED IN...

inviting one of our faculty members to speak about eye health topics, starting a support group related to eye disease or scheduling a screening, please contact Steve Kofron at 585-275-3977. We'll do our very best to accommodate your request.

Out of the *true blue*

Wallace “Wally” Wagner was a friend to many and remains so, even after his death in December 2016. The 98-year-old former City of Rochester tax assessor and real estate consultant accumulated wealth with the help of his stock broker wife, Mary Cooper, who pre-deceased him.

Among his friends was **Scott Rasmussen**, a senior philanthropy officer at the University of Rochester. He knew Wagner for years and that he had been generous to many causes, including the University of Rochester.

As is the case with many in their 90s, Wagner’s sight began to fail. As a favor to Wally, Rasmussen sent him to FEI Chair **Steven Feldon, M.D.**, to see if there was

anything that could be done. Unfortunately his sight loss was incurable and Feldon gave him the straightforward news, which must have impressed Wagner because he decided to make an incredible gesture in support of the Eye Institute through his estate.

At his death, the value of his estate was more than \$6 million. With the help of trusted advisors, including Rasmussen, he developed a plan to distribute it across the University of Rochester.

Ultimately \$1.4 million dollars will go to the Flaum Eye Institute’s endowed research fund. This includes an immediate gift of nearly \$360,000. An additional \$800,000 will come from five charitable gift annuities that Wagner

set up to benefit his friends and family. When those individuals are no longer in need of income, the funds will revert to the University of Rochester.

“This is an incredible and unexpected gesture,” Feldon said. “Of course, I would have liked to have helped Mr. Wagner with his sight when he came to me, but this gift will help many in the future by supporting important vision research. I think he understood the significance of this generosity.”

Remaining portions of Wagner’s estate were earmarked for other areas of the University, including an Alzheimer’s research fund that will help support the search for a cure to the disease his second wife Bethene had.

Peds wing gets a facelift

Our youngest patients and their families enjoy a brighter and updated environment when they visit FEI’s main campus. Kids are notorious for wearing out furniture and walls; the pediatric wing at FEI was no exception. When the area needed a “refresh,” the administrative team saw it as an opportunity for improvement.

Dark blue walls in the waiting area have given way to warmer tones and carpets have been updated throughout. Exam rooms feature individual color themes tied to vivid accent walls that also coordinate to new carpeting and trim. Not only is the environment cheerier, but the colors help families remember which room they were in when they return from diagnostic testing.

In addition, furniture for the waiting areas, exam rooms and the check-in / check-out area have been upgraded to improve workflow. Patients, pediatric ophthalmologists **Matthew Gearing, M.D.**, **Benjamin Hammond, M.D.**, and staff have welcomed the changes.

A sense of relief

(CONTINUED FROM COVER)

This was a legitimate concern. The infection, subsequent ulcer and treatments left the surface of her cornea in poor condition. Both eyes were sensitive and caused Matson a great deal of discomfort. She was also very nearsighted in the left eye that had become so infected. During the time of Matson’s treatment, FEI had become just the 12th center in the nation to offer an innovative therapy that might help. Shiple thought she could be a perfect candidate and referred her to the new program headed by **Tara Vaz, O.D.**

“When I first saw her, I immediately considered PROSE,” Vaz said. PROSE is short for Prosthetic Replacement of the Ocular Surface Ecosystem. “The infections and subsequent treatments that she experienced left her corneas extremely dry. This can cause a great deal of discomfort, poor vision and open the door for other problems. PROSE provides relief to patients because the prosthesis vaults over the eye and a neutral saline solution is introduced that bathes and protects the cornea. It allows the surface to heal while providing comfort. In addition, the device can be customized to include refractive correction, like spectacles or contact lenses.”

During this first visit, Vaz checked to see if Matson was suitable for PROSE by putting trial devices in her right and left eyes. The result was instantaneous. “I hadn’t seen out of the left eye in nearly a year,” Matson said. “And now my vision was like it was before. My mother said that I was like a little kid because I could see colors so well. I knew that this was for me. I was kind of sad when I had to take them out.”

Vaz then went to work measuring Matson’s eyes to make her a pair of customized PROSE devices. Each would address the particular architecture of Matson’s eyes and account for any refractive error. Vaz used specialized CAD/CAM software that transmits the measurements to Boston Sight where each device is manufactured to exacting standards.

“The fit has to be precise because you’re creating a whole new ecosystem for the ocular surface,” Vaz said. “We need to be sure that there is alignment to protect the eyes. And we need to do our best to get patients good visual correction.”

Prior to her PROSE fitting, Matson was 20/200 in her left eye and 20/40 in the right eye (legal driving vision with or without spectacle correction). With her new lenses in, not only did Matson experience extreme relief from her discomfort, her vision improved. Her left eye saw 20/40 and her right eye was 20/25.

(CONTINUED ON BACK COVER)



A MOST GRATEFUL THANK YOU TO OUR DONORS FOR THEIR

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 Annual Fund. The Annual Fund is an essential source of support that helps us to continue our groundbreaking work in vision care and research. This year, your donations had a direct impact on our mission, helping us recruit new faculty and purchase new equipment for our clinic and research laboratories. The following donors have contributed in meaningful ways to FEI between September 1, 2017 and March 31, 2018. Gifts can be designated to the Annual Fund and mailed to:

Lauren Dunkle, Associate Director of Clinical Programs, FEI, 300 E. River Road, PO Box 278996, Rochester, NY 14627.

Or make a gift online by going to eyeinstitute.urmc.edu and clicking on "Ways to Help".

CORPORATIONS

Bank of New York Mellon
Champion Moving & Storage
Ithaca Estates Realty, LLC
Peter Parts Electronics, Inc.
VanScoter Insurance Agency

FOUNDATIONS

Alvin F. & Ruth K. Thiem Foundation
American Endowment Foundation
Anonymous
Glover-Crask Charitable Trust
Max and Marian Farash Charitable Foundation
Pluta Family Foundation Inc.
UBS Foundation

INDIVIDUALS

Dr. Salman Ali '09 (Res)
Alvin B. Anderson and Mary Eleanor Anderson
David M. Appelbaum
Norman J. Aroesty
Andrew P. Asmodeo '14 (MS)
Dr. Dennis A. Asselin '81 (MD), '87 (Res) and Dr. Barbara Asselin '81 (MD)
Charles P. Bailey and Constance Bailey
Elton Ball and Nancy Ball
Peter Battisti
Steven G. Becker
Helen B. Beilman
Sara D. Bennett and John M. Bennett
Peggy R. Bennett
Mary Blankenberg and Stanley Blankenberg
Dr. Stephen M. Bloch '88 (MD) and Ms. Jennifer Gabler
Robert Bolton
Dr. Agneta D. Borgstedt '61 (Res)
Carol Bradshaw
Doris Braine '73 (MA)
Ronald L. Brand and Susan L. Brand
Harold A. Briggs
Karen S. Brown '77
Lynn M. Brussel '78, '85 (MBA)
Alex A. Buonanno and Irene A. Buonanno
Colin C. Campbell
Marie Cannarozzo
Joseph A. Cappella
Roger C. Carlin and Judith E. Carlin
Milburn Carney
Nicol D. Carr
Samuel R. Carson
Carol Casey
Paula M. Chapman
Mary V. Chen and William T. Chen
Dr. Steven S. Ching '74 (MD), '81 (Res) and Mary D. Ching
Dr. Shaena H. Choi '01 (Res)
Robert Coleman
Dr. Holly Hindman '15 (MPH), '08 (Flw) and Spencer J. Cook Jr.
Charlotte Cook
Jeffrey Cook
Sandra Copeland

