

## Mount Sinai Health System Presentations

<i>Paper Title</i>	<i>Author Block</i>	<i>Abstract</i>	<i>Paper Purpose</i>
Adaptive Optics Imaging of Peripapillary Nerve Fiber Bundles: Implications for Glaucomatous Damage Seen on Circumpapillary OCT Scans.	Author Block: Dongwon Lee1 , Monica Chen2 , <b>Toco Y. Chui</b> 3 , Benjamin Epstein1 , <b>Robert Ritch</b> 3 , <b>Richard B. Rosen</b> 3 , Alfredo Dubra4 , Donald Hood	4555- B0108	Purpose:To better understand glaucomatous damage seen on circumpapillary disc scans obtained with optical coherence tomography (OCT), these scans were compared to images of the peripapillary retinal nerve fiber (RNF) bundles obtained with an adaptive optics/scanning light ophthalmoscope (AO-SLO).
Analysis of the Photoreceptor Mosaic Within, On and Outside the Borders of Hyperautofluorescent Rings in Retinitis Pigmentosa Using Adaptive Optics Scanning Light Ophthalmoscopy	Author Block: Emily S. Smith1 , <b>Toco Y. Chui</b> 2 , Ching-Lung Chen3,4 , Joseph Carroll5 , Alfredo Dubra5 , Robert F. Cooper6 , <b>Richard B. Rosen</b> 2 , Donald Hood1,3 , Vivienne C. Greenstein3	4925- B0053	Purpose:To compare the appearance, density, and spatial organization of photoreceptor cells (PRCs) in patients with retinitis pigmentosa (RP) to measures of visual function and retinal structure within, on and outside the borders of the hyperautofluorescent (hyperAF) ring.
Anterior Ocular Biometry Changes after Cataract Extraction Using 3-dimensional Optical Coherence Tomography	Author Block: <b>Ruojin Ren</b> 1 , Daniel Laroche1 , Sung Chul (Sean) Park1,2 , Cristian Dalmasso1 , Jeffrey M. Liebmann3 , <b>Robert Ritch</b> 1	4996- B0195	Purpose:To investigate the changes in in vivo anterior segment anatomy, using swept-source optical coherence tomography (SS-OCT) in response to uncomplicated cataract extraction and posterior chamber intraocular lens (IOL) implantation in cataract patients with and without primary open-angle glaucoma (POAG).

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Antibiotic Resistance Among  
Ocular Pathogens – Results  
from the ARMOR  
Surveillance Study 2013-  
Present  
Author Block: **Ramiz  
Abumasmah1 , Ruojin  
Ren1 , Mark Ghassibi1 ,  
Jason L. Chien1** , Olga  
Adleyba1,4 , Celso Tello1,2  
, Jeffrey M. Liebmann3 ,  
**Robert Ritch1** , Sung Chul  
(Sean) Park1,2

The Antibiotic Resistance Monitoring in Ocular  
micRoorganisms (ARMOR) study was initiated in  
2009 to survey resistance levels among ocular  
pathogens on a nationwide scale. Here we report  
the complete study results for 2013 compared to  
preliminary 2014 data.

Purpose: To investigate the association between  
longitudinal lamina cribrosa (LC) position change  
and the rate of glaucomatous visual field (VF)  
progression.

Changes over time in retinal  
vessels in patients with early  
diabetes  
Author Block: **Richard B.  
Rosen1,2**

Abstract  
number  
2091

Presentation Description: Adaptive optics scanning  
light ophthalmoscopy using an offset pinhole (OP  
AOSLO) configuration enables non-invasive  
imaging of the dynamics of retinal microvascular  
walls, lumen, and blood flow, without the need  
for any exogenous contrast agent. We used OP  
AOSLO to survey and monitor subclinical  
microvascular changes over time in patients with  
diabetic retinopathy, including capillary perfusion  
remodeling, loop formation and resolution,  
microaneurysm expansion and regression. This  
technique provides a dynamic longitudinal view of  
the histopathology of aberrant diabetic  
microvascular development.

