

RETINA RESEARCH FOUNDATION NEWSLETTER

Foresight for Sight

August 2015

Issue Number 2 / Volume 37

Retina Research Foundation Newsletter is published three times per year: Spring, Summer and Fall.

Retina Research Foundation Luncheon



*Paul Klotman, MD
RRF Lecturer*

Paul Klotman, MD
RRF Lecturer at the 46th Anniversary Luncheon
May 13, 2015

The RRF Luncheon has always served a dual purpose: to highlight new advances in science or academics and to bring together the leaders, supporters, and friends of the Foundation. Following a long tradition of inviting speakers who are outstanding leaders of the academic and medical community, this year RRF was pleased to welcome Dr. Paul Klotman.

Dr. Klotman is President, CEO and Executive Dean of Baylor College of Medicine in Houston. He oversees the only private health science university in the Greater Southwest, with research funding of nearly \$400 million.

Dr. Klotman's presentation as RRF Lecturer, titled "*Innovations in Academic Medicine*," focused on the four missions of Baylor College of Medicine: clinical, research, education, and community.



Malcolm Wooley, Ames Smith, and Dr. Sam Wu



*Frank Eggleston, DDS, RRF Chairman
and Alice McPherson, MD, RRF President*

RRF Tour of Retina Research Laboratory, Baylor College of Medicine



Retina Research Laboratory, Baylor College of Medicine

On March 25, 2015, eleven RRF Board members took a tour of the Retina Research Laboratory in the Department of Ophthalmology, located on the third floor of the Neurosensory Center, Baylor College of Medicine. The special organized event was hosted by **Tim Stout, MD, PhD**, Chair, Department of Ophthalmology, Baylor College of Medicine; **Ching-Kang Jason Chen, PhD**, RRF Chair and Professor of Ophthalmology; and **Sam Wu, PhD**, Professor of Ophthalmology and RRF supported scientist for the past 33 years.

The newly renovated Retina Research Laboratory (over 4,000 sq. ft.) consists of the research labs of Dr. Chen, Dr. Wu, and Dr. Benjamin Frankfort. The laboratory was designed to study the ins and outs of retina functions that cover a broadest possible range of light intensities. The construction was completed in the spring of 2014, and was fully staffed and all state-of-the-art equipment installed in the summer. **All aspects of modern retinal research endeavors at the electrophysiological, behavioral, biochemical, surgical, and genomic levels can be conducted therein.**

The three investigators generate, characterize, and distribute animal models of congenital stationary night blindness, bradyopsia, glaucoma, and hereditary and acquired photoreceptor degeneration. The laboratory contains **18 dark-rooms** for behavioral testing and for various electrophysiological recordings of retinal neurons in total darkness. As retina functions under both starlight and sunlight, under red or infrared illumination, these darkrooms allow retina responses initiated by rod and/or cone photoreceptors to be studied. The laboratory also contains **five larger and so-called specialty rooms** and **six full bench islands** for molecular biology, biochemistry, immunohistochemistry, and molecular genetic experiments.



Touring the Retina Research Laboratory

The guests toured the lab and participated in ongoing work in four demonstration stations, two in the dark rooms and two in the specialty rooms. Two demonstrations were conducted under dim red illumination to enhance retina light responses and to protect our extremely light sensitive equipment.

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“Thanks to the generous long-term support from the Retina Research Foundation, this laboratory is one of the most comprehensive, best-designed and well-equipped retinal research laboratories in the world.”

Dr. Wu and Dr. Chen



Chen Lab: Daniel Catt demonstrates Confocal Microscopy, a technique to obtain the dendritic morphology of a retinal neuron



One of the six full bench islands

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Retina Research Foundation is dedicated to the eradication of retina disease through programs in research and education.

