

UPMC Eye Center  
Department of Ophthalmology and Visual Sciences  
2015 ARVO Participation

**Saturday, May 2, 2015**

8:30 AM	"Mouse epigenetic models and what we can learn from them - DNA methylation"	<b>Igor O. Nasonkin</b>	paper
---------	---	-------------------------	-------

**Sunday, May 3, 2015**

8:30 AM	"The <i>In Vitro</i> and <i>In Vivo</i> Antibacterial Evaluation of Brilacidin"	<b>Regis P. Kowalski, Eric G. Romanowski, Robert M. Shanks, Kathleen Yates, Francis S. Mah</b>	poster
---------	---	--	--------

1:30 PM	"TNF- $\alpha$ -stimulated protein 6 promotes corneal wound healing by enhancing cell proliferation <i>in vitro</i> "	<b>Ladan Espandar, Jonathan Mandell</b>	poster
---------	---	---	--------

1:30 PM	"Peripheral retinal and genetic findings in AMD patients and controls: CROATIAN OPERA STUDY Report #1"	<b>Thomas R. Friberg, Tamara Knezevic, Biljana Andrijevic Derk, I. Celap, Goran Bencic, Vesna Jurisic Friberg, Zoran Vatauvuk</b>	poster
---------	--	---	--------

1:30 PM	"Acute intraocular pressure elevation compromises optic nerve integrity and visuomotor behavior without apparent change in axonal transport"	<b>Yolandi van der Merwe, Leon Ho, Xiao-Ling Yang, Michael Steketee, Ian Conner, Seong-Gi Kim, Gadi Wollstein, Joel S. Schuman, Kevin C. Chan</b>	poster
---------	--	---	--------

1:30 PM	"Distal visual pathway changes prior to retinopathy in streptozotocin-induced diabetes"	<b>Swarupa Kancherla, Ed Wu, Kevin C. Chan</b>	poster
---------	---	--	--------

1:30 PM	"Glaucoma Structural and Functional Progression in American and Korean Cohorts"	Tigran Kostanyan, Kyung Rim Sung, <b>Joel S. Schuman, Yun Ling, Richard A. Bilonick, Hiroshi Ishikawa, Larry Kagemann, Michelle G. Sandrian, Jin Young Lee, Gadi Wollstein</b>	poster
---------	---	--	--------

1:30 PM	"The Croatian Opera Study II: Further study of the peripheral retinal features in AMD subjects and controls"	<b>Vesna Jurisic Friberg, Biljana Andrijevic Derk, Thomas R. Friberg, Tamara Knezevic, Goran Bencic, Mia Zorich Geber, Zoran Vatauvuk</b>	poster
---------	--	---	--------

1:30 PM	"Sweep Visual Evoked Potentials In Patients With Suspected Functional Visual Acuity Loss"	<b>Gabrielle R. Bonhomme, Salwa Abdel Aziz, Tarek A. Shazly, Valeria L. Fu</b>	poster
---------	---	--	--------

2:21 PM	"Non-Invasive Longitudinal Imaging in Zebrafish Embryo Eyes"	<b>Larry Kagemann</b>	workshop / SIG
---------	--	-----------------------	----------------

3:15 PM	"Corneal immunology and infections"	Eric Pearlman, <b>Robert Hendricks</b>	moderator
---------	-------------------------------------	--	-----------

3:15 PM	"Measuring Glaucoma Progression Using a Common Factor Model"	<b>Richard A. Bilonick, Yun Ling, Gadi Wollstein, Hiroshi Ishikawa, Larry Kagemann, Ian A. Sigal, Michelle G. Sandrian, Joel S. Schuman</b>	poster
---------	--	---	--------

3:15 PM	"Mechanisms of enhanced corneal graft rejection on clinically uninfamed herpes simplex virus type 1 infected recipient corneal beds"	<b>Robert L. Hendricks, Alexander Rowe, Hongmin Yun</b>	paper
---------	--	---	-------

3:15 PM	"Comparison Among Experts and Trainees for Detection of Glaucomatous Disc Change Using the Computerized MatchedFlicker® Software Verses Stereo Disc Viewing"	Jamie L. Schaefer, Gina Martorana, Zachary L. Lukowski, L. Jay Katz, <b>Joel S. Schuman, Andy Leoncavallo, Anthony Greer, Jonathan Shuster, Mae O. Gordon, Mark B. Sherwood</b>	poster
---------	--	---	--------