Anthony Cotroneo and Susan Cotroneo
Susan W. Cringoli
Marilyn Cronin '61 (DPL) and Michael S. Cronin
Joseph Cutry and Gilda L. Cutry
Thomas Cutter
Richard Daeschner and Nelda Daeschner
John D'Amico Jr.
Martha J. Darling '51
Jody Davis
Sharon Davis
Concetta M. Dennison
Joseph A. Depaolis
Ann Di Cerbo
Dr. Jeremy B. Duda '08 (MD), '13 (Res)
Dr. Frederick Dushay '61 (Res)
Dr. Ann E. Dwyer
Joyce Ermer and E. Michael Ermer
Barbara Erwin and Richard Erwin
James Fabino
Mary A. Fasino
Christen Feiler '13 (MBA) and Dr. Daniel L. Feiler '13 (MD)
Dr. Steven E. Feldon and Diane A. Feldon
Rosario Ferrara
Gloria Fisher*
Eugene F. Fontana
Joseph E. Francis
Joseph J. Franklin
Harold French
Steven E. Gaylor '80, '15 and Margo S. Gaylor '80, '15
John R. Geraghty and Bonnie L. Geraghty
Dr. Carl Gerard and Nancy F. Gerard
Boris Fayn Girsh and Ludmila F. Girsh
Charlene Giudice
Steven H. Gleason and Carolyn M. Gleason
Dr. Maureen R. Goldman '90
Dr. Mithra Gonzalez '10 (Res)
Virginia Granzin and David Granzin
Donald D. Green '64 and Sally K. Green
Dr. Donald A. Grover '62, '66 (MD), '73 (Res) and Karen L. Grover
Suzanne Gruttadaro
Bruno Gugliotta and Mary Gugliotta
Robert H. Hachey
Karen L. Harmon
Orville P. Harris and Patricia T. Harris
Dr. Roland R. Hawes '49, '51 (MS) and Marie Jo Hawes
Dr. George H. Hawks III
Ruth A. Hedin and Jeffrey A. Hedin
Paul S. Heise and Laurie Heise
Helen W. Hemmer '50
Brian Hendrick and Heidi Hendrick
Charles Higgins and Joan Higgins
Agatha Hoffman
Geoffrey Holt
Frances A. Homuth
F. Lawrence Howe and Barbara B. Howe
Rusmir Hrnjicevic
Robert D. Hughes Jr. and Ann V. Hughes
Robert G. Hugo '70

William E. Hunt
Kathleen Bride and J. Gaven Hurley
Garson Hurwitz
Dr. Krystal R. Huxlin
Dr. Claudette James
Anita L. James
Charlotte E. Kantz '69 and Marcus E. Kantz '68
Joanna Kaufman
Lillian M. Keefer
Sandra J. Kennedy
Margaret Kittelberger and Robert L. Kittelberger
Joan D. Klafehn
Hildabeth Klein
Priscilla Knisley
Nancy N. Koch '63
Dr. Gary Kochersberger
Karen D. Kohl '98 (MBA)
Evelyn L. Krane '74 (EdM) and Joel N. Krane
Dr. Carolyn M. Kalsow and Richard W. Krause
Diana W. Kubick
Kathleen Kuhn
Debra Knych and Edward Kynch
Christine M. Lattuca
Ishbel E. Lennon and John Lennon
Pat Leone and Anne N. Leone
Theresa E. Leone P '88
Dr. Hobart Lerner '49 (Res) and Elinor Lerner
Houghton S. Leroy Jr. '70 and Kathleen A. Leroy
Stephen T. Lewis
Judy Lindsey
Linda L. Lintz
Suzanne M. Lorz
Delmina A. Loschi
Allen H. Lovell and Eleanor A. Lovell
Edward J. Lynd and Kathleen L. Lynd
William Lyon
Julia Magguilli
Donald J. Makely
Mohammad Malik
D. Fred Marshall '69 and Virginia E. Marshall
Mary A. Martin '77 (MA) and Christopher Martin
Samuel A. Martin and Phyllis L. Martin
Monica J. Mashewski
Albert A. Mayans '14 (MBA)
Virginia P. McEwen
Dr. Dana F. McGinn '84 (Res)
J. B. Merzel
Nancy H. Michel '50
Stephen Miller
Lawrence J. Mitchell and Margaret C. Mitchell
Krystyna Moldoch and Stanley Moldoch
Christine Monaco
Evan Monkemeyer
Peter Montana
Joseph Monterio and Bernadette Monterio

Sharon Moorman
Nicola Moretti
Thomas J. Morgan and Joan D. Morgan
Lucille C. Muench
L. V. Myers
Perry H. Myers '49
Dr. Darren A. Narayan
Dr. William H. Nesbitt '63
Linda Neumuth
Tina Neumuth
Dr. Marciana Nicolas-Dollard
James N. Nielsen and Ann S. Nielsen
Dr. Philip Niswander '83 (Res)
Dr. Charles G. Nitsche
Julia Norton
Anonymous
Shawn W. O'Connell '88
Marcia A. O'Connor
Clayton H. Osborne and Dorelis Osborne
Dr. Seth M. Pantanelli '03, '04 (MS), '09 (MD), '13 (Res) and Valerie Pantanelli
Gail J. Paraskevopoulos and Paul Paraskevopoulos
Pamela J. Paris and Andrew L. Paris III
Peter N. Parts
Lorena Patt
Stephen G. Peck
Genevieve Perednis
Rosemary Pescrillo and David Pescrillo
Mark R. Pignagrande
Margaret Pignato
Dr. Christine Platt '79 (PhD), '83 (MD), '87 (Res), '11 and Dr. Barry B. Platt, '80 (Flw), '11
Joy R. Plotnik
Baerbel Post
Mary Ann Puglisi-Martinez
Barbara Quattro and Dana P. Quattro
Hugh L. Ratigan and Norma T. Ratigan
Dr. David A. Redding
J. Michael Reed '99 (MBA) and Lori B. Reed
Paul J. Regan Jr. and Susan M. Regan
David L. Richards
Leonidas Rodriguez
William Roode
Joan M. Rosati
Lewis Rose
Janise Ross and Dr. Harold S. Ross
Patricia Roth and Kermit C. Roth
Wesley R. Rowe
Maxine M. Rude and Robert P. Rude
Dolores Rycenga
Joan Rydell
John L. Salzer '53 and Jan Salzer
Norman Sanders
Robert Sandholzer and Jeanne Sandholzer
Anthony J. Santo and Elaine M. Santo
Norma R. Saunders
Joseph L. Schmitt
William L. Schoff and Susan J. Schoff
Anton V. Schutz
Teresa Sedlacek and Steven Sedlacek
Arup Sen

