

## ARVO 2015 Annual Meeting Emerging Trends and Hot Topics

The following abstracts have been identified by members of the Annual Meeting Program Committee as representing the newest and most innovative research being conducted in the various specialties. To view abstracts, enter the program number below in the "Search" field of the Online Planner. For SIGs (Special Interest Groups), search the Online Planner by title.

### Sunday, May 3

#### Biochemistry/Molecular Biology

#192 - C0047. Exposure to Lutein in Infancy via Breast Milk and Later Life Macular Pigment Optical Density. Zhe Liu. May 3, 8:30am.

#805 - D0267. Protein-Flavonoid Binding Studies Using a Novel Taylor Dispersion Surface Plasmon Resonance (SPR) Technique. Preejith Vachali. May 3, 1:30pm.

#1082 - C0095. Joint Phenotypic and Genotypic Predictors of Macular Pigment Optical Density. Julie Mares. May 3, 3:15pm.

#1085 - C0098. A tool for predicting disease genes associated with dominant retinal degenerations. Beryl Royer-Bertrand. May 3, 3:15pm.

#1086 - C0099. Sequence-specific suppression of alleles causing dominantly inherited retinal degenerations using the RNA-guided nuclease Cas9. Clara Men. May 3, 3:15pm.

#1089 - C0102. Delivery of the Anti-inflammatory CARD Gene Allows Retinal Recovery After Acute Oxidative Injury: Implications for AMD. Cristhian Ildefonso. May 3, 3:15pm.

#1092 - C0105. AAV-mediated Gene Therapy Restores M-Cone Function in S-opsin only Opn1mw KO Mice. Ji-Jing Pang. May 3, 3:15pm.

#### Cornea

#289 - C0174. Long-term Use of Diclofenac Exacerbates Immune Driven Dry Eye Disease by Inhibiting Lipoxin A4 formation in Lymph Nodes and Lacrimal Glands. Karsten Gronert. May 3, 8:30am.

#290 - C0175. Effects of Aging on Neurochemical Properties of Mouse Corneal Cold Sensory Neurons, Changes in Morphology in their Afferent Projections and Implications in Basal Tear Secretion. Almudena Íñigo-Portugués. May 3, 8:30am.

#### Eye Movements/Strabismus/Amblyopia/Neuro-ophthalmology

#534 - A0266. A research based novel method for vergence rehabilitation. Zoi Kapoula. May 3, 1:30pm.

### **Genetics Group**

#795 - D0257. Genotype at four loci associated with risk of advanced AMD does not predict progression rate from intermediate to advanced disease. Patrice Persad. May 3, 1:30pm.

### **Glaucoma**

#1029 - B0163. Effects of early glaucoma on vection responses. Taylor Brin. May 3, 3:15pm.

### **Immunology/Microbiology**

#942. Bacterial induced corneal inflammation is inhibited by Mesenchymal Stem Cells (MSCs). Rui Zhang. May 3, 4:15pm.

### **Multidisciplinary Ophthalmic Imaging Group**

SIG. Pupil reaction as an objective diagnostic tool- ophthalmic and neural aspects. Ygal Rotenstreich. May 3, 1:30pm.

SIG. Optical Coherence Tomography Guided Ophthalmic Surgery. Joseph Izatt. May 3, 1:30pm.

### **Physiology/Pharmacology**

#23 - A0012. Bioavailability of dietary omega-3 DHA and lutein for the retina: results from a preclinical study in mini-pigs with encapsulated nutrients. Lionel Bretilon. May 3, 8:30am.

#83 - A0115. Development and Delivery of Candidate Retinoblastoma Therapeutics. Eleanor Pritchard. May 3, 8:30am.

#84 - A0116. Safety and efficacy of digoxin as a potential candidate agent for retinoblastoma treatment. Ursula Winter. May 3, 8:30am.

#116 - B0124. Age-dependency of ocular parameters - a cross sectional study of young and old healthy subjects. Gauti Jóhannesson. May 3, 8:30am.

#146 - C0001. Characterization of the pH and Temperature in the Rabbit Vitreous: Key Parameters for the Development of Long Acting Delivery of Drugs to the Posterior Segment of the Eye. Florence Lorget. May 3, 8:30am.