**Monday, May 4, 2015**

8:30 PM	"Advanced OCT Applications"	<b>Gadi Wollstein, Mona K. Garvin</b>	moderator
---------	-----------------------------	---------------------------------------	-----------

8:30 AM	"Pard3c, a unique Par-3 orthlog for zebrafish retinal development: Regulation of cell survival, proliferation and differentiation, but not apicobasal polarity"	<b>Xiangyun Wei, Wei Fang</b>	poster
---------	---	-------------------------------	--------

8:55 AM	"Influence of Macrophages on Intraocular Tumor Growth"	<b>Kyle C. McKenna</b>	mini-symposium
---------	--	------------------------	----------------

9:45 AM	"Pre-laminar tissue thickness measurably affects the visualization of the lamina cribrosa (LC)"	<b>Katie A. Lucy, Bo Wang, Hiroshi Ishikawa, Richard A. Bilonick, Yun Ling, Ireneusz Grulkowski, Jonathan J. Liu, James G. Fujimoto, Gadi Wollstein, Joel S. Schuman</b>	paper
---------	---	--	-------

UPMC Eye Center  
Department of Ophthalmology and Visual Sciences  
2015 ARVO Participation

11:00 AM	"The Evaluation of Topical SPL, a Novel Dendrimer Antiviral, against Adenovirus in NZW Rabbit Ocular Models"	<b>Eric G. Romanowski, Kathleen A. Yates, Robert M. Shanks,</b> Oliver K. Bernhard, Jeremy R. Paull, <b>Regis P. Kowalski</b>	poster
11:00 AM	"Generating cellular and collagen fibril alignment in RAFT tissue equivalents for corneal stroma reconstruction"	Alvena K. Kureshi, Dev Mukhey, James B. Phillips, <b>James L. Funderburgh,</b> Julie T. Daniels	poster
12:00 PM	"Regeneration of retinal neurons and glia by Lgr5+ amacrine cells in adult mice"	<b>Hongjun Liu,</b> Shenghuo Tian, Nathan Glasgow, Gregory Gibson, <b>Xiaoling Yang,</b> Christen Shiber, <b>James L. Funderburgh,</b> Simon Watkins, Jon Johnson	paper
12:30 PM	"Visual cortex activity is impaired prior to visual field loss in glaucoma"	<b>Cindy Y. Teng, Ian Conner, Matthew C. Murphy, Richard A. Bilonick,</b> Seong-Gi Kim, <b>Gadi Wollstein, Joel S. Schuman, Kevin C. Chan</b>	paper
1:00 PM	"Multidisciplinary Ophthalmic Imaging Group - How high resolution retinal imaging is changing light safety"	<b>Gadi Wollstein,</b> Yoshiaki Yasuno, Alfredo Dubra	moderator
4:00 PM	"Regulation of Corneal Gene Expression by Kruppel-Like Factors KLF4 and KLF5"	<b>Shivalingappa K. Swamynathan</b>	mini-symposium
5:00 PM	"Stem cells from corneal stroma suppress T-cell activation via cell-cell interactions"	<b>James L. Funderburgh, Martha L. Funderburgh, Mary M. Mann, Yiqin Du, Kyle C. McKenna, Andrew Hertsenberg</b>	paper