*deceased

Jean A. Shafer '66 (MA)
Nagin A. Shah
Dr. Laurie C. Shin '01 (Res) and
Dr. Bryant J. Shin '02 (Res)
Carol D. Sick
Dr. Albert J. Simone and
Carole Simone
Dr. David F. Smith
John W. Smith
Scott R. Smith '86
Carol A. Smith and W. Jerome Smith
Frema Smolowitz
Dr. Michael C. Snyderman and
Dr. Zerline Tiu Snyderman
Alla H. Solberg and Tommy Solberg
Michael S. Speziale '62 and
Gerda M. Speziale
Donald H. Sproule
Gregory L. Stark '75 (MS)
Mary T. Stephens '59*
Susan D. Stoycon
Martha A. Sullivan

John H. Sutherland
Joan Swanekamp
Gary Tajkowski and Monica Tajkowski
Charles R. Timmons
Anthony Tubolino
Marianne Tuttle
Dorothy Van Norman '56
Dr. Gilden R. Van Norman '54*
Roque A. Venosa
Richard Wahl
Linda J. Gamo and John R. Walsh
Edna Watkins
Kimberly Welch
Kari M. Wendel
Carol S. Williams and
Ronald A. Williams
Lillie Winston
Gayl K. Worner
Richard S. Wroblewski
Xiaoling Xie '12 (MS) and Dr. Lin Gan
Carol Ann Yeaple
Laurence W. Yost '74

Mary C. Zangari
Mark G. Zawacki '12 (MBA) and
Nancy Zawacki
Barbara A. Zinker

NOT-FOR-PROFITS

American Geriatrics Society
Research To Prevent Blindness Inc.
United Way of Greater Rochester
United Way of the Southern Tier

*We offer special thanks to:
Bausch+Lomb, Research
to Prevent Blindness,
Glover-Crask Charitable Trust,
David & Ilene Flaum,
James & Catherine Aquavella,
and Lynn & Walter Lutz
for their sustaining support.*

Residents receive Snell Travel Awards

Each year, Rochester Area Community Foundation supports FEI resident education through its Albert C. Snell Memorial Fund. This charitable trust was established to honor the legacy of Albert Snell, Sr. In 1926, Snell established the division of ophthalmology in the department of surgery at Strong Memorial Hospital. Dr. Snell achieved international recognition for his pioneering work in industrial ophthalmology and routine screening of school-age children. He also organized the first Rochester graduate course in ophthalmology, held in 1930.

Each year FEI residents may apply to the Snell Fund to support travel grants. These grants allow them to attend and present their scientific research at the Association for Research in Vision and Ophthalmology conference. This year's meeting, held in Hawaii, included four FEI residents, **Andrew Chen, M.D.**, **Brandon DeCaluwe, M.D.**, **Rajinder Nirwan, M.D.**, and **Brittany Simmons, M.D.**

The travel awards were presented by Stephen Snell during the 63rd Rochester Ophthalmology Conference, which also features the Snell Memorial Lecture. The lecture honors the legacy of Dr. Snell, and the Snell and Kennedy families, and has been delivered by some of the most preeminent ophthalmologists in the world.

The Snell Fund is managed by the Rochester Area Community Foundation. Besides support for FEI it also provides funding for vision-related organizations such as the Association for the Blind and Visually Impaired.

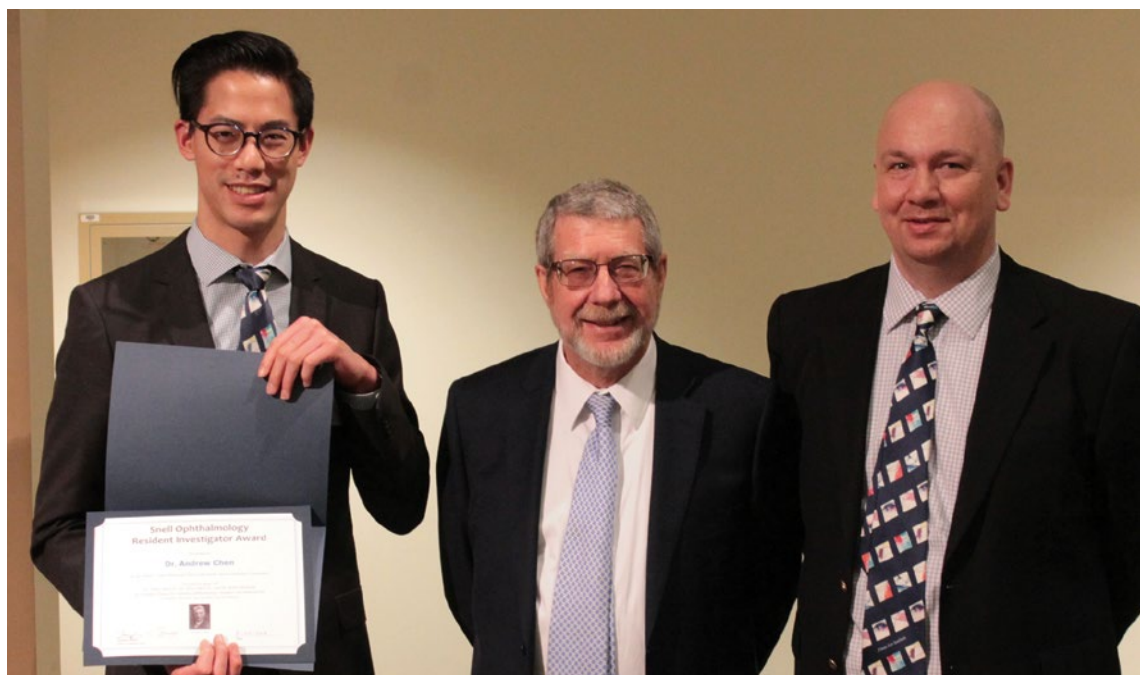


PHOTO LEFT TO RIGHT: ANDREW CHEN, M.D., STEVE SNELL AND BENJAMIN HAMMOND, M.D.

FACULTY PRACTICE

Comprehensive Eye Care

Shobha Boghani, M.D.
Jessica daSilva, O.D.
Anthony Dell'Anno, O.D.
Michael DePaolis, O.D.
Brooke Donaher, O.D.
Christian Klein, M.D.
Sarah Klein, O.D.
Rebecca Nally, O.D.
Anand Rajani, D.O.
Harold Ross, M.D.
Robert Ryan, O.D.
Chester Scerra, O.D.
Melanie Shearer, O.D.
Tara Vaz, O.D.
Cathy Yuen, O.D.