#148 - C0003. Dexamethasone-Eluting Contact Lens Drug Delivery For The Ocular Inflammation. Joseph Ciolino. May 3, 8:30am.

#149 - C0004. Adsorption of VEGF to Hydroxyapatite. Richard Hwang. May 3, 8:30am.

#150 - C0005. Therapeutic potential of a novel isoquinoline sulfonamide derivative with protein kinase inhibition function, H-1337, in wet AMD. Masahiko Sugimoto. May 3, 8:30am.

#151 - C0006. Weekly oral delivery of a vascular endothelial growth factor receptor (VEGFR) inhibitor compound optimized for ocular exposure improves safety and maintains efficacy compared to daily dosing. Yubin Qiu. May 3, 8:30am.

#156 - C0011. Spatial Distribution of Sphingolipids in The Mouse Retina by MALDI Imaging Mass Spectrometry. Jie Fan. May 3, 8:30am.

- #157 - C0012. Evaluation of the Performance, Biocompatibility and Safety of a New Posterior MicroPump Drug Delivery System. Ramiro Ribeiro. May 3, 8:30am.
- #158 - C0013. Vitamin D Receptor Agonists Significantly Attenuate Ocular Developmental Angiogenesis. Stephanie Merrigan. May 3, 8:30am.
- #159 - C0014. Role of inflammation and effect of Dexamethasone on Müller Glial Cells in a post-surgical model of blood-retinal barrier breakdown. Lourdes Siqueiros. May 3, 8:30am.
- #160 - C0015.  $\alpha$ 2Macroglobulin differentially regulates ligand-dependent p75 and TrkA receptor activation ex vivo and in retina. Pablo Barcelona. May 3, 8:30am.
- #164 - C0019. The dilating effect of insulin on retinal vessels is most pronounced in pre-capillary arterioles. Peter Jensen. May 3, 8:30am.
- #207 - C0062. Changes in Unaffected Retinal Vessel Diameter in Eyes with Branch Retinal Vein Occlusion after Intravitreal Bevacizumab Injection. Dong Ho Park. May 3, 8:30am.
- #208 - C0063. The role of a Src/FAK-paxillin signalsome in VEGF-induced retinal neovascularization. Jordan Toutouchian. May 3, 8:30am.
- #210 - C0065. The Role of Glial Cells in the Regulation of Retinal Microcirculation in Response to Modulations in Systemic Oxygen Tension in Cats. Youngseok Song. May 3, 8:30am.
- #214 - C0069. Chronic treatment of caffeine and adenosine A2A receptor antagonist KW6002 selectively protects against oxygen-induced retinal neovascular damage in mice. Rong Zhou. May 3, 8:30am.
- #219 - C0074. Accurate Solubility and Release Measurements of Retinoic Acid (RA) in Silicone Oil (SiO). Victoria Kearns. May 3, 8:30am.
- #234 - C0089. The effect of elevated intraocular pressure on convective flow in the vitreous. Susan Lee. May 3, 8:30am.
- #235 - C0090. Pre-analytical parameters have significant impacts on VEGF levels measured from human plasma. Johanna Walz. May 3, 8:30am.
- #241 - C0113. Reducing Posterior Capsule Opacification By Eliminating Myo/Nog Cells Through Targeted Drug Delivery Using 3DNA Nanocarriers. Jacquelyn Gerhart. May 3, 8:30am.
- #242 - C0114. AAV-mediated efficient gene transfer in retinal ganglion cells of dogs and non-human primates. Tshitoko Kizito Tshilenge. May 3, 8:30am.
- #243 - C0115. Optimization of dual AAV vectors for gene therapy of inherited retinal diseases. Ivana Trapani. May 3, 8:30am.
- #244 - C0116. Retention of cone function in a murine rhodopsin knock-out model of retinitis pigmentosa by rhodopsin gene delivery. Daniyar Dauletbekov. May 3, 8:30am.

#247 - C0119. A Mutant Human T8993G ATP6 Transgenic Mouse Model With Visual Loss, Paralysis and Death. Huijun Yuan. May 3, 8:30am.