**Tuesday, May 5, 2015**

8:30 AM	"Case-Matched Intraocular Pressure Results of Trabectome Ab Interno Trabeculectomy versus Ahmed Glaucoma Implant"	<b>Sushma Kola, Eric Brown,</b> Kevin Kaplowitz, <b>Steven Wang, Julia K. Polat, Joel S. Schuman, Nils A. Loewen</b>	poster
8:30 AM	"Comparison of Trabectome Ab Interno Trabeculectomy to Baerveldt Glaucoma Implants using Propensity Score Matching"	<b>Steven Z. Wang, Eric Brown,</b> Kevin Kaplowitz, <b>Sushma Kola, Julia K. Polat, Joel S. Schuman, Nils A. Loewen</b>	poster
8:30 AM	"Effect of iStent trabecular micro bypass device on outflow system morphology"	<b>Nisreen Mesiwala, Nicholas Hess,</b> Catherine Marando, <b>Richard A. Bilonick,</b> Leonard Seibold, <b>Joel S. Schuman,</b> Malik Y. Kahook, <b>Larry Kagemann</b>	poster
8:30 AM	"Quantitative Analysis of Retinal Blood Flow in Normal and Glaucoma by Doppler Fourier-Domain Optical Coherence Tomography"	Sowmya Srinivas, Muneeswar Gupta Nittala, Ou Tan, Rohit Varma, Brian A. Francis, David S. Greenfield, Richard K. Parrish, <b>Joel S. Schuman,</b> Srinivas R. Sadda, David Huang	poster
8:30 AM	"Single Frame Virtual Averaging Improved Optical Coherence Tomography (OCT) Images Independent from Eye Movement Artifacts"	<b>Anusha Alathur Rangarajan, Hiroshi Ishikawa, Gadi Wollstein, Larry Kagemann, Ian A. Sigal, Richard A. Bilonick,</b> Michelle G. Sandrian, <b>Joel S. Schuman</b>	poster
8:30 AM	"Total Retinal Blood Flow Measurements with En Face Doppler Optical Coherence Tomography in Primary Open-Angle Glaucoma"	ByungKun Lee, Chandrasekharan Krishnan, Woo Jhon Choi, Mehreen Adhi, Talisa de Carlo, Adam T. Chin, Chen D. Lu, Jay S. Duker, <b>Joel S. Schuman,</b> James G. Fujimoto	poster
11:00 AM	"Trabecular Meshwork Stem Cells Have Higher Affinity to TM cells"	<b>Yiqin Du, Yi Zhou, Enzhi Yang, Hongmin Yun</b>	poster
11:00 AM	"Induction of Adipose-derived Stem Cells to Trabecular Meshwork Cells for Glaucoma"	<b>Yi Zhou, Hongmin Yun, Enzhi Yang, Joel S. Schuman, Yiqin Du</b>	poster
11:00 AM	"Stromal stem cells prevent corneal scarring after trauma by upregulation of TSG-6 expression"	<b>Andrew Hertsenberg, Michael Burrow, James L. Funderburgh</b>	poster
11:00 AM	"Scaffold-free engineering of stromal lamellar tissue"	<b>Fatima N. Syed-Picard, Yiqin Du, Rachelle Palchesko, Martha L. Funderburgh, Andrew Hertsenberg, Adam W. Feinberg, James L. Funderburgh</b>	poster
11:00 AM	"Corneal Regeneration"	Julie T. Daniels, <b>James L. Funderburgh</b>	moderator

UPMC Eye Center  
Department of Ophthalmology and Visual Sciences  
2015 ARVO Participation

11:00 AM	"Trabecular Meshwork Engineering and Live Tracking in Perfused Porcine Anterior Segments"	<b>Ralitsa Loewen, Pritha Sengupta, Devora A. Cohen-Karni, Sushma Kola, Porter Ladley, Amardeep Dhaliwal, Jonathan Mandell, Ladan Espandar, Joel S. Schuman, Nils A. Loewen</b>	poster
11:00 AM	"Secreted Ly6/urokinase-type plasminogen activator receptor related protein-1 (Slurp1) expression by strain, age, gender and ocular surface health"	<b>Sudha Swamynathan, Emili E. Delp, Stephen A. Harvey, Leela Raju, Shivalingappa K. Swamynathan</b>	poster
11:00 AM	"Ex-vivo remodeling of Palisades of Vogt in preserved tissue "	<b>Kira L. Lathrop, Jessica F. Steele, Virender S. Sangwan, Sayan Basu, Swapna Shanbhag</b>	poster
1:00 PM	"Pathogenesis: Biofilm Infections and Inflammation"	<b>Robert M. Shanks</b>	SIG
3:45 PM	"Derivation of retinal cells and retinal organoids from pluripotent stem cells for CRISPR-Cas9 engineering and retinal repair "	<b>Ratnesh K. Singh, Ramya Krishna Mallela, Pamela Cornuet, Igor O. Nasonkin</b>	poster
3:45 PM	"Ocular surface health and disease, corneal dystrophies and genetics"	<b>James L. Funderburgh, Ilene K. Gipson</b>	moderator
3:45 PM	"Imaging of optic disc drusen: Swept-Source (SS)-OCT versus B-scan ultrasound"	<b>Michelle Ahn, Andrew W. Eller, Bo Wang, Ellen Mitchell, Joel S. Schuman, Chen D. Lu, Ireneusz Grulkowski, James G. Fujimoto, Gadi Wollstein, Gabrielle R. Bonhomme</b>	poster
3:45 PM	"Predictive Value of Perioperative Circumpapillary Retinal Nerve Fiber Layer Thickness in Primary Rhegmatogenous Retinal Detachment Macular Anatomic Outcomes"	<b>Julia Kuhn, Joseph Martel</b>	poster
4:15 PM	"Trabecular Meshwork Stiffness in the Living Human Eye"	Mark Johnson, <b>Joel S. Schuman, Larry Kagemann</b>	paper