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Combined systemic and intravitreal antiviral treatment in acute retinal necrosis	Author Block: <b>Emile Sharifi</b> <sup>1</sup> , Masako Chen <sup>2</sup> , Diaz Vicente <sup>1</sup> , John Mauro <sup>1</sup> , <b>C M. Samson</b> , <b>Sanjay Kedhar</b> <sup>1</sup>	Abstract Number: 3130 - D0326	Purpose:To determine the outcomes at our institution for treating acute retinal necrosis (ARN) with combined systemic and intravitreal antiviral agents.
Corneal abrasion following anesthesia for non-ocular surgical procedures. A case-control study	Author Block: Anais Carniciu <sup>1</sup> , Melissa Fazzari <sup>2</sup> , Pauline Tabibian <sup>2</sup> , <b>Priti Batta</b> <sup>2,3</sup> , <b>Ronald C. Gentile</b> <sup>2,3</sup> , James Grendell <sup>2</sup> , Collin Brathwaite <sup>2</sup> , Nazanin Barzideh	3057- D0253	Purpose:To identify and characterize the risk factors associated with corneal abrasions following anesthesia for non-ocular surgical procedures at a single institution.
Cyclopentolate 1% Decreases Schlemm's Canal Dimension in Normal Subjects	Author Block: <b>Michael Rosman</b> <sup>1</sup> , Alon Skaat <sup>1</sup> , Sung Chul Park <sup>1,2</sup> , Jason L. Chien <sup>1</sup> , Mark Ghassibi <sup>1</sup> , Siddarth Rathi <sup>1</sup> , <b>Robert Ritch</b> <sup>1</sup> , Jeffrey M. Liebmann <sup>3</sup>	4986- B0185	Purpose:To characterize the in vivo effect of cyclopentolate 1%, an anticholinergic agent, on the structure of Schlemm's canal (SC) in normal eyes.
Cytomegalovirus Anterior Uveitis in Immunocompetent Patients	Author Block: <b>Natasha V. Nayak</b> <sup>1</sup> , <b>Emile Sharifi</b> <sup>1</sup> , <b>C M. Samson</b> <sup>1</sup> , <b>Sanjay Kedhar</b> <sup>1</sup>	1864- C0172	Purpose:To describe the clinical features and management of cytomegalovirus (CMV) associated anterior uveitis in immunocompetent patients within the United States

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Developing micro-RNAs as biomarkers for Primary Open Angle Glaucoma

Author Block: Emmanuel S. Buys<sup>1</sup> , Allyson Hindle<sup>1</sup> , **Jessica V. Jasien**<sup>2</sup> , Krishna Amin<sup>3</sup> , Kaitlin Allen<sup>1</sup> , Ana Dordea<sup>1</sup> , Sara Vandewijngaert<sup>1</sup> , Jasen Wise<sup>3</sup> , Jonathan Shaffer<sup>3</sup> , **Robert Ritch**<sup>2</sup>

Abstract Number: 3654 - A0148

Purpose: Primary open angle glaucoma (POAG) often goes undetected, highlighting the need for novel diagnostic or treatment response biomarkers. A family of ~2500 noncoding microRNAs (miRNAs) function as key molecular regulators by repressing their target gene. miRNA-based therapeutics are promising strategies to treat and detect various disorders. Recent studies illustrated presence of ~500 miRNAs in aqueous humor (AqH). Limited data is available on differential miRNA levels in AqH from patients with various subtypes of POAG, or on the correlation between miRNAs in AqH and plasma. We aimed to identify miRNAs as potential POAG biomarkers in AqH and plasma.

Does a patient's time of presentation correlate with the severity of diagnosis? – The experience of the Ophthalmology Urgent Care center at the New York Eye and Ear Infirmary

Author Block: **Luna Xu**<sup>1</sup> , Aimee Chang<sup>2</sup> , Kellie Gergoudis<sup>2</sup> , **Anita Gupta**<sup>1</sup>

Abstract Number: 1386 - A0081

Purpose: The study aims to explore whether there is an association between the severity of an ophthalmologic diagnosis and the time at which a patient presents to an ophthalmology urgent care center.

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Duration of  
Immunomodulator Therapy  
on Five-Year Uveitis  
Remission Rates

Author Block: **Yijie Lin**<sup>1</sup> ,  
**Emile Sharifi**<sup>1</sup> , David  
Mostafavi<sup>1</sup> , Danielle  
Rome<sup>1</sup> , Michael Tang<sup>1</sup> ,  
Tiffany Truong<sup>1</sup> , Vicente  
Diaz<sup>1</sup> , **Sanjay Kedhar**<sup>1</sup> ,  
John Mauro<sup>1</sup> , **C M.  
Samson**<sup>1</sup>

Abstract Purpose:To evaluate the relationship between  
Number: duration of immunomodulator therapy (IMT) and  
3109 - uveitis remission rates five years after  
D0305 discontinuation of the IMT

Epigenetic Drugs Inhibit  
Uveal Melanoma Cell  
Proliferation and Cell Cycle  
Progression

Author Block: Weiwei  
Chen<sup>1</sup> , Jiao Wang<sup>1</sup> , **Dan-  
Ning Hu**<sup>2</sup> , Dongsheng  
Yan<sup>1</sup>

Abstract Purpose:Emerging evidence indicates that  
Number: epigenetic drugs, such as DNA hypomethylating  
5312 - agents and histone deacetylase (HDAC) inhibitors  
A0161 have substantial efficacy in treating some cancers.  
Their effects on uveal melanoma, however, are  
largely unknown. To deal with this question, we  
determined the effects of four epigenetic drugs  
on uveal melanoma cell proliferation and  
apoptosis. The drugs used include two  
hypomethylating agents and two HDAC inhibitors.