#249 - C0121. Electrophysiological study of the retinal effects of intravitreal injection of mycophenolic acid in rabbits. Andre Liber. May 3, 8:30am.

#250 - C0122. Short term variation of submacular choroidal thickness measured after intravitreal injection of anti-VEGF agents – a pilot study. Karim Benyelles. May 3, 8:30am.

#251 - C0123. Retinal applications for novel, in silico designed adeno-associated viral gene therapy vector platform. Luk Vandenberghe. May 3, 8:30am.

#252 - C0124. Transduction of Mouse Retina by Intravitreal Delivery Using Chimeric Capsids with Altered Glycan Interactions. Kenton Woodard. May 3, 8:30am.

#255 - C0127. A Novel Method for Ellipsoid Layer Analysis with Hydroxychloroquine Use. Benjamin Reiss. May 3, 8:30am.

#259 - C0131. Ocular transduction following suprachoroidal space AAV vector administration in small and large animal models. Brian Gilger. May 3, 8:30am.

#260 - C0132. AAV Gene Therapy for MPS1 Corneal Clouding. Matthew Hirsch. May 3, 8:30am.

#261 - C0133. Biodegradation of poly(esteramide)s - utility in ophthalmic drug delivery. George Mihov. May 3, 8:30am.

#262 - C0134. Sustained Delivery of rHGH via a Novel, Biodegradable, Hyaluronic Acid (HA) Polymer Film. Barbara Wirostko. May 3, 8:30am.

#283 - C0168. Netilmicin for antibiotic prophylaxis before cataract surgery. Vincenzo Papa. May 3, 8:30am.

#284 - C0169. Antibiotic Resistance Among Ocular Pathogens – Results from the ARMOR Surveillance Study 2013-Present. Penny Asbell. May 3, 8:30am.

#287 - C0172. The effect of the linezolid and the vancomycin on biofilm production that formed on two different acrylic hydrophobic intraocular lenses. Sertac Argun Kivanc. May 3, 8:30am.

#364 - D0100. DaVinci Robot Assisted Sub-Retinal Injection. Martin Schardt. May 3, 8:30am.

#689 - C0137. Progressive loss of sensitivity to anti-VEGF and anti-PDGFRb treatment with advancing corneal neovascularization. Amy Jensen. May 3, 1:30pm.

#692 - C0140. A comparison of subfoveal to parafoveal choroidal blood flow dynamics. John Lovasik. May 3, 1:30pm.

#695 - C0143. The effect of light exposure on the efficacy of Amphotericin B in Optisol-GS corneal storage media. Katherine Duncan. May 3, 1:30pm.

#697 - C0145. A novel approach of daunorubicin application on formation of proliferative retinopathy using a porous silicon based, controlled delivery system. Lingyun Cheng. May 3, 1:30pm.

#698 - C0146. The effects of nitroglycerine and COX-inhibition on retinal vessel diameters during hypoxia. Musa Kaya. May 3, 1:30pm.

#699 - C0147. A single-center, double-masked, randomized, vehicle-controlled, parallel-group study evaluating the efficacy and safety of brimonidine tartrate ophthalmic solution 0.025% used four times daily in a population of adult and geriatric subjects with ocular redness. Baldo Scassellati-Sforzolini. May 3, 1:30pm.

#700 - C0148. Aqueous Angiography: A Real-Time, Physiologic, and Comprehensive Aqueous Humor Outflow Imaging Technique. Alex Huang. May 3, 1:30pm.

#760 - D0154. Simultaneous dynamic retinal vessel analysis and pulsed anodal transcranial electrical stimulation at the eye. Stefanie Freitag. May 3, 1:30pm.

#765 - D0159. Clinical and electroretinography features observed in patients taking ezogabine. Thomas Connor. May 3, 1:30pm.

#813 - D0275. Carnosic acid slows photoreceptor degeneration in Pde6rd10 mice by regulating multiple pathways related to oxidative stress and endoplasmic reticulum stress. Minzhong Yu. May 3, 1:30pm.

#1199 - D0176. Spectral domain optical coherence tomography characteristics after acute posterior vitreous detachment. Nadim Rayess. May 3, 3:15pm.