Contact Lens Services

Jessica daSilva, O.D.
Anthony Dell'Anno, O.D.
Michael DePaolis, O.D.
Brooke Donaher, O.D.
Sarah Klein, O.D.
Rebecca Nally, O.D.
Robert Ryan, O.D.
Chester Scerra, O.D.
Melanie Shearer, O.D.
Tara Vaz, O.D.
Cathy Yuen, O.D.

Cornea and External Disease

James V. Aquavella, M.D.
Naveen Mysore, M.D., Ph.D.
Ronald Plotnik, M.D., M.B.A.
Rachel Wozniak, M.D., Ph.D.

Glaucoma/Anterior Segment

Shakeel Shareef, M.D.
Regina Smolyak, M.D.

Neuro-Ophthalmology and Orbit

Steven Feldon, M.D., M.B.A.
Alexander Hartman, M.D.
Zoë Williams, M.D.

Oculofacial Plastics

Steven Feldon, M.D., M.B.A.
Mithra Gonzalez, M.D.

Pediatric Ophthalmology

Matthew Gearinger, M.D.
Benjamin Hammond, M.D.

Refractive Surgery

Kenneth Dickerson, O.D.
Scott MacRae, M.D.
Naveen Mysore, M.D., Ph.D.
Rachel Wozniak, M.D., Ph.D.

Retina and Vitreous

Angela Bessette, M.D.
Mina Chung, M.D.
David DiLoreto, M.D., Ph.D.
David Kleinman, M.D., M.B.A.
Ajay Kuriyan, M.D.
Rajeev Ramchandran, M.D., M.B.A.

Uveitis

Angela Bessette, M.D.

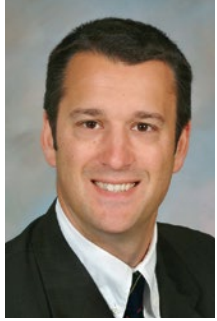
Veterans Services

Shobha Boghani, M.D.
Regina Smolyak, M.D.

RESEARCH FACULTY

Lin Gan, Ph.D.
Jennifer Hunter, Ph.D.
Krystal Huxlin, Ph.D.
Amy Kiernan, Ph.D.
Richard Libby, Ph.D.
William Merigan, Ph.D.
Gary Paige, M.D., Ph.D.
Richard Phipps, Ph.D.
Jesse Schallek, Ph.D.
Ruchira Singh, Ph.D.
Silvia Sörensen, Ph.D.
Duje Tadin, Ph.D.
David Williams, Ph.D.
Geunyoung Yoon, Ph.D.
Jim Zavislan, Ph.D.

Promotions



David DiLoreto, Jr., M.D., Ph.D., was promoted to Professor of Ophthalmology by the University of Rochester School of Medicine and Dentistry. DiLoreto joined FEI in 2001 and helped establish the Retina service. As a member of the faculty, he has been recognized for his clinical expertise and active participation in clinical and scientific research and publication. DiLoreto has also been a

key contributor to FEI's educational mission through teaching residents, medical students and ophthalmic technicians, and as one of the founders of FEI's retina fellowship. He has recently taken an active role in clinical management and plays an important part in strategic planning. DiLoreto is a graduate of the University of Rochester School of Medicine and Dentistry, completed his ophthalmology residency at the University of Southern California, and a fellowship in Retina at Johns Hopkins University as a Heed Ophthalmic Fellow.



Mithra Gonzalez, M.D., was promoted to Associate Professor of Ophthalmology by the University of Rochester School of Medicine and Dentistry. Gonzalez is part of FEI's oculofacial plastics and orbital service. He also plays an active role in resident education, medical student education and is co-president of FEI's alumni association. He participates in research through

clinical trials and trains other ophthalmologists at live courses offered through the American Academy of Ophthalmology. He received his medical training from the University of Iowa and came to the University of Rochester to complete his ophthalmology residency at FEI. He left to pursue an American Society of Ophthalmic Plastic and Reconstructive Surgery Fellowship at the University of Colorado and returned to join the faculty in 2013.

Eye Institute welcomes new patients through Lifetime Health acquisition

In December, regional medical provider Lifetime Health announced to more than 43,000 patients that it would cease operations on January 1, 2018. As a result, Lifetime's Rochester area practices were sold to UR Medicine and Rochester Regional Health.

More than 7,000 Lifetime patients, who had been receiving eye care at two multi-specialty practices, became the responsibility of FEI. Before the acquisition was completed, a UR Medicine team put together a detailed plan to inform patients of the change to their care and welcome them into nearby existing FEI locations. Accomplishing this included hiring additional faculty and retaining Lifetime's optical and technical staff.

"We are grateful to have Lifetime vision care patients join the FEI family," Clinical Operations Director **Brenda Houtenbrink** said. "Change is difficult, especially when you are losing the familiarity of a medical office. We expect the entire transition may take as much as two years. Our goal during this time is to remain in contact with our newly acquired patients, answer their questions, and build their confidence in the vision services of the Flaum Eye Institute."



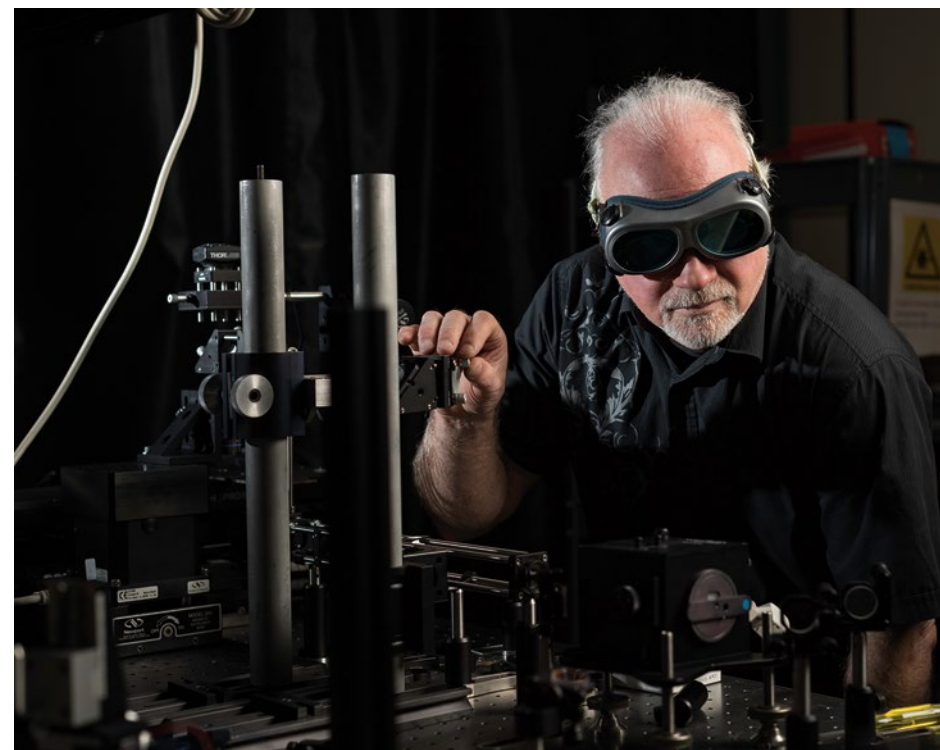
Jennifer Hunter, Ph.D., was promoted to Associate Professor of Ophthalmology with Tenure by the University of Rochester School of Medicine and Dentistry. Hunter's research involves understanding the mechanisms of light-induced retinal damage and developing non-invasive fluorescence imaging techniques to study retinal function in healthy and diseased