Extrafoveal Cone Packing  
Density and Geometry in  
Retinopathy of Prematurity  
(ROP)

Author Block: Ramkumar  
Ramamirtham<sup>1</sup> , Garima  
Soni<sup>1,2</sup> , James D. Akula<sup>1,3</sup>  
, Emily A. Swanson<sup>1</sup> , Tara  
L. Favazza<sup>1</sup> , Mircea  
Mujat<sup>4</sup> , R D. Ferguson<sup>4</sup> ,  
**Toco Y. Chui**<sup>5</sup> , Anne  
Moskowitz<sup>1,3</sup> , Anne B.  
Fulton<sup>1,3</sup>

Abstract Purpose:To study cone packing density and  
Number: geometry using an adaptive optics scanning laser  
4933 - ophthalmoscope (AOSLO) in eyes with history of  
B0061 ROP and age matched control subjects.

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Factors associated with paracentral visual field involvement in glaucomatous eyes with optic disc hemorrhages	Author Block: Verena Juncal <sup>1</sup> , Flávio Lopes <sup>1</sup> , Paula Alhadeff <sup>2</sup> , <b>Robert Ritch</b> <sup>2</sup> , Tiago S. Prata	Abstract Number: 1053 - B0187	Purpose:To assess factors associated with paracentral visual field (VF) involvement in glaucomatous eyes with disc hemorrhages (DH)
Fluorescein Angiography and Retinal Vessel Oxygen Saturation in Patients with Proliferative Diabetic Retinopathy.	Author Block: <b>Nicole K. Scripsema</b> <sup>1</sup> , Chavakij Bhoomibunchoo <sup>1</sup> , Paul Whitten <sup>1</sup> , Robert Masini <sup>1</sup> , <b>Richard B. Rosen</b>	Abstract Number: 3309 - B0092	Purpose:To determine oxygen saturation differences between areas of active versus inactive Proliferative Diabetic Retinopathy (PDR) using the Oxymap Retinal Oximeter.
Glaucoma Diagnostic Capability of Circumpapillary Retinal Nerve Fiber Layer Thickness in Circular Scans with Different Diameters	Author Block: <b>Mark Ghassibi</b> <sup>1</sup> , Jason L. Chien <sup>1</sup> , Thipnapa Patthanathamrongkasem <sup>1</sup> , Ramiz Abumasmah <sup>1</sup> , Michael S. Rosman <sup>1</sup> , Alon Skaat <sup>1</sup> , Celso Tello <sup>1,2</sup> , Jeffrey M. Liebmann <sup>3</sup> , <b>Robert Ritch</b> <sup>1</sup> , Sung Chul (Sean) Park <sup>1,2</sup>	Abstract Number: 4552 - B0105	Purpose:To compare the diagnostic capability of circumpapillary retinal nerve fiber layer thickness (RNFLT) for glaucoma among circular scans with different diameters.

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Glaucoma Diagnostic Capability of Macular Layer Volume and Thickness using Spectral-Domain Optical Coherence Tomography	Author Block: <b>Jason L. Chien</b> <sup>1</sup> , Mark P. Ghassibi <sup>1</sup> , Thipnapa Patthanathamrongkasem <sup>1</sup> , Ramiz Abumasmah <sup>1</sup> , Michael S. Rosman <sup>1</sup> , Alon Skaat <sup>1</sup> , Celso Tello <sup>1,2</sup> , Jeffrey M. Liebmann <sup>3</sup> , <b>Robert Ritch</b> <sup>1</sup> , Sung Chul (Sean) Park <sup>1,2</sup>	Abstract Purpose:To compare the diagnostic capability of different macular layer volume and thickness parameters for glaucoma in different-sized grids. Number: 4529 - B0082
Glaucomatous Damage of the Retinal Nerve Fiber Layer Can Be Better Visualized with En-Face OCT Imaging than with Typical OCT Thickness Maps	Author Block: Maria A. Mavrommatis <sup>2</sup> , Brad Fortune <sup>1,6</sup> , Juan Reynaud <sup>1,6</sup> , Monica Chen <sup>2</sup> , Rithambara Ramachandran <sup>2</sup> , Robert Ritch <sup>4</sup> , <b>Richard B. Rosen</b> <sup>4</sup> , Alfredo Dubra <sup>5</sup> , <b>Toco Y. Chui</b> <sup>4</sup> , Donald Hood <sup>3</sup>	Abstract Purpose:The appearance of the retinal nerve fiber layer (RNFL) seen using summed voxel projections (SVP) of en-face images of optical coherence tomography (OCT) scans was compared to RNFL thickness maps derived from the same scans. Number: 4554 - B0107
Human Adult Retinal Pigment Epithelial Cultures Exhibit Key Physiological Characteristics of Native RPE Tissue	<u>Author Block:</u> <i>Timothy A. Blenkinsop</i> <sup>1</sup> , <i>Janmeet S. Saini</i> <sup>2</sup> , <i>Arvydas Maminishkis</i> <sup>3</sup> , <i>Kapil Bharti</i> <sup>3</sup> , <i>Qin Wan</i> <sup>3</sup> , <i>Janine Davis</i> <sup>3</sup> , <i>Sheldon S. Miller</i> <sup>3</sup> , <i>Sally Temple</i> <sup>2</sup> , <i>Jeffrey Stern</i> <sup>2</sup>	<u>Abstract Number:</u> 2330 - B0264 Evaluate the physiology of adult human RPE cultured using a recently established protocol