## Retina

#152 - C0007. Pazopanib Inhibits Vascular Endothelial Growth Factor Synthesis in Human Retinal Pigment Epithelial Cells. Neilesh Parikh. May 3, 8:30am.

#377 - D0113. The increased stability of FpFs compared to monoclonal antibodies. Hanieh Khalili. May 3, 8:30am.

#1206 - D0183. The vitreo macular interface and the response to Anti VEGF therapy. Kanishka Mendis. May 3, 3:15pm.

#1236 - D0213. Clinical Characteristics and Management of Full Thickness Macular Holes Following Vitrectomy for Vitreomacular Traction. Marco Gonzalez. May 3, 3:15pm.

#891. Evolution of Geographic Atrophy in Patients Treated with Ranibizumab for Neovascular Age-related Macular Degeneration. Alisa Thavikulwat. May 3, 3:30pm.

## Retinal Cell Biology

# 450 - A0163. Regulation of the tandemly duplicated LWS opsin genes during development and regeneration in zebrafish. Diana Mitchell. May 3, 1:30pm.

#747 - D0141. On-chip stem cell preparation system for retinal disease treatment. Charles Garcia. May 3, 1:30pm.

## Monday, May 4

### Anatomy and Pathology/Oncology

#2353 - B0029. Thermoresponsive Reversible Adhesive for Temporary Intervention in Ocular Trauma. Yi Zhang. May 4, 3:45pm.

### Biochemistry/Molecular Biology

#1320. Circularized Chromatin Conformation Capture (4C-seq) Identified Differences in Genome Organization Between Rod and Cone Photoreceptors. Philip Ruzycki. May 4, 8:30am.

#1321. ARL3 regulates transport of prenylated and acylated proteins to photoreceptor outer segment in mouse retina. Christin Hanke-Gogokhia. May 4, 8:45am.

#1322. Geranylgeranylation of retinal proteins is essential for cone photoreceptor function and survival. Nachiket Pendse. May 4, 9am.

#1324. Photoreceptor KIF17 (Osm-3): a vestigial kinesin-2 motor. Li Jiang. May 4, 9:30am.

#1325. The role of Cav1.4 calcium channels in photoreceptor synapse development. Sheila Baker. May 4, 9:45am.

#1326. The molecular basis of the rhodopsin-porphyropsin switch. Jennifer Enright. May 4, 10am.

#1700. Retinitis Pigmentosa: Excessive cGMP signalling in Pde6a and Pde6b mouse mutants drives retinal degeneration. Francois Paquet-Durand. May 4, 11:30am.

#1701. Improvement of P23H rod opsin traffic after metformin treatment accelerates the rate of retinal degeneration in P23H retinitis pigmentosa. Dimitra Athanasiou. May 4, 11:45am.

#2061. Long-term effect of gene therapy on Leber congenital amaurosis caused by defects in RPE65. James Bainbridge. May 4, 3:45pm.

#2062. A new method to determine efficacies to treat RPGR mutations: Quantification of RPGR transport along the primary cilium in patient-derived cells. Christoph Juschke. May 4, 4pm.

#2064. Dose-response effect of RPE65 gene therapy on retinoid levels and correlation with clinical rescue in Rpe65-deficient dogs. Freya Mowat. May 4, 4:30pm.

#2065. Gene therapy restores useful vision to a model of the GUCY2D-LCA1 patient fovea, the all-cone Nrl<sup>-/-</sup>GC1<sup>-/-</sup> mouse. Shannon Boye. May 4, 4:45pm.

#2066. Long-term Cone ERG Functional Rescue in CNGB3 Mutant Achromatopsia Dogs by AAV-hCNGB3 Vectors Containing the PR1.7 Promoter and Packaged in AAV5, AAV9 or Mutant AAV2 Capsids. Andras Komaromy. May 4, 5pm.

#2067. Gene Therapy into Photoreceptors and Müller Glial Cells Restores Retinal Structure and Function in Crb1 Retinitis Pigmentosa Mouse Models. Jan Wijnholds. May 4, 5:15pm.