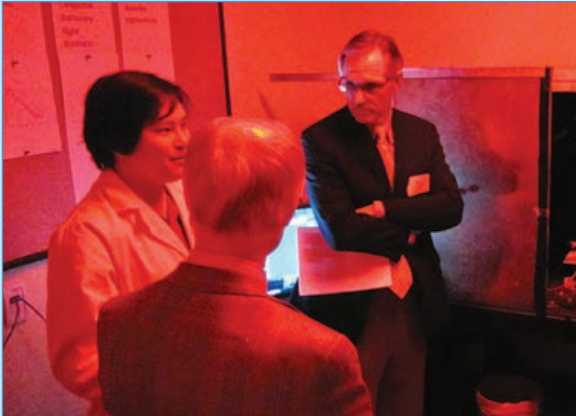
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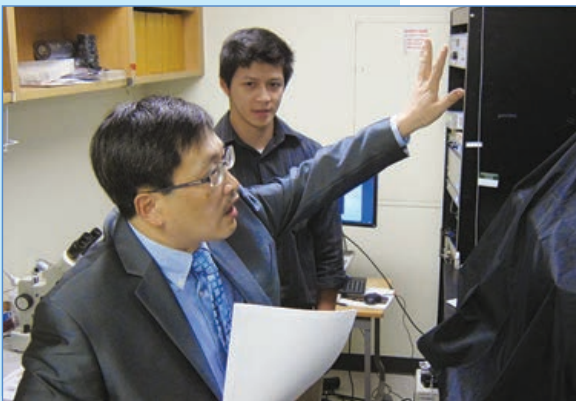
Dr. Jason Chen and Dr. Frank Eggleston



Wu Lab: Rob Seilheimer demonstrates Light Responses of Single Neural Neurons, a typical way of assessing retina function by examining changes in electrical currents initiated by a flash of light



Wu Lab: Dr. Dennis Tse demonstrates Mouse Electrorretinography (ERG), which is a non-invasive and convenient way of assessing retina function in living organism



Chen Lab: Dr. Chen and Viet Chau demonstrate Two-photon Microscopy, a technique to visualize genetically marked neurons without bleaching the retina



Dr. Tim Stout, Dr. Jason Chen, Dr. Alice McPherson, and Dr. Sam Wu

A Tribute to 45 Years

McPherson Eye Research Institute Honors Retina Research Foundation at ARVO

McPherson ERI hosted a reception in honor of RRF during the Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting in Denver on May 4, 2015. Many scientists supported by RRF through the years and other leaders in ophthalmology attended.

Focusing on the impact of 45 years of the Retina Research Foundation on multiple aspects of vision research, seven individuals were invited to represent the following perspectives: institutional support; advancement of vitreoretinal techniques; the National Institutes of Health; women in science; international ophthalmology; and philanthropy. All were also invited to share remarks out of their personal experiences as recipients of support and/or awards from the RRF.

SPEAKERS

David M. Gamm, MD, PhD

RRF Emmett A. Humble Distinguished Director,
McPherson Eye Research Institute
Sandra Lemke Trout Chair in Eye Research
Associate Professor, Ophthalmology & Visual Sciences
University of Wisconsin School of Medicine and Public Health

Matthew D. Davis, MD

Founding Director, UW Fundus Photograph Reading Center
Professor and Chair Emeritus, Ophthalmology & Visual Sciences
University of Wisconsin School of Medicine and Public Health

Paul A. Sieving, MD, PhD

Director, National Eye Institute
National Institutes of Health
Professor, Ophthalmology & Visual Sciences (faculty leave)
University of Michigan Kellogg Eye Center

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Dr. Alice McPherson

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Dr. David Gamm



Dr. Matthew Davis



Dr. Paul Sieving



Dr. Nansi Colley

Nansi Jo Colley, PhD

RRF M.D. Matthews Professor, McPherson Eye Research Institute
Professor, Ophthalmology & Visual Sciences
University of Wisconsin School of Medicine and Public Health

John E. Dowling, PhD

Gordon & Llura Gund Professor of Neurosciences, Emeritus
Department of Molecular and Cellular Biology
Harvard University

Alan Bird, MD

Emeritus Professor, Institute of Ophthalmology
University College London
Honorary Consultant, Moorfields Eye Hospital
London, United Kingdom

Daniel M. Albert, MD, MS

Founding Director, McPherson Eye Research Institute
Chair Emeritus and F. A. Davis Professor, Ophthalmology & Visual Sciences
University of Wisconsin School of Medicine and Public Health



Dr. McPherson with Distinguished Speakers

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Dr. Albert introducing Dr. McPherson



Dr. Alan Bird



Dr. John Dowling



Dr. Dan Albert



Dr. McPherson with some of the scientists whose research has been or is supported by RRF

RRF Board Members Travel to Madison, WI

Floor 9

Department of Neuroscience
McPherson Eye Research Institute

*McPherson Eye Research Institute offices
and laboratories (in WIMR Tower II)*

Ten RRF Board members traveled to Madison, Wisconsin, on May 18 and 19, 2015, for events hosted by **McPherson Eye Research Institute at University of Wisconsin-Madison**. McPherson ERI offices and laboratory space are now located in the new Wisconsin Institutes for Medical Research (WIMR) Tower II.