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Hypoxia induces VEGF secretion in uveal melanocytes through increased protein levels of hypoxia-inducible factors-1 $\alpha$

Author Block: **Dan-Ning Hu**<sup>1</sup> , **Richard B. Rosen**<sup>1</sup> , **Codrin E. Iacob**<sup>2</sup>

Abstract Purpose: Hypoxia leads to the accumulation of hypoxia-inducible factor-1 $\alpha$  (HIF-1 $\alpha$ ) protein, which in turn causes the increase in VEGF secretion in various cell types; however, the effects of hypoxia on the expression of VEGF and HIF-1 $\alpha$  in uveal melanocytes (UM) have never been reported. We hypothesize that hypoxia may stimulate the secretion of VEGF in cultured human UM via the accumulation of HIF-1 $\alpha$  protein.

Identification of a novel locus for Exfoliation Syndrome

Author Block: Mineo Ozaki<sup>1</sup> , Tin Aung<sup>2</sup> , Takanori Mizoguchi<sup>3</sup> , R Rand Allingham<sup>4</sup> , **Robert Ritch**<sup>5</sup> , Michael A. Hauser<sup>6</sup> , Chiea Chuen Khor<sup>7</sup>

4380 Purpose: Exfoliation syndrome (XFS) is an age-related disease, manifesting primarily in the eyes. XFS is a very common and recognizable cause of secondary glaucoma world-wide. We sought to better understand the overall disease process of XFS. To this end, we thus conducted a genome-wide association study (GWAS) on ~1500 patients with XFS matched to ~1200 controls from Japan.

Imaging of Periarteriolar Capillary Free Zone using Offset Pinhole Adaptive Optics Scanning Light Ophthalmoscopy

Author Block: **Toco Y. Chui**<sup>1,2</sup> , Nikhil Menon<sup>1,2</sup> , Nadim Choudhury<sup>1,2</sup> , Alexander Pinhas<sup>1,2</sup> , Michael Dubow<sup>1,2</sup> , Nishit Shah<sup>1</sup> , Alfredo Dubra<sup>3,4</sup> , **Richard B. Rosen**<sup>1</sup>

Abstract Purpose: Previous studies have shown that the dimension of the periarteriolar capillary free zone (CFZ) is associated with the retinal oxygen level. In this study, we imaged and quantified the CFZ in healthy controls using an offset pinhole adaptive optics scanning light ophthalmoscope (AOSLO).



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Impaired Lysosomal and Mitochondrial Function in Exfoliation Glaucoma

Author Block: Andrew Want<sup>1,2</sup> , Stephanie Gillespie<sup>1</sup> , J Mario Wolosin<sup>1</sup> , **Robert Ritch**<sup>2</sup> , Audrey Bernstein<sup>1</sup>

Abstract Purpose: In the eye, exfoliation syndrome (XFS) is characterized by the aggregation of disorganized microfibrils (exfoliation material, XFM). Deposition of XFM and pigment in the aqueous outflow pathway leads to chronic intraocular pressure elevation leading in turn to glaucoma. Similar to other age-related diseases in which protein aggregates cause disease, we hypothesize that lysosomal and mitochondrial dysfunction contributes to the formation of XFM aggregates.

Improving inter-individual diagnostic agreement in early glaucoma through better use of optical coherence tomography (OCT) scans.

Author Block: Donald Hood<sup>1</sup> , C Gustavo De Moraes<sup>2</sup> , Lola Grillo<sup>1</sup> , Paula Alhadeff<sup>3</sup> , Ravivarn Jarukasetphon<sup>3</sup> , Rithambara Ramachandran<sup>4</sup> , Diane Wang<sup>4</sup> , Dana Blumberg<sup>2</sup> , Jeffrey M. Liebmann<sup>3</sup> , **Robert Ritch**

Abstract Purpose: To test if individuals trained in a method integrating key visual field (VF) and optical coherence tomography (OCT) information without stereo disc photographs (SDP) would show better inter-individual agreement in diagnosing early glaucoma than glaucoma specialists using traditional commercial reports and SDP.

In Vivo Schlemm's Canal Size Is Associated with Axial Length, Age and Corneal Thickness in Normal Eyes

Author Block: Sung Chul (Sean) Park<sup>1,2</sup> , Thipnapa Patthanathamrongkasem<sup>2</sup> , Ruojin Ren<sup>2</sup> , Jason L. Chien<sup>2</sup> , Mark Ghassibi<sup>2</sup> , Celso Tello<sup>1,2</sup> , Jeffrey M. Liebmann<sup>3</sup> , **Robert Ritch**

Abstract Purpose: To assess the associations between Schlemm's canal (SC) size with ocular and demographic factors in normal eyes.