eyes. Hunter has published numerous peer-reviewed manuscripts, presented scientific posters and also trained fellows, graduate students and undergraduate students. She has received multiple research grants from the National Institutes for Health and private foundations to pursue her scientific interests. Hunter completed her undergraduate training in physics and graduate training in physics and vision science at Canada's University of Waterloo. She came to Rochester as a Post-Doctoral Research Associate at the University of Rochester's Center for Visual Science before joining the FEI faculty. She is an active member of the International Society of Optics and Photonics and heads the University of Rochester's Advanced Retinal Imaging Alliance.

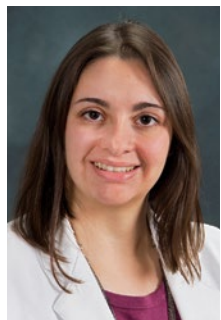


Richard Libby, Ph.D., was promoted to Professor of Ophthalmology with Tenure by the University of Rochester School of Medicine and Dentistry. Libby researches glaucoma as a member of FEI's basic science faculty. He is distinguished by an impressive record of scholarly publication and has received numerous grants from the National Eye Institute and

private research foundations. Libby has also trained dozens of fellows, graduate students and undergraduate students who continue to pursue cutting-edge research. For his efforts, he received the University of Rochester School of Medicine & Dentistry's Trainee Academic Mentoring Award in Basic Science. Recently he was honored by the Glaucoma Research Foundation which awarded him the Sheffer Prize for Innovative Glaucoma Research. Libby earned his doctorate in biology at Boston College. He completed a post-doctoral fellowship at Jackson Laboratory and joined FEI's faculty in 2005.



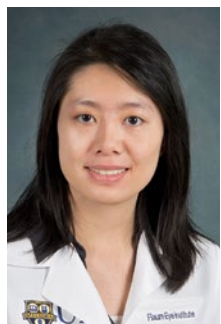
A trio of optometrists recently joined FEI's well eye care services. Each of them provides routine eye exams, monitoring for eye disease, prescribing spectacles and fitting contact lenses. In addition, they refer patients to general ophthalmologists and subspecialists, depending on their diagnoses, and co-manage patients who may require surgery for corneal disease, glaucoma, cataracts and retinal disease. They also form the backbone of FEI's new triage service, which provides same-day care for patients with urgent eye problems who require immediate attention, but not an emergency room visit.



Jessica daSilva, O.D., is a native of the Finger Lakes who completed her undergraduate degree at the State University of New York at Geneseo. She Completed her Doctorate of Optometry at the Pennsylvania College of Optometry, where she performed clinical externships in neuro-optometry, and general optometry. daSilva also has extensive experience providing eye care to veterans. She is a member of the American Academy of Optometry, the New York State Optometric Association and the National Association of Veterans Affairs Optometrists.



Brooke Donaher, O.D., earned her undergraduate degree in biology at the University of Vermont. She completed her Doctorate of Optometry at the Pennsylvania College of Optometry and performed clinical internships in ocular disease, low vision rehabilitation, contact lens, and primary eye care in private practice and throughout the VA system. She went on to complete a residency in ocular disease and low vision at the Jesse Brown VA in Chicago. She is a Fellow of the American Academy of Optometry and sees patients at our Brighton and main campus locations.



Cathy Yuen, O.D., received her undergraduate degree at the State University of British Columbia in Vancouver, Canada, and completed her Doctorate of Optometry at the Pacific University College of Optometry. She received additional training through internships in the Veterans Administration and the University of Miami's Bascom Palmer Eye Institute. She went on to complete a residency in ocular disease at the State University of New York College of Optometry. She sees patients at FEI's Brighton and College Town locations. Yuen is fluent in Chinese.

NIH: Yoon grant studies how vision is processed

Research shows that the individual optics of each eye can limit how well we see. FEI professor of Ophthalmology, **Geunyoung Yoon, Ph.D.**, is a leading expert in optics related to visual function. He recently received a \$ 2.2 million grant from the National Institutes of Health (R01EY014999) to study how differences between the optics of each eye caused by corneal defects affect how the eyes work together. This binocular vision provides the important benefit of depth perception. It can also improve upon the quality of monocular vision by contributing to contrast sensitivity, flicker perception and brightness perception.

In previous research, Yoon and his associates demonstrated that binocular visual functions are strongly determined by interactions between the optics of each eye and the brain. Yoon proposes to better understand the relationship between optics of the eye and the brain by studying patients with a disease called keratoconus. In keratoconus, patients' corneas, which are responsible for most of the eyes' focusing power, are extremely distorted. This results in the projection of poorly focused images onto the retina that the brain then processes into the perception of vision.

Using an innovative binocular adaptive optics vision simulator and customized contact lenses developed at the University of Rochester, Yoon can correct even the most distorted ocular optics. With these tools, he

intends to investigate the short-term and long-term effects of correcting the optics of study subjects. By changing the focusing ability of these highly aberrated eyes, Yoon hopes to characterize the quality of binocular

vision achieved by patients with poor optics. He also hopes to understand how the brain, over time, adapts to poor optics and how this affects binocular vision. Finally, Yoon will assess the extent to which binocular vision can be improved in patients who have become used to poor optics and how much they can adapt to corrected optics. Successful completion of these aims will produce fundamental insights into ocular optics and how corrective measures affect the binocular neural adaptive process.

GEUNYOUNG
YOON, PH.D.,
PROFESSOR OF
OPHTHALMOLOGY



Knox honored for ingenuity

Professor of optics and frequent FEI collaborator **Wayne Knox, Ph.D.**, was recently elected to the National Academy of Inventors. Knox was chosen for demonstrating a "highly prolific spirit of innovation in creating or facilitating outstanding inventions that have made a tangible impact on the quality of life, economic development, and the welfare of society."

Knox has been awarded 50 patents in the U.S. and more than 100 worldwide. His most recent work includes multiple patents related to using ultra-fast lasers to non-invasively correct vision. The technology, which may soon be headed to clinical trials, could usher in a sea change in vision correction.