The 3rd Annual McPherson Endowed Lecture

RRF Board members attended the McPherson Lecture along with many students and professors of University of Wisconsin. Sheila Nirenberg, PhD, of Weill Medical College, Cornell University, in New York, NY, was the McPherson Lecturer, and her title was: *“Talking to the Brain in its Own Language: Developing New Kinds of Prosthetic Devices.”* Dr. Nirenberg spoke about her progress in deciphering the neural code and using that knowledge to develop new types of prosthetic devices that don’t require surgery to treat blindness. A reception and dinner hosted by McPherson ERI were held that evening.



*University of Wisconsin-Madison Chancellor
Rebecca Blank with Dr. McPherson at the
McPherson ERI Reception (Photo © Andy Manis)*

Breakfast and Tour of McPherson ERI

Humble Distinguished Director Dr. David Gamm welcomed RRF Board members and several key members of the McPherson ERI Advisory Board to the 9th floor of WIMR Tower II for breakfast in the Trout Conference Room and the Mandelbaum & Albert Family Vision Gallery. Following breakfast, Dr. Gamm led a tour of the McPherson ERI office space and the laboratories supported by RRF.

Meeting of the McPherson ERI Advisory Board

RRF Board members attended the spring Advisory Board meeting of the McPherson ERI. Four scientists gave updates on their projects at this meeting.

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View from 9th floor of WIMR Tower II

This trip was an excellent opportunity for RRF Board members who attended to learn more about the Institute's business, activities, and scientists; RRF supports four Chairs and three Professorships at McPherson ERI.



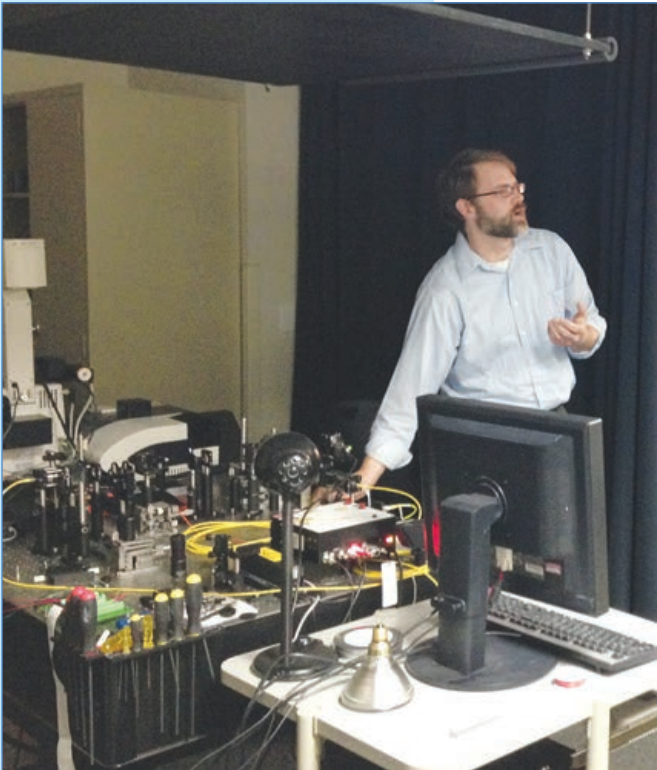
*Dr. McPherson and Dr. David Gamm, Humble Distinguished Director, McPherson ERI
(Photo © Andy Manis)*



Dr. Sheila Nirenberg, 2015 McPherson ERI Endowed Lecturer (photo by Robin Davies)

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Dr. Jeremy Rogers, RRF Gamewell Professor, presented his project focusing on imaging



*Dr. Gamm presenting a glass sculpture by Madison artist Richard Jones to Dr. Nirenberg
(Photo © Andy Manis)*