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In vivo imaging of human retinal microvasculature in sickle cell retinopathy using adaptive optics scanning light ophthalmoscope fluorescein angiography and offset pinhole imaging.	Author Block: <b>Nadim Choudhury</b> <sup>2,1</sup> , Nikhil Menon <sup>2,1</sup> , Alexander Gan <sup>2</sup> , Moataz M. Razeen <sup>2</sup> , Alexander Pinhas <sup>2,1</sup> , Nishit Shah <sup>2</sup> , <b>Ronald C. Gentile</b> <sup>2,4</sup> , <b>Toco Y. Chui</b> <sup>2,1</sup> , Alfredo Dubra <sup>3,5</sup> , <b>Richard B. Rosen</b> <sup>2,1</sup>	Abstract Number: 5949 - A0120	Purpose: Purpose: To detect and monitor microvascular changes cross-sectionally and longitudinally in patients with sickle cell retinopathy (SCR) using adaptive optics scanning light ophthalmoscope (AOSLO) fluorescein angiography (FA) and offset pinhole (OP) imaging.
In vivo retinal vascular wall imaging in patients with diabetic retinopathy using non-confocal Split Detection Adaptive Optics Scanning Light Ophthalmoscopy	Author Block: <b>Nikhil Menon</b> <sup>1,2</sup> , Nadim Choudhury <sup>1,2</sup> , <b>Toco Y. Chui</b> <sup>1,2</sup> , Alexander Pinhas <sup>1,2</sup> , Yusufu N. Sulai <sup>3</sup> , Alfredo Dubra <sup>3,4</sup> , <b>Richard B. Rosen</b> <sup>1,2</sup>	Abstract Number: 5300 - A0054	Purpose: To measure lumen diameter and wall thickness of perfused retinal vasculature, and to quantify changes in diabetic retinopathy (DR) relative to healthy control eyes.
Iridocorneal Angle and Anterior Chamber Architecture after Laser Iridotomy or Pilocarpine in Anatomically Narrow Angles	Author Block: <b>Nicole Khezri</b> <sup>1</sup> , Ruojin Ren <sup>1</sup> , Olga Adleyba <sup>1,4</sup> , Ramiz Abumasmah <sup>1</sup> , Jason L. Chien <sup>1</sup> , Mark Ghassibi <sup>1</sup> , Adam Perlstein <sup>1</sup> , Jeffrey M. Liebmann <sup>3</sup> , <b>Robert Ritch</b> <sup>1</sup> , Sung Chul (Sean) Park	Abstract Number: 4979 - B0178	Purpose: To compare the effects of laser iridotomy (LI) and pilocarpine on the iridocorneal angle and anterior chamber structures in anatomically narrow angles (ANA)
Long-term Outcomes of Laser Trabeculoplasty Prior to Cataract Surgery	Author Block: <b>Ting Ting Liu</b> <sup>1</sup> , Sarah Chao Ying Xu <sup>2</sup> , <b>James C. Tsai</b> <sup>1</sup> , Ji Liu <sup>2</sup>	Abstract Number: 6122 - C0080	Purpose: To evaluate the long-term effect of laser trabeculoplasty on intraocular pressure (IOP) prior to cataract surgery.

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Macular Mitochondrial  
Flavoprotein  
Autofluorescence in Eyes  
with Primary Open Angle  
Glaucoma

Author Block: **Alexander  
Pinhas**<sup>1,2</sup> , Moataz M.  
Razeen<sup>1</sup> , Theodora  
Dantias<sup>1,3</sup> , Nikhil  
Menon<sup>1,2</sup> , Nadim  
Choudhury<sup>1,2</sup> , Matthew  
Field<sup>4</sup> , **Joseph Panarelli**<sup>1</sup> ,  
**Richard B. Rosen**<sup>1</sup>

Abstract Purpose: Primary open angle glaucoma (POAG) is a  
Number: progressive optic neuropathy involving  
3983 mitochondrial dysfunction revealed by  
characteristic structural changes to the optic  
nerve head and retinal nerve fiber layer, and  
functional visual field alterations. This study was  
designed to quantitatively assess mitochondrial  
dysfunction in the maculae of patients with POAG  
compared to healthy controls using flavoprotein  
autofluorescence (FPF) measured by the Retinal  
Metabolic Analysis (RMA) (OcuSciences, Ann  
Arbor, MI).

Magnetic Resonance  
Imaging (MRI) Models of the  
Posterior Segment

Author Block: James D.  
Akula<sup>1,2</sup> , Robert Munro<sup>1</sup> ,  
Emily A. Swanson<sup>1</sup> , Tara L.  
Favazza<sup>1</sup> , **Toco Y. Chui**<sup>3</sup> ,  
Anne Moskowitz<sup>1,2</sup> ,  
Ramkumar Ramamirtham<sup>1</sup>  
, Sanjay Prabhu<sup>4,5</sup> , Ronald  
M. Hansen<sup>1,2</sup> , Anne B.  
Fulton<sup>1,2</sup>

Abstract Purpose: To evaluate high-resolution MRI  
Number: sequences for utility in defining the 3D shape of  
2778 - eyes by comparing emmetropic and myopic eyes  
B0160 of subjects born full-term to those with a history  
of retinopathy of prematurity (ROP), a disease  
associated with both short axial length and  
myopia.

