

# 17<sup>th</sup> Annual Symposium Visual Sciences Research Center

## Schedule

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**Friday, June 12, 2015**

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8:00 Continental Breakfast, Poster Setup

8:30 **Douglas Rhee, M.D.**  
Professor and Chairman, Ophthalmology & Visual Sciences  
*Opening Remarks*

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**Retina and Related Diseases - Moderator: Akiko Maeda, M.D., Ph.D.**

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8:45 Introduction: Akiko Maeda

*Keynote Speaker*

**Eric Pierce, M.D., Ph.D.**

Solman and Libe Friedman Associate Professor, Ophthalmology  
Harvard Medical School  
Massachusetts Eye and Ear Infirmary

*Complement and the Extracellular Matrix in Early Macular Degeneration*

9:45 **Tatini Rakshit, Ph.D.**  
Postdoctoral Scholar, Ophthalmology  
Paul Park, Ph.D. Lab  
*Reduced Rhodopsin Expression Alters Rod Outer Segment Disc Membrane Structure: An Age Dependent Study*

10:00 **Philip Kiser, Ph.D.**  
Instructor, Pharmacology  
Krzysztof Palczewski, Ph.D. Lab  
*Catalytic mechanism of a retinoid isomerase essential for vertebrate vision*

10:15 **Lindsay Perusek**  
Research Assistant, Ophthalmology  
Akiko Maeda, M.D., Ph.D. Lab  
*Implications for autophagy in retinal pigmented epithelium cell health*

10:30 **Joseph Lin**  
Undergraduate Student, Case Western Reserve University  
Irina Pikuleva, Ph.D. Lab  
*Local biosynthesis is the principal pathway of cholesterol input in mouse retina*

10:45 **Sean Ryan, Ph.D.**  
Research Health Scientist  
Timothy Kern, Ph.D. Lab  
Louis Stokes Cleveland VA Medical Center  
*Control of diabetes-induced retinal inflammation using cellular immune therapy*

11:00 Break

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**Glaucoma and Epidemiology – Moderator: Carol Toris, Ph.D.**

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11:15 **Sruthi Sampathkumar, M.D.**  
Research Associate, Ophthalmology  
Carol Toris, Ph.D. Lab  
*Effects of SPARC (secreted protein, acidic, cysteine rich) on age-related changes in aqueous humor dynamics*

11:30 **Kurt Scavelli**  
Medical Student, Case Western Reserve University  
Douglas Rhee, M.D. Lab  
*Understanding the role of SPARC in the regulation of the extracellular matrix of the trabecular meshwork*

11:45 **Jessica Cooke Bailey, Ph.D.**  
Postdoctoral Fellow, Epidemiology & Biostatistics  
Jonathan Haines, Ph.D., Lab  
*Novel Genetic Loci Identified in Meta-Analysis of Glaucoma Genome-Wide Imputed Dataset*

12:00 **Nicole Restrepo, Ph.D.**  
Research Assistant, Epidemiology & Biostatistics  
Dana Crawford, Ph.D., Lab  
*Genetic risk factors for primary open-angle glaucoma in African Americans from a biorepository linked to de-identified electronic medical records*

12:15 **Douglas Rhee, M.D.**  
*Announcement of University Hospitals Eye Institute Innovation Day Award Recipients*

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**12:30 – 2:00 Lunch & Poster Session**

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**Introduction: Patricia Taylor, Ph.D.**

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2:00 *Keynote Speaker*  
**Jerry Niederkorn, Ph.D.**  
George A. and Nancy P. Shutt Professor of Medical Science  
Royal C. Miller Chair in Age-Related Macular Degeneration  
University of Texas Southwestern Medical Center  
*The eye sees eye to eye with the immune system: How neuropeptides influence immune privilege and corneal graft survival*

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**Visual Sciences Training Program - Moderator: John Mieyal, Ph.D.**

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- 3:00      **Jeffrey Tomalka, Ph.D.**  
Postdoctoral Fellow  
Parameswaran Ramakrishnan, Ph.D. Lab  
Co-Mentor, Timothy Kern, Ph.D.  
*Hyperglycemia-induced O-GlcNAcylation of NF- $\kappa$ B promotes autoimmune T cell function and retinal endothelial cell activation in autoimmune diabetes*
- 3:15      **Philip Ropelewski**  
Graduate Student  
Yoshikazu Imanishi, Ph.D. Lab  
*Disrupted membrane dynamics in a *Xenopus laevis* model of retinitis pigmentosa*
- 3:30      **Jeremy Whitson**  
Graduate Student  
Vincent Monnier, Ph.D. Lab  
*Investigating Glutathione Uptake by the Mammalian Lens*
- 3:45      **Heather Clark**  
Graduate Student  
Eric Pearlman, Ph.D. Lab  
Co-Mentor, Arne Rietsch, Ph.D.  
*Neutrophil calprotectin limits *Aspergillus fumigatus* hyphal growth and corneal infection*
- 4:00      **Grzegorz Palczewski**  
Graduate Student  
Johannes Von Lintig, Ph.D. Lab  
*Macular Pigments and BCO2, A Carotenoid Cleaving Enzyme*
- 4:15      **Chairut Vareechon**  
Graduate Student  
Eric Pearlman, Ph.D. Lab  
*The role of *Pseudomonas aeruginosa* Type III secretion in inhibiting reactive oxygen species production by neutrophils*
- 4:30      *Announcement of Poster Winner*
- Douglas Rhee, M.D.**  
*Closing Remarks*

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**4:30      Poster Session & Reception**

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## Saturday June 13, 2015

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7:30 Continental Breakfast

7:55 **Jonathan Lass, M.D.**  
Opening Remarks

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### Retina Session - Moderator: Baseer Ahmad, M.D.