Clinician-scientist receives career development award to knock out eye infections

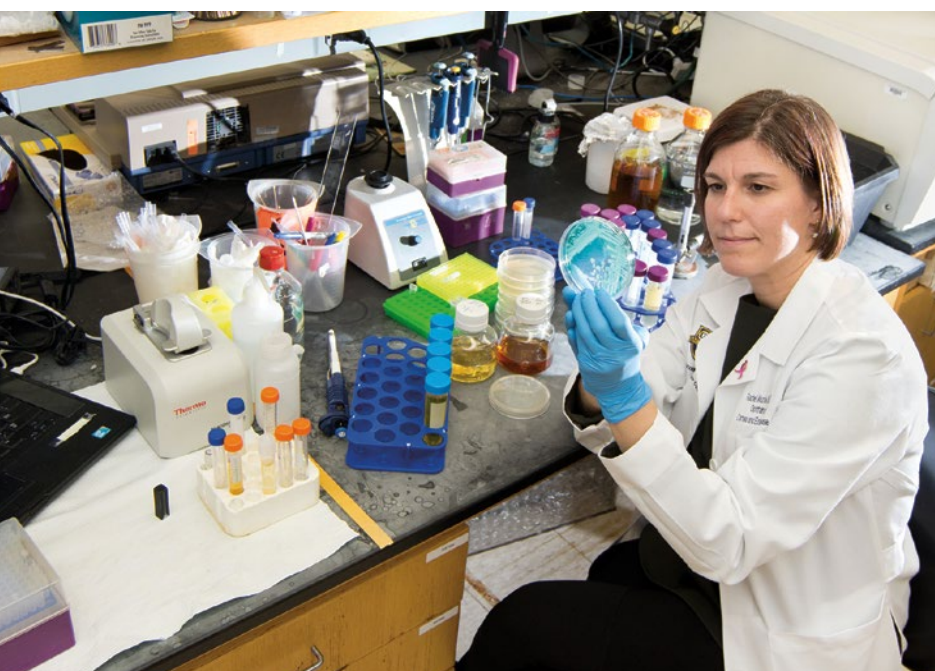
Rachel Wozniak, M.D., Ph.D., received a National Institutes for Health research career development award to study ways of better fighting bacterial keratitis, one type of potentially blinding eye disease. This is an infection of the cornea – the clear window of the eye – that can progress quickly. The condition is often associated with improper use and cleaning of contact lenses but can have other causes. The most common bacteria involved are *Pseudomonas aeruginosa* and *Staphylococcus aureus*.

In its worst form, bacterial keratitis can cloud the cornea, causing loss of sight and requiring a subsequent corneal transplant. Currently, eye doctors treat the condition with powerful antibiotics. However, rising resistance to FDA-approved antibiotics, and limited industry-driven development to create new ones, has raised an alarm in clinical practice. The bacteria may be winning the battle.

Wozniak has already demonstrated the promise of treating bacterial keratitis with the synergistic combination of two FDA-approved antibiotics, rifampicin and polymyxin B/trimethoprim (PT). In culture, rifampicin+PT displays a powerful effect against bacteria that cause infection and reduces their propensity to develop resistance.

With the \$1 million grant, Wozniak proposes to advance this research from her lab to the clinic with efficacy studies. Ultimately she hopes to move this combination of drugs towards the FDA's fast track approval process in order to get the new treatment into the hands of clinicians.

With the help of research mentor, **Paul Dunman, Ph.D.**, Wozniak also plans to develop a high throughput screening library of new compounds against *Pseudomonas aeruginosa* and *Staphylococcus aureus* in order to identify a next generation of ophthalmic antibiotics. In addition to developing the library, she hopes to identify genetic tools that will improve our understanding of the genes and molecular pathways involved in causing keratitis. Both of these efforts may be important in developing new treatments for infectious eye disease.



Prestigious grant to fund innovative research in eye disease

A common mechanism for vision loss in glaucoma is the death of nerve cells that transmit visual information from the eye to the brain. University of Rochester of Rochester Professor of Neurology, **Maiken Nedergaard, M.D., D.M.Sc.**, received a Stein Innovation Award from Research to Prevent Blindness to study how a recent discovery related to brain function that she made may be linked to the progression of glaucoma.

The glymphatic system that Nedergaard discovered is a network of channels occurring around blood vessels in the central nervous system. It plays a critical role in healthy brain function through regulating chemical balance (homeostasis) by eliminating waste and transporting important compounds. When the network is not working properly in the brain, it may contribute to the development of neurodegenerative diseases, such as Alzheimer's.

Little is known about the role the glymphatic system plays in eye health other than it is present in the retina, where the nerve cells that die in glaucoma occur. Nedergaard proposes to study the role that the glymphatic system plays in the eye by using a model of glaucoma developed by FEI's **Richard Libby, Ph.D.** They intend to explore how the glymphatic system functions in maintaining the health of the nerve cells lost in glaucoma. By understanding this fundamental biology, they think it may be possible to manipulate the glymphatic system to prevent vision loss – not only in glaucoma, but in other disorders such as diabetic retinopathy and age-related macular degeneration.

RPB Stein Innovation Awards provide funds to researchers with a common goal of understanding the visual system and the diseases that compromise its function. These awards are intended to provide seed money to encourage high-risk/high-gain vision science research which is innovative, cutting-edge, and demonstrates out-of-the-box thinking.

PUBLICATIONS:

FEI faculty and residents share their findings with colleagues across ophthalmology and vision science. Scholarly publication is at the heart of making new discoveries and education. A recent sampling of FEI publications include:

"Antifibrotic actions of peroxisome proliferator-activated receptor α ligands in corneal fibroblasts are mediated by β -catenine regulated pathways."

Kye-Im, Jeon, et al. *The American Journal of Pathology*. Volume 187, Issue 8. August, 2017

"Feature-based attention potentiates recovery of fine direction discrimination in cortically blind patients." Cavanaugh, Matthew et. al. *Neuropsychologia: In-Press, Available Online*; December 2017.

"In vivo adaptive optics ophthalmoscopy correlated with histopathologic results in cancer-associated retinopathy." Williams, Zoe et. al. *Ophthalmology Retina*. Volume 2, Number 2. February, 2018

"Controlled elevation of intraocular pressure and its impact on ocular aberrations in healthy eyes." Xu, Mengchen et. al. *Experimental Eye Research*. Volume 171. March, 2018

"Role of SARM1 and DR6 in retinal ganglion cell and somal degeneration following axonal injury." Fernandes, Kimberly et. al. *Experimental Eye Research*. Volume 171. March, 2018



RUCHIRA SINGH,
PH.D.

Macular degeneration is the leading cause of vision loss in older adults, but scientists have long struggled to replicate key elements of the disease in the lab. A study published in the Proceedings of the National Academy of Sciences is the first to demonstrate hallmarks of macular degeneration in a new human stem cell model developed by Flaum Eye Institute Assistant Professor of Ophthalmology, **Ruchira Singh, Ph.D.**

This model could make whole new avenues of macular degeneration research possible and has helped Singh's team hone in on some possible drug targets for the disease.