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MicroRNA-135b Inhibits Uveal Melanoma Cell Proliferation and Migration

Author Block: Xiaoyan Chen<sup>1</sup> , Jiao Wang<sup>1</sup> , Lihua Wang<sup>1</sup> , **Dan-Ning Hu<sup>2</sup>** , Dongsheng Yan<sup>1</sup>

Abstract Purpose:MicroRNAs (miRNAs) can act as either oncogenes or tumor suppressors in tumorigenesis. Evidence indicates that miRNAs play important roles in uveal melanoma cell proliferation and migration. The role of miR-135b in uveal melanoma, however, remains unclear. Here, we investigated the function of miR-135b in uveal melanoma cells.

Outcome of Descemet stripping automated endothelial keratoplasty in Outcomes of Descemet stripping automated endothelial keratoplasty performed by residents

Author Block: **Kevin Lai<sup>1</sup>** , Joann Kang<sup>2</sup> , **David Ritterband<sup>1</sup>** . Jeffrev M. Author Block: **Jennifer W. Lee<sup>1</sup>** , **Joseph Panarelli<sup>1</sup>**

Abstract Purpose:To compare the outcome of Descemet stripping automated endothelial keratoplasty (DSAEK) in eyes with simultaneous insertion of a Purpose:Descemet stripping automated endothelial keratoplasty (DSAEK) has continued to gain popularity as an alternative to penetrating keratoplasty (PK) for the treatment of patients with endothelial cell disorders. While studies have documented the learning curve of cornea surgeons in performing DSAEK, there is little known on the similarities and differences of outcomes and complications when performed by residents in training. The purpose of our study is to evaluate the postoperative outcomes of DSAEK by residents under the supervision of experienced cornea surgeons.

<p>Prevalence of intermediate-stage age-related macular degeneration in patients with the Acquired immunodeficiency syndrome</p> <p>Preventing the Argentinian Flag Sign During the Extraction of White Intumescent Cataracts: Phaco Capsulotomy Experience</p>	<p>Douglas A. Jabs, MD, MBA, Mark L. Van Natta, MHS, Efe Sezgin, MD, Jeong Won Pak, PhD, Ronald P. Danis, MD for the Studies of the Ocular Complications of AIDS Research Group.</p> <p>Author Block: <b>Mahmood El-Gasim1 , Kateki Vinod1 , Christopher C. Teng2</b></p>	<p>1409 - A0104 Abstract Number: 683 - B0249</p>	<p><b>Purpose:</b>Antiretroviral-treated, immunorestored, HIV-infected persons have evidence of accelerated and accentuated aging manifested as an increased prevalence of age-related diseases at younger ages than non-HIV-infected persons. We evaluated the prevalence of age-related macular degeneration (AMD) in patients with the acquired immunodeficiency syndrome (AIDS).</p> <p><b>Purpose:</b>The extraction of white intumescent cataracts is challenging. During the creation of the capsulorhexis, the pressure of the cataract can cause spontaneous tears in the capsule that extend to the periphery (Argentinian flag sign). The aim of this study is to evaluate the effectiveness of phaco capsulotomy in preventing the Argentinean flag sign.</p>
<p>Progression of Retinal Nerve Fiber Layer Abnormalities Associated with Optic Disc Hemorrhages Can Be Followed with Optical Coherence Tomography</p>	<p>Author Block: Daiyan Xin1 , Diane Wang1 , Rithambara Ramachandran1 , Lola Grillo1 , Gustavo De Moraes3 , Ravivarn Jarukasatphon1 , <b>Robert Ritch2</b> , Donald Hood1</p>	<p>Abstract Number: 4567 - B0120</p>	<p><b>Purpose:</b>To follow the changes in circumpapillary, retinal nerve fiber layer (RNFL) thickness seen with frequency domain optical coherence tomography (fdOCT) after an optic disc hemorrhage (DH) has been visualized on a fundus photograph.</p>