### Wednesday, May 6, 2015

8:30 AM	"Glaucoma Imaging"	Brad Fortune, <b>Joel S. Schuman</b>	moderator
8:30 AM	"Novel Ophthalmic Imaging"	<b>Kevin C. Chan</b> , Jennifer J. Hunter	moderator
8:30 AM	"Bacterial Impediment of Corneal Cell Migration"	<b>Kimberly Brothers, Nicholas A. Stella, Kristin M. Hunt, Regis P. Kowalski, Jes Klarlund, Robert M. Shanks</b>	poster
8:30 AM	"In-vivo 3D Deformation of Lamina Cribrosa Microstructure in Response to Acute Changes in Intraocular and Cerebrospinal Fluid Pressures"	<b>Bo Wang, Ian A. Sigal, Matthew A. Smith, Tigran Kostanyan, Richard A. Bilonick, Huong Tran, Larry Kagemann, Elizabeth Tyler-Kabara, Joel S. Schuman, Gadi Wollstein</b>	paper
8:30 AM	"Relationship between visual brain connectivity and duration of blindness depends on onset of visual deprivation"	<b>Kevin C. Chan, Matthew C. Murphy</b> , Christopher Fisher, Seong-Gi Kim, <b>Joel S. Schuman</b> , Amy C. Nau	poster
9:15 AM	"Thinning of optic nerve head (ONH) neural rim tissue exceeds peripapillary retinal nerve fiber layer (RNFL) thinning in experimental glaucoma (EG)"	Brad Fortune, Juan Reynaud, Christy Hardin, Hongli Yang, Lin Wang, <b>Ian A. Sigal</b> , Claude F. Burgoyne	talk
9:45 AM	"Longitudinal Profiles of Intraocular Pressure, Ocular Morphology and Visual Pathway Integrity in DBA/2J and C57BL/6J Mice"	<b>Xiaoling Yang, Leon Ho, Yolandi van der Merwe, Ian Conner</b> , Seong-Gi Kim, <b>Gadi Wollstein, Joel S. Schuman, Kevin C. Chan</b>	paper
11:00 AM	"Surgical Considerations in Vascularized Composite Allotransplantation of the Eye"	<b>Nikisha Richards, Edward Davidson, Eric Wang, Jenny Y. Yu, Juan Fernandez-Miranda, Kia M. Washington</b>	poster
11:00 AM	"Longitudinal and Cross-Sectional Analyses of Age and Intraocular Pressure Effects on Retinal Nerve Fiber Layer and Ganglion Cell Complex Thickness"	Xinbo Zhang, Brian A. Francis, Ou Tan, Rohit Varma, David S. Greenfield, <b>Joel S. Schuman, Nils A. Loewen</b> , Mitra Sehi, David Huang	poster

UPMC Eye Center  
Department of Ophthalmology and Visual Sciences  
2015 ARVO Participation