### Clinical/Epidemiologic Research

#1409 - A0104. Prevalence of Intermediate-Stage Age-Related Macular Degeneration in Patients with the Acquired Immunodeficiency Syndrome. Douglas Jabs. May 4, 8:30am.

#1449 - A0144. AJDRUMSS: Diabetic Retinopathy - PDR and NPDR Prevalence amongst Known Diabetics and Newly Detected Diabetics in the Urban Slums of Mumbai. Sundaram Nataraja. May 4, 8:30am.

#1668. A Novel Eye Drop Application Monitor to Assess Patient Compliance with a Prescribed Regimen Following Cataract Surgery. Ariana Allen. May 4, 11:30am.

#2030. Sudden visual loss and mortality: the Jackson Heart Study. Allison Chen. May 4, 4:15pm.

### Cornea

#1301. BMP-3 is a novel antagonist to TGF $\beta$ -2 mediated myofibroblast differentiation in embryonic keratocytes. James Spurlin. May 4, 8:45am.

#1304. Human umbilical mesenchymal stem cells treat acquired and congenital corneal opacity. Winston Kao. May 4, 9:30am.

SIG. Regenerative Medicine vs Pharmaceutical Agents: New Treatments for Corneal Endothelial Dysfunction. Shigeru Kinoshita. May 4, 1pm.

#2483 - D0087. Four tear biomarkers distinguish Sjögren's Syndrome patients from patients with other autoimmune diseases. Maria Edman. May 4, 3:45pm.

### Eye Movements/Strabismus/Amblyopia/Neuro-ophthalmology

#1327. Reliability of dichotomizing strabismus outcome by diplopia descriptors. Jonathan Holmes. May 4, 8:30am.

#1403 - A0098. Feasibility of computerized confrontation perimetry in young infants. Jacques Charlier. May 4, 8:30am.

#1330. Evidence for a Novel Genetic Link between Strabismus and Schizophrenia. Austin Christensen. May 4, 9:15am.

#2186 - B0039. Compliance with Amblyz<sup>TM</sup> Liquid Crystal Glasses Versus Traditional Adhesive Patches. Paxton Ott. May 4, 3:45pm.

#2187 - B0040. Feasibility Study in Normal Children of a Liquid Crystal Spectacle Filter (LCSF) for Potential Treatment of Amblyopia. Megan Cochran. May 4, 3:45pm.

#2195 - B0048. A new anti-suppression approach to treating anisometropic amblyopia. Ying Yuan. May 4, 3:45pm.

### Glaucoma

#1691. MicroRNA Expression Within The Glaucomatous Retina. Hari Jayaram. May 4, 11am.

#1999 - D0242. NCX 667, a novel nitric oxide (NO) donor lowers intraocular pressure (IOP) in ocular normotensive and hypertensive eyes of rabbits and non-human primates. Elena Bastia. May 4, 11am.

#1693. Tau accumulation in the somato-dendritic compartment of retinal ganglion cells plays a critical role in glaucomatous neurodegeneration. Marius Chiasseu. May 4, 11:30am.

#1694. Adaptive immune responses in glaucoma promote IOP-independent RCG loss. Oliver Gramlich. May 4, 11:45am.

#1695. Impaired Lysosomal and Mitochondrial Function in Exfoliation Glaucoma. Andrew Want. May 4, 12pm.

#1697. Visual cortex activity is impaired prior to visual field loss in glaucoma. Cindy Teng. May 4, 12:30pm.

#2021. IOP Measurement Using Corneal Vibrations Parameters Analysis in Humans. Pierre Bitoun. May 4, 3:45pm.

#2056. Prelaminar and Lamina Cribrosa Defects Detected by Swept Source OCT in Glaucoma Stratified by Visual Field Loss Pattern. Elise Taniguchi. May 4, 4:15pm.

#2058. Imaging improves the accuracy of visual field progression analysis in glaucoma: structure-guided ANSWERS. David Garway-Heath. May 4, 4:45pm.

#2059. Structure-function mapping for individuals – why individuals not populations are needed to determine the utility of customising structure-function mapping. Allison McKendrick. May 4, 5pm.