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Qualities of the Ideal Surgical Retina Fellow and Attending: Perspective of the Attending and Fellow	Author Block: <b>Jessica Lee1</b> , Chirag Shah3 , <b>Steven Agemy1</b> , Dean Elliott2 , <b>Ronald C. Gentile1,4</b> , Study Group Annual Mass Eye and Ear Vitrectomy Course2	Abstract Number: 5126 - C0162	Purpose:To identify the top five ideal characteristics (behaviors) of both the retina surgical fellow and attending.
Quantitative Analysis of Capillary Network Density in Diabetic Retinopathy Using Optical Coherence Tomography with Split-Spectrum Amplitudinal Decorrelation Angiography	Author Block: <b>Steven Agemy1</b> , <b>Jessica Lee1</b> , <b>Patricia Garcia1</b> , Yi-Sing Hsiao2 , <b>Toco Y. Chui1</b> , <b>Richard B. Rosen1</b>	Abstract Number: 3342 - B0125	Purpose:To quantitatively visualize retinal vascular flow in patients with diabetic retinopathy using Optical Coherence Tomography Angiography and a novel perfusion density mapping software.
Reference Ranges for Fixed Protocol Short Duration Transient Visual Evoked Potentials Parameter of Healthy Eyes	Author Block: Peter H. Derr1 , Alberto Gonzalez-Garcia1 , Anna Shengelia2 , Jason L. Chien3,4 , Mark Ghassibi3,4 , Celso Tello2,5 , <b>Robert Ritch3</b>	Abstract Number: 461 - A0185	Purpose:To evaluate the responses of Fixed Protocol Short Duration Transient Visual Evoked Potentials (SD-tVEP) on healthy subjects, to obtain the distribution of these parameters, and to establish expected reference ranges.
Review and characterization of ophthalmology inpatient and emergency room consultations at a tertiary care hospital	Author Block: <b>Andrew A. Kao1</b> , <b>Anita Gupta1</b>	Abstract Number: 1385 - A0080	Purpose:To identify the pattern and frequency of inpatient and emergency department ophthalmology consultations at a large tertiary care hospital.

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Rho-Kinase Inhibitor AR-12286 Ophthalmic Solution 0.5% and 0.7% Efficacy in Patients with Exfoliation Syndrome (XFS) and Ocular Hypertension (OHT) or Exfoliative Glaucoma (XFG)

Author Block: **Jessica V. Jasien<sup>2,3</sup>** , Alon Skaat<sup>1,3</sup> , **Robert Ritch<sup>3,2</sup>**

Abstract Purpose: Elevated intraocular pressure (IOP) is the sole proven modifiable risk factor for XFG development and progression. Rho-associated protein kinase inhibitors have been studied for their ability to lower IOP, by several mechanisms including disruption of adhesions between the trabecular meshwork (TM) cells and increasing aqueous outflow. The main purpose of this study was to evaluate the efficacy of AR-12286 and evaluate the lasting effect on IOP after discontinuation.

**Purpose:** SKQ1 (Visomitin) is a novel mitochondrial-targeted anti-oxidant that holds promise for treatment of the ocular surface inflammation. The

**Abstract** goal of this study is to determine the potential role of SKQ1 as an anti-inflammatory drug for the treatment of ocular surface inflammation, such as that seen in dry eye disease.

**Number:** 1184 - D0086  
Abstract Purpose: To compare the fellow eye of unilateral exfoliation syndrome (XFS) and exfoliative glaucoma (XFG) patients SD-tVEP test results to a set of SD-tVEP parametric reference ranges.

Role of SKQ1 On Inflammatory Responses Associated With Ocular Surface Disease: A Cell Culture Model Short Duration Transient Visual Evoked Potentials (SD-tVEP) in Unaffected Fellow Eyes of Unilateral Exfoliation Syndrome and Exfoliative Glaucoma Patients

Yi Wei, Penny Asbell, Natalia Perekhvatova, Anton Petrov  
Author Block: **Annie Liu<sup>2</sup>** , Peter H. Derr<sup>1</sup> , Jessica V. Jasien<sup>2</sup> , Alberto O. Gonzalez Garcia<sup>1</sup> , Celso Tello<sup>2,3</sup> , **Robert Ritch<sup>2</sup>**

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Steady-State Pattern Electroretinogram (ssPERG) Fixed Protocol Reference Ranges of Healthy Eyes.	Author Block: Anna Shengelia1 , Peter H. Derr2 , Alberto Gonzalez-Garcia2 , Mark Ghassibi3,4 , Jason L. Chien3,4 , Celso Tello3,5 , <b>Robert Ritch</b>	Abstract Number: 1030 - B0164	Author Block: Anna Shengelia1 , Peter H. Derr2 , Alberto Gonzalez-Garcia2 , Mark Ghassibi3,4 , Jason L. Chien3,4 , Celso Tello3,5 , Robert Ritch
The Combined Tractional-Hydration Theory of Idiopathic Macular Holes	Author Block: <b>Ronald C. Gentile1,2</b> , Dean Elliott3 , <b>Richard B. Rosen1</b> , <b>Joseph Benevento1</b> , Vincent S. Reppucci1 , Raymond Iezzi4	Abstract Number: 4325	Purpose:To propose and present evidence for the Combined Tractional-Hydration Theory of Idiopathic Macular Hole Formation, Progression, and Closure.
The Microarchitecture of Schlemm's Canal before and after Selective Laser Trabeculoplasty	Author Block: Alon Skaat1 , Michael S. Rosman1 , Sung Chul (Sean) Park1,2 , Jason L. Chien1 , Mark P. Ghassibi1 , Siddarth Rathi1 , <b>Robert Ritch1</b> , Jeffrey M. Liebmann3	Abstract Number: 4978 - B0177	Purpose:To characterize the in vivo effect of selective laser trabeculoplasty (SLT) on the structure of Schlemm's canal (SC) in open-angle glaucoma eyes.
The Relative Odds of Progressing by Structural and Functional Tests in Glaucoma	Author Block: Amir Marvasti1 , Linda M. Zangwill1 , Ricardo Y. Abe1,2 , Alberto Diniz-Filho1,3 , Carolina Gracitelli1,4 , Robert N. Weinreb1 , Christopher A. Girkin5 , Jeffrey M. Liebmann6 , Felipe A. Medeiros1	Abstract Number: 623 - B0136	Purpose:To evaluate the relationship between disease severity, number of tests during follow-up and the odds of progressing by structural and functional tests in glaucoma.