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8:00 **Mahmoud El-Yassir, M.D.**  
Resident PGY 3, Ophthalmology & Visual Sciences  
Paula Grigorian, M.D., Coauthor  
*Central Retinal Vein Occlusion and Central Retinal Artery Occlusion following Complicated Childbirth*

8:12 **Daniel Lee, M.D.**  
Resident PGY 3, Ophthalmology & Visual Sciences  
Baseer Ahmad, M.D., Coauthor  
*Intraocular Gases and High-Altitude Travel: A Review*

8:24 **Baseer Ahmad, M.D.**  
Assistant Professor, Ophthalmology & Visual Sciences  
*DRCR Network Update*

8:36 **Louis Hirsch M.D.**  
Resident PGY 3, Ophthalmology & Visual Sciences  
H. Nazari, Ph.D., P.G. Sreekumar, Ph.D., R. Kannan, Ph.D., L. Dustin, Ph.D., D. Zhu, Ph.D., E. Barron,  
David Hinton, M.D., Ph.D., Coauthors  
*TGF- $\beta$ 2 secretion from RPE decreases with polarization and becomes apically oriented*

8:48 *Keynote Speaker*  
**Eric Pierce, M.D., Ph.D.**  
Solman and Libe Friedman Associate Professor, Ophthalmology  
Harvard Medical School  
Massachusetts Eye and Ear Infirmary  
*Genetics of Inherited Retinal Degenerations*

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### Anterior Segment and Oculoplastics Session - Moderator: Pankaj Gupta, M.D.

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9:21 **Julieta Zutel Ryder, M.D.**  
Resident PGY 4, Ophthalmology & Visual Sciences  
Faruk Orge, M.D., Coauthor  
*Surgical outcomes of Ptose Up frontalis suspension sling for congenital ptosis*

- 9:33 **Amy Zhang, M.D.**  
Assistant Professor, Ophthalmology & Visual Sciences  
*Effect of trabectome on aqueous humor dynamics*
- 9:45 **William Potthoff, M.D.**  
Resident PGY 4, Ophthalmology & Visual Sciences  
*The Baylor Nomogram and Barrett Toric Calculator: Recent Experience with the Latest in Toric IOL Calculations*
- 9:57 Break
- 10:12 **Rui Zhang M.D.**  
Resident PGY 3, Ophthalmology & Visual Sciences  
Yan Sun, M.D., Eric Pearlman Ph.D., Suber Huang M.D., M.B.A., Coauthors  
*Bacterial induced corneal inflammation is inhibited by Mesenchymal Stem Cells*
- 10:24 *Keynote Speaker*  
**Jerry Niederkorn, Ph.D.**  
George A. and Nancy P. Shutt Professor of Medical Science  
Royal C. Miller Chair in Age-Related Macular Degeneration  
University of Texas Southwestern Medical Center  
*Immunology of corneal allografts: Insights from animal models*
- 10:57 **Natalie Cheung, M.D.**  
Resident PGY 4, Ophthalmology & Visual Sciences  
Pankaj Gupta M.D., M.S., Gregory Grossman Ph.D., Coauthors  
*Case report of Descemet membrane endothelial keratoplasty (DMEK) graft rejection from S stamping*
- 11:09 **Christopher Donovan**  
Medical Student, Case Western Reserve University School of Medicine 2016  
Beth Ann Benetz M.A., Harry Menegay, Ph.D., Chris Stoeger M.B.A., Jonathan Lass M.D.,  
Coauthors  
*Comparison of corneal endothelial image analysis by two image analysis methods on pre and post-stripping of donor endothelium for Descemet Membrane Endothelial Keratoplasty*
- 11:21 **Amanda Tang, M.D.**  
Resident PGY 3, Ophthalmology & Visual Sciences  
Xiaoyong Fu, Ph.D., Rony Sayegh, M.D., Coauthors  
*Keratoprosthesis decentration results in degradation in image quality*
- 11:33 **Musa Abdelaziz, M.D.**  
Resident PGY 3, Ophthalmology & Visual Sciences  
Claes Dohlman, M.D., Ph.D., Rony Sayegh, M.D., Coauthors  
*Glare Reduction Strategies for Keratoprosthesis*
- 11:45 **Douglas Rhee, M.D.**  
*Closing Remarks*