Though macular diseases can vary widely, age-related and similar inherited macular degenerative diseases are all characterized by buildup of debris in the retina, the light sensing tissue in the back of the eye that is crucial for vision. These deposits, called drusen, are specifically found beneath a layer of retinal pigment epithelium (RPE) cells, which are known to be key players in macular degeneration.

To create their model, Singh's team collected skin cells from patients with genetic forms of macular degeneration, re-programmed them into stem cells, and used the stem cells to make RPE cells. RPE cells derived from patients mimicked several characteristics of macular degeneration when they were aged in a dish, like producing the hallmark deposits.

Using this model, Singh's group showed for the first time that dysfunctional RPE cells, can cause specific aspects of macular degeneration on their own – without the help of other cells or components of the retina. This was true for cells derived from patients with three different genetic forms of macular degeneration, suggesting RPE cell dysfunction could be central to multiple forms of the disease.

Singh's model also identified a group of molecules in RPE cells that could be targeted by new macular degeneration drugs.

"Now we can identify and test a rational drug therapy in patients' own cells," Singh said. "So far, this has not been possible, but now we can actually study macular diseases in parallel and identify what might be the central defect across them."

Singh believes this study will help move the field of macular degeneration research toward developing drugs that target RPE cells while providing a better way to screen those drugs. Though this work is early, the team hopes it will lead to an effective treatment for macular degeneration in the future.

CLINICAL TRIALS:

Volunteering for a clinical research study is one of the greatest things a person can do to advance medicine. Clinical trials allow doctors and scientists to evaluate new ways to prevent, detect, or treat disease. Although these studies offer no guarantee for cure, they are one of the cornerstones for nearly every single breakthrough in medicine. Each is rigorously conducted, following the highest patient safety protocols. FEI offers participation in the following studies:

- ⊙ Quark QRK207: A phase 2/3, randomized, double masked, sham-controlled trial of QPI-1007 delivered by single or multi-dose intravitreal injection(s) to subjects with acute nonarteritic anterior ischemic optic neuropathy (NAION). (*Z. Williams, M.D.*)
- ⊙ PEDIG C02: A randomized clinical trial of observation vs. occlusion therapy for intermittent exotropia. (*B. Hammond, M.D./M. Gearinger, M.D.*)
- ⊙ Clerio Vision: Refractive-index shaped wavefront corrector study: Evaluation of refractive-index shaped wavefront correctors (*S. MacRae, M.D.*)
- ⊙ Lumetrics retinal imaging camera: Assessment of prototype hand-held fundus camera. (*D. Kleinman, M.D.*)
- ⊙ Massachusetts Eye and Ear Infirmary (Department of Defense): A phase I/II prospective, randomized, multicenter, double-masked, vehicle-controlled clinical trial to evaluate the safety and efficacy of corneal collagen cross-linking of keratoprosthesis carrier tissue in high-risk keratoprosthesis implantation. (*J. Aquavella, M.D., R. Wozniak, M.D., Ph.D.*)
- ⊙ Novartis HAWK extension: A 24-week, double-masked, multicenter, two-arm extension study to collect safety and efficacy data on brolucizumab 6 mg drug product intended for commercialization in patients with neovascular age-related macular degeneration who have completed the CRTH258A2301 study. (*D. DiLoreto, M.D., Ph.D.*)
- ⊙ Novartis RAINBOW extension: An extension study to evaluate the long term efficacy and safety of ranibizumab compared with laser therapy for the treatment of infants born prematurely with retinopathy of prematurity. (*M. Chung, M.D.*)

FEI first in New York to implant "bionic eye"

the device on September 24th.

The Argus II device, made by Second Sight, works by converting images captured by a miniature video camera mounted on a patient's glasses into a series of small electrical pulses, which are transmitted wirelessly to an array of electrodes that are implanted on the surface of the retina. These pulses stimulate the retina's remaining cells, resulting in the perception of patterns of light in the brain. The patient then learns to interpret these visual patterns, thereby regaining some visual function.

The optoelectronic device restores vision by allowing people to see contrast, such as a doorway or a light-colored dish on a dark table, in addition to motion.

"We dedicate our careers to restoring and improving vision and preventing vision loss. The ability to help someone who couldn't see before begin to see again is very rewarding," Chung, said. "When she reached out and grabbed Dr. Kuriyan's hand, and they kind of held hands together, that was pretty exciting. I think it's going to be an amazing advance for her."

Once the device was activated, Rahman began what will be months of vision training to maximize her ability to interpret the signals as useful sight. A year or more may pass before Kuriyan and Chung know the full extent of Rahman's vision as she adapts to the Argus. But both doctors felt that Rahman would be the ideal first patient to receive the device because of her determination.

"This isn't something that automatically works because we turned it on. It takes a lot of effort on the part of the patient to maximize its use," Kuriyan said. "Throughout her care, Mrs. Rahman has been diligent and dedicated, which is serving her well in training."

When she turns the device off, her vision reverts

to how it was before the surgery, a hazy darkness.

She uses her Argus a couple hours a day and hopes to turn it on full-time as the training progresses. After Rahman returned home, she was able to see a chair and other objects she had not been able to see before the implant. She can now see the outlines of doors and hallways, too.

"This is kind of a thrill to me," she said.

With continued visual training, Kuriyan feels hopeful that Rahman will grow



increasingly confident in her ability to use the device. He noted that she will never see a face, but reports that other patients have been able to recognize large letters, detect other people in a room and identify curbs and sidewalks.

Perhaps she'll even return to riding the bus using just a cane and go shopping independently.

"With practice I will see more," she said.



Second Sight

Argus II

is currently approved and intended for use in patients with severe to profound retinitis pigmentosa (RP) who meet the following criteria:

- Adults, age 25 years or older
- Bare light or no light perception in both eyes. (If the patient has no residual light perception, then evidence of intact inner layer retina function must be confirmed.)
- Previous history of useful form vision.
- Aphakic or pseudophakic. (If the patient is phakic prior to implant, the natural lens will be removed during the implant procedure.)

Patients who are willing and able to receive the recommended post-implant clinical follow-up, device fitting, and visual rehabilitation.

The device, implantation surgery and retraining costs approximately \$150,000 and is covered in part by Medicare.



MINA CHUNG, M.D.



AJAY KURIYAN, M.D.

Main Campus Patient Care:

(585) 273-3937 (EYES)

LASIK: (585) 273-2020 ■ **Clinical Trials:** (585) 276-8734 ■ **Research Laboratories:** (585) 273-2609

Brighton: (585) 271-2990 ■ Geneva: (315) 788-4922 ■ Webster: (585) 671-3300 ■ Collegetown: (585) 273-3937

www.EyeInstitute.urmc.edu

Senior residents on the move

As graduation approaches, FEI third-year residents look forward to the next chapters in their careers in ophthalmology. We wish them well as they continue their training or enter private practice and hope that they will remember their time in Rochester with fondness:



Brandon DeCaluwe, M.D., will pursue a fellowship in cornea, external disease and refractive surgery at the University of Southern California's Roski Eye Institute.