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The Role of Primary Cilia in Anterior Segment Development and Disease

Carlo Iomini, PhD

Course  
Presentations

The Standard 24-2 Visual Field Test Can Miss Central Macular Damage Confirmed with 10-2 Visual Fields and Optical Coherence Tomography

Author Block: Lola M. Grillo<sup>1</sup> , Diane Wang<sup>1</sup> , Rithambara Ramachandran<sup>1</sup> , Alyssa C. Ehrlich<sup>1</sup> , Paula Alhadeff<sup>1</sup> , C Gustavo De Moraes<sup>4</sup> , **Robert Ritch3** , Donald Hood<sup>2,1</sup>

Abstract Purpose: Glaucomatous damage to the macula (central  $\pm 10^\circ$ ) is relatively common and involves both deep local and shallow widespread defects.[1,2] To assess the extent to which macular damage can be missed and/or underestimated by a 24-2 visual field (VF) test, we examined various metrics of the 24-2 VF of patients with confirmed macular damage based upon 10-2 VFs and optical coherence tomography (OCT).

The influence of age on the rate of estimated retinal ganglion cell counts in healthy eyes

Author Block: Joseph Liao<sup>1,2</sup> , Carolina Gracitelli<sup>1,3</sup> , Linda M. Zangwill<sup>1</sup> , Christopher A. Girkin<sup>4</sup> , Jeffrey M. Liebmann<sup>5</sup> , Robert N. Weinreb<sup>1</sup> , Felipe A. Medeiros<sup>1</sup>

Abstract Purpose: To evaluate aging effects on estimated retinal ganglion cell (RGC) counts in healthy eyes.

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The minimum rim width at Bruch's membrane opening (BMO-MRW) and detection of early glaucomatous damage.	Author Block: Ravivarn Jarukasetphon <sup>1,2</sup> , Diane Wang <sup>1</sup> , Xian Zhang <sup>1</sup> , Hassan Muhammad <sup>1</sup> , Lola Grillo <sup>1</sup> , Rithambara Ramachandran <sup>1</sup> , <b>Robert Ritch</b> <sup>2</sup> , Donald Hood <sup>1</sup>	Abstract Number: 1018 - B0092	Purpose:A recent optical coherence tomography (OCT) study found that the minimum distance between Bruch's membrane opening (BMO) and the inner limiting membrane (ILM) was a better measure for detecting glaucomatous damage than was the circumpapillary retinal nerve fiber layer thickness (cpRNFL).[1] To explore when the BMO measure might fail, eyes with confirmed mild glaucomatous damage were studied.
The relation between patterns of central (macular) glaucomatous damage, diagnostic categories, and disc-fovea angle.	Author Block: Diane Wang <sup>3</sup> , Rithambara Ramachandran <sup>3</sup> , Lola M. Grillo <sup>3</sup> , Ravivarn Jarukasetphon <sup>1,3</sup> , Paula Alhadeff <sup>1,3</sup> , Gustavo De Moraes <sup>4</sup> , <b>Robert Ritch</b> <sup>1</sup> , Donald Hood <sup>2,3</sup>	Abstract Number: 635 - B0148	Purpose:To examine the association between the pattern of glaucomatous macular defects and diagnostic categories, as well as disc-fovea angle (DFA), using information from both frequency domain optical coherence tomography (fdOCT) and visual fields (VFs).
Visualization of Multiple Retinal Capillary Beds using Offset Pinhole Adaptive Optics Scanning Light	Author Block: <b>Richard B. Rosen</b> <sup>1,2</sup> , <b>Nadim Choudury</b> <sup>1,2</sup> , <b>Nikhil Menon</b> <sup>1,2</sup> , <b>Alexander Pinhas</b> <sup>1,2</sup> , Rishard Weitz <sup>1</sup> , Joseph Carroll <sup>3</sup> , Alfredo Dubra <sup>3</sup> , <b>Toco Chui</b> <sup>1,2</sup>	Abstract Number: 4098 - B0020	Purpose:To image retinal capillary beds at different retinal layers in healthy and diseased retinas using an offset pinhole adaptive optics scanning light ophthalmoscope (AOSLO).