11:00 AM	"Viability, Structural Integrity and Aqueous Humor Dynamics are Established in an Orthotopic Whole Eye Transplant Model"	<b>Kia M. Washington, Yang Li, Bo Wang, Maxine R. Miller, Yolandi van der Merwe, Leon Ho, Michael Stekete, Joel S. Schuman, Kevin C. Chan, Vijay S. Gorantla</b>	poster
3:45 PM	"A Statistical Method to Detect Abnormal Observations in Multivariate Longitudinal Data Measurements"	<b>Yun Ling, Richard A. Bilonick, Gadi Wollstein, Hiroshi Ishikawa, Larry Kagemann, Michelle G. Sandrian, Joel S. Schuman</b>	poster
3:45 PM	"Comprehensive Mapping of Ostia Locations Requires Multiple Sectioning Orientations"	<b>Larry Kagemann, Gadi Wollstein, Tigran Kostanyan, Katie A. Lucy, Hiroshi Ishikawa, James G. Fujimoto, Chen D. Lu, Joachim Hornegger, Ian A. Sigal, Joel S. Schuman</b>	poster
3:45 PM	"Scleral Buckle Surgery for Primary Retinal Detachment without Posterior Vitreous Detachment"	<b>Andrew W. Eller, Jila Noori, Georgios Trichonas, Victor A. Neamtu</b>	poster
3:45 PM	"The effect of scleral buckling selection and corneal thinning on axial length of the eye: A biomechanical model."	Raed Aldhafeeri, Patrick Smolinski, <b>Thomas R. Friberg</b>	poster
3:45 PM	"Developmental Distribution of Mitochondria in Retinal Ganglion Cell Axons"	Jessica E. Weinstein, Jeffrey Goldberg, <b>Michael Stekete</b>	poster
3:45 PM	"Dry Eye Disease, III"	David A. Sullivan, <b>Shivalingappa K. Swamynathan</b>	moderator
4:00 PM	"A microstructural basis for nonlinear effects of IOP on the lamina cribrosa and sclera"	<b>Ian A. Sigal, Ning-Jiun Jan, Saundria Moed, Ryan O'Malley, Huong Tran, Richard A. Bilonick, Hiroshi Ishikawa, Larry Kagemann, Joel S. Schuman, Gadi Wollstein</b>	paper
4:30 PM	"Identification and characterization of a novel microbial virulence-associated transcription factor and its role in ocular infection"	<b>Robert M. Shanks, Nicholas A. Stella, Kimberly M. Brothers, Kristin M. Hunt, Xiniu Liu, Eric G. Romanowski, Regis P. Kowalski</b>	paper
<b>Thursday, May 7, 2015</b>			
8:30 AM	"Role of DNA Methyltransferases in mammalian retinal development"	<b>Igor O. Nasonkin, Ramya Krishna Mallela, Pamela Cornuet, Leif Carlsson, Ratnesh Singh</b>	poster
8:30 AM	"Spatiotemporally regulated disruption of Kruppel-like factor-4 ( <i>Klf4</i> ) results in loss of mature corneal epithelial cell identity"	<b>Emili E. Delp, Sudha Swamynathan, Winston Kao, Shivalingappa K. Swamynathan</b>	poster
8:30 AM	"Characterization of Ophthalmic and Rheumatologic Features in Patients with Psoriasis and Psoriatic Arthritis"	<b>Anton M. Kolomeyer, Ashwinee Ragam, Natasha V. Nayak, Christina Yu, Sergio Schwartzman, David S. Chu</b>	poster
12:00 PM	"Comparison of Collagen Fibrillar Architecture of the Lamina Cribrosa using Polarization-Tunable Second-Harmonic Optical Microscopy and Polarimetric Optical Microscopy"	JiaJun Li, Ning-Jiun Jan, M. Rahman Jewel, Denise Valente, <b>Jonathan L. Grimm</b> , Brian Vohnsen, <b>Ian A. Sigal</b>	poster
12:00 PM	"Identification and Management of Peripheral Retinal Ischemia in Intermediate Uveitis Using Ultra-Widefield Fluorescein Angiography"	<b>Victor A. Neamtu, Thomas R. Friberg, Andrew W. Eller</b>	poster
12:00 PM	"In-Vivo Lamellar and Scleral Canal Displacements During Acute Intracranial and Intraocular Pressure Elevation in Monkeys"	<b>Huong Tran, Yuqi Wang, Bo Wang, Gadi Wollstein, Matthew A. Smith, Larry Kagemann, Hiroshi Ishikawa, Joel S. Schuman, Elizabeth Tyler-Kabara, Ian A. Sigal</b>	poster
12:00 PM	"Eye-Specific Lamina Cribrosa (LC) Microarchitectural (LMA) Change in Non-Human Primate (NHP) Early Experimental Glaucoma (EG) by Region"	Claude F. Burgoyne, Howard Lockwood, Juan Reynaud, Stuart K. Gardiner, <b>Jonathan L. Grimm</b> , Vincent Libertiaux, J. Crawford Downs, Hongli Yang	poster
12:45 PM	"Matching Collagen Crimp Period Between Lamina Cribrosa and Proximal Peripapillary Sclera"	<b>Ning-Jiun Jan, Saundria Moed, Ryan O'Malley, Jonathan L. Grimm, Hiroshi Ishikawa, Larry Kagemann, Gadi Wollstein, Joel S. Schuman, Ian A. Sigal</b>	poster