Kevin Kirk, M.D., will enter private practice in Richfield, Utah, joining the team at Central Utah Eye.



Joon-Boom Kim, M.D., is heading to Seattle where he will begin a uveitis fellowship at the University of Washington.



Brittany Simmons, M.D., after a short break, will be joining the University of Iowa where she will begin her fellowship in oculofacial plastics.

63rd Rochester Ophthalmology Conference re-cap

More than 250 physicians, ophthalmology residents, optometrists, medical students and allied health professionals came to the University from throughout the region for the Annual Rochester Ophthalmology Conference. This year's meeting included an inspiring Snell Memorial Lecture about retinal vein occlusions delivered by **Julia Haller, M.D.** (Ophthalmologist-in-Chief at Wills Eye Hospital). **Terrence O'Brien, M.D.** (Professor and Charlotte Breyer Rogers Chair in Ophthalmology at Bascom Palmer Eye Institute) gave the Billitier Family Distinguished Professor Lecture which also drew rave reviews. FEI extends sincere thanks to all the guest speakers and FEI faculty for an outstanding program. We are also grateful to the attendees, exhibitors and underwriters who support this meeting. Please mark your calendars for **March 29-30, 2019** when the conference turns 64.

FEI is busy recruiting ophthalmology's best teachers for the **2019 Distinguished Visiting Professor Series**. We have scheduled the following dates and will be announcing speakers as we confirm them:



September 22, 2018

October 20, 2018

November 17, 2018

December 15, 2018

February 16, 2019

March 29-30, 2019
(Rochester Ophthalmology Meeting, tentative)

June 22, 2019

University of Rochester and FEI faculty, residents, medical students and graduate students again distinguished themselves at the Association for Research in Vision and Ophthalmology meeting. This conference, important to vision research, presents cutting-edge information related to the detection, prevention and curing of eye disease. Among the presentations were:

- *Molecular imaging of the retina in health and disease*, **Jesse Schallek, Ph.D.**
- *Adaptive optics scanning light ophthalmoscopy demonstrates fluorescence in the parafoveal annulus of retinitis pigmentosa patients localizes to photoreceptors*, **Andrew Chen, M.D.**
- *Camera based screening in diabetic retinopathy at primary care clinics*, **Rajeev Ramchandran, M.D., M.B.A.**
- *Two-photon autofluorescence kinetics of photoreceptors are slowed during systemic hypoxia*, **Sarah Walters, Ph.D. student**
- *Intravitreal HC-HA/PTX3: A potential novel therapy for proliferative vitreoretinopathy*, **Ajay Kuriyan, M.D.**
- *Delineating the role of local vs. systemic influences in AMD and related macular dystrophies: An hiPSC approach*, **Ruchira Singh, Ph.D.**
- *The role of prostaglandins in floppy eyelid syndrome*, **Brittany Simmons, M.D.**
- *Orientation specific impairment in contrast sensitivity following long-term neural adaptation to optical blur in keratoconus*, **Janet Hrdina, Graduate Student**
- *Chronic neural adaptation to habitual ocular optics alters neural processing*, **Guenyoung Yoon, Ph.D.**

Flaum Eye Institute

210 Crittenden Blvd.
Box 659
Rochester, NY 14642

www.EyeInstitute.urmc.edu
585 273-EYES

FEI participates in important national dry eye study – results released

FEI was a participant in National Eye Institute's Dry Eye Assessment and Management (DREAM) Study. This multi-center clinical trial was designed to track the effect of fish oil supplements on dry eye. Participants were selected based on their clinical presentation of dry eye disease. DREAM patients were then randomized into two groups. One group received an omega-3 fish oil supplement and the other received a placebo containing olive oil.

Over the course of the twelve-month study, DREAM participants were seen at intervals and their dry eye was subjectively tested. All participants were allowed to continue taking any previous medications for dry eye – including artificial tears and prescription anti-inflammatory eye drops – because omega-3 supplements are generally considered adjunctive (add-on) therapy to a normal regimen. This was done to best simulate a real-world environment.

After treatment researchers concluded that there was no significant difference between the group that received omega-3 supplements and the olive oil placebo, publishing their findings in the *New England Journal of Medicine*. The study's chair, **Penny Asbell, M.D.**, said in a press release that "The results of the DREAM study do not support use of omega-3 supplements for patients with moderate to severe dry eye disease."

The report from this study focuses on the therapeutic effects of omega-3 fish oil supplements vs. a placebo as related to cases of moderate to severe dry eye only. Patients seeking adjunctive or non-traditional treatments should always consult a qualified medical professional. Information related to adjunctive therapies can be found at the National Institutes for Health's National Center for Complementary Care's website.

FEI photographers win awards

Ophthalmic photography and imaging plays an important role in diagnosing and treating eye disease. Thanks to a partnership between FEI and the Rochester Institute of Technology's biomedical photography program, Rochester is world-reknowned as a hotbed for developing ophthalmic imaging careers. The Ophthalmic Photographer's Society recently recognized four FEI photographers for their outstanding work that was recently displayed at the American Society for Cataract and Refractive Surgeons' annual meeting held in Washington, D.C. They are:

Amber Kates, C.O.A., O.C.T.-C., C.R.A.: *first place* – Gonio Photography

Brittany Bateman, C.O.A., O.C.T.-C., C.R.A.: *second place* – Gonio Photography

Jenny Kellogg, C.O.M.T., C.R.A.: *honorable mention* – OCT; *honorable mention* – Surgical Photography

Brittany Richardson, C.O.A., O.C.T.-C., C.R.A.: *second place* – Fluorescein Angiography



FIRST PLACE – GONIO PHOTOGRAPHY

A sense of relief (CONTINUED FROM PAGE 3)

"It was like, whoa!" Matson said. "Everything came into focus. I never thought that my vision would ever be this crystal clear, and the extreme discomfort was gone. I could see the same as before, and all of the sudden I could do the things that I had missed so much, like watching a game or reading the *Wall Street Journal*. I call them my 'bionic eyes' because I can see so far with them."

Matson wears the devices for about 10 hours each day before she needs to take a break from them. She is slowly returning to another essential activity, driving. Prior to PROSE, she hadn't been behind the wheel in over two years. But recently, she has been taking short trips including driving her mother to medical appointments and attending family events near her Southern Tier home.

During the course of her treatment, she developed an appreciation for vision and for the Flaum Eye Institute.

"I no longer take the little things for granted," she stated. "When you have eye problems as severe as mine, you become terrified of what you might lose. Having something like Flaum right in your backyard is phenomenal. I came here in the worst possible way and they took care of me. I have complete faith that FEI can handle anything."

The Matson family recently experienced another eye emergency requiring the services of FEI. Her mother suffered a retinal detachment and they turned to **David DeLoreto, M.D., Ph.D.**, to perform the sight saving surgery. Today Matson always carries an extra PROSE brochure in her purse and never hesitates to recommend FEI to anyone suffering with vision problems.