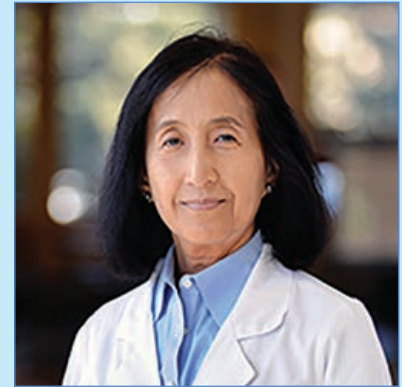
Dr. McPherson and RRF Board members at breakfast

Meet the Advisory Trustees and Scientific Advisors

Alice Matoba, MD

Alice Matoba was born in Tokyo, Japan; she moved to Los Angeles, California at age seven. She attended Stanford University, Yale School of Medicine, returning to Stanford for residency in ophthalmology. She completed a fellowship in Cornea and External Disease with Dr. Danny Jones, then the chairman of the Department of Ophthalmology at Baylor College of Medicine. She joined the faculty after one year studying immunology at UTHSC-Dallas.

Dr. Matoba is a member of the American Academy of Ophthalmology, from which she has received the Honor Award, Senior Award, and the Secretariat Award. She served for 15 years on the AAO Preferred Practice Plan Committee, 10 years as chair. She has served for 15 years on the FDA Ophthalmic Devices Panel as both member and consultant. She is past president of the Houston Ophthalmological Society. She has over 50 publications in peer-reviewed journals and has been an invited speaker at Bascom Palmer Eye Institute, Wilmer Eye Institute, Wills Eye Hospital, University of California San Francisco, and Stanford.



Dr. Alice Matoba

Patricia Silverman and Sheppy Silverman, MD

Patricia J. Silverman, a native Houstonian, graduated St. Pius X High School in 1965 and the University of Houston in 1970 with a BS Degree; worked as an Account Executive for AT&T Communications for 15 years; enjoys traveling, bicycling, and playing bridge; was actively involved with Gamma Sigma Sigma Service Sorority and the Junior Forum Organization; married Dr. Sheppy J. Silverman, and worked with him in his private Ophthalmology practice.

Dr. Sheppy J. Silverman is a native of Canada; a graduate of the University of Manitoba; received training at NYU Post-Grad School of Medicine (1958-1961) and Baylor Affiliated Hospitals Training Program Houston (1959-1961); practiced General Ophthalmology for 48 years. He has been most gratified to see the advances made in the diagnosis and treatment of retina disease. His interests include bicycling, scuba diving, and the culinary arts. He has two daughters and two grandchildren.



The Silvermans

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Managing Editor: Margaret Farese

Retina Research Foundation Is a Nonprofit Organization.

FREE MATTER
FOR THE
BLIND OR
HANDICAPPED

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Please indicate changes in boxes and make any corrections needed next to your name and address, then clip and return entire address label in an envelope.

- Change name or address as shown on address
- Remove name from mailing list.

Special Rememberances

IN MEMORY OF

Ruth T. Lelsz
Betty and Jim Key
Ivy Mather

CORPORATE MATCHING GIFTS

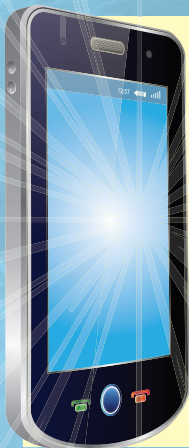
Microsoft Matching Gifts Program
Shabana Hashmi

IN HONOR OF

Neva and John Dawson
William and Lucy Carl

Sara and Dr. Frank Eggleston
Carole & David Wakefield

Suzanne Miller
Dede and Conrad Weil
Joan and Marvin Kaplan



New Smartphone App

The “K-NFB Reader” smartphone app allows blind people to listen to an audio readback of printed text. This app is the result of a four-decades long relationship between the National Federation of the Blind (NFB) and Ray Kurzweil, an artificial-intelligence scientist and senior Google employee. According to its website, K-NFB Reading Technology Inc and Sensotec NV, a Belgium-based company, led the technical development of the app.

This app will allow greater independence for blind people in everyday activities, from reading menus in restaurants to studying handouts in the classroom. Using new pattern recognition and image-processing technology plus new smartphone hardware, the app allows users to adjust or tilt the camera, and reads printed materials out loud. People with refreshable Braille displays can snap pictures of print documents and display them in Braille, said NFB spokesman Chris Danielsen.

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Additional memorials received will appear in the next issue.