### **Immunology/Microbiology**

#1717. A Darwinian view of Behcet's Disease. Graham Wallace. May 4, 11am.

#2079. Targeting P-TEFb recruitment and super-enhancers function suppress the development of Th1-mediated EAU disease. Malihe Eskandarpour. May 4, 4:45pm.

### **Low Vision Group**

# 2109 - A0016. Updated Incidence and Prevalence of Low Vision Among Adults in the United States. Graham Wallace. May 4, 3:45pm.

### **Multidisciplinary Ophthalmic Imaging Group**

SIG. Optical Coherence Tomography (OCT) Imaging in Pediatric Population: the existing technology applications, limitations and future directions. Lejla Vajzovic. May 4, 1pm.

SIG. New structural markers for Glaucoma. M Francesca Cordeiro. May 4, 1pm.

SIG. Updates on Choroidal vascular Imaging. Jay Chhablani. May 4, 1pm.

### **Nanotechnology and Regenerative Medicine Group**

#2265 - B0170. Mechanism of disease selective vision restoration by small molecule photoswitches. Ivan Tochitsky. May 4, 3:45pm.



## Physiology/Pharmacology

#1510 - B0236. Similar two-year safety profiles of bilateral versus unilateral treatments with ranibizumab 0.5 mg in nAMD and DME. Sergio Pagliarini. May 4, 8:30am.

#1536 - C0144. Targeted Flt23k Nanoparticles Increase Graft Survival in a Murine High-Risk Penetrating Keratoplasty Model. Xiaohui Zhang. May 4, 8:30am.

#1537 - C0145. Protein-based nanoparticles for non-viral retinal gene therapy. Anna Salas Torras. May 4, 8:30am.

#1295. Assessing ocular hyaluronidase to develop a hyaluronan-based polymer drug delivery platform. Randy Bowen. May 4, 8:45am.

#1296. Biodegradable Sustained-Release Drug Delivery Systems Fabricated using a Dissolvable Hydrogel Template Technology for the Treatment of Ocular Indications. Nikita Malavia. May 4, 9am.

#1298. TRPV4 channels regulate the inflow pathway in the anterior eye. Andrew Jo. May 4, 9:30am.

#1299. The Decisive Value of Contralateral Eye Results in Comparative Ocular Pharmacokinetic Studies of a Drug Versus its Prodrug. Muhammad Abdulrazik. May 4, 9:45am.

#1791 - A0224. The Incidence of Hydroxychloroquine (HCQ) Retinal Toxicity in the Veteran Affairs (VA) Patient Population. Salman Rahman. May 4, 11am.

#1793 - A0226. Avoiding the Bull's Eye: Ensuring "On-Target" Hydroxychloroquine Dosing and Eye Screening in an Inner-City Hospital. Jing Grace Wang. May 4, 11am.

#1883 - C0191. Acyclovir downregulate TNF-alpha in human limbal fibroblasts infected in vitro with Fusarium solani isolated from patient with keratitis. Herlinda Mejia-Lopez. May 4, 11am.

#1890 - C0198. The efficacy of Polihexanide (PHMB) eye drops against Acanthamoeba polyphaga investigated by an ATP-bioluminescence assay and a rat model of keratitis. Antonino Asero. May 4, 11am.

#1898 - C0206. Numerical simulations of flow and mass transport processes in the anterior chamber in the presence of an iris-fixated intraocular lens. Rodolfo Repetto. May 4, 11am.

#1989 - D0232. The Role of TRPV4 and OCRL in Primary Cilia of Trabecular Meshwork. Na Luo. May 4, 11am.

#1993 - D0236. A Toxicological Evaluation of a Single Dose, 90 Day Sustained Release Travoprost Punctum Plug in Canines. Arthur Driscoll. May 4, 11am.

#1997 - D0240. Changes in Aqueous Humor Dynamics associated with Growth and Puberty. Vikas Gulati. May 4, 11am.

#2035. Clinical findings in triamcinolone associated maculopathy. Edith Reshef. May 4, 3:45pm.

#2275 - B0180. Common miRNAs in Alzheimer's disease and retinal degenerative diseases. Giovanni Luca Romano. May 4, 3:45pm.

#2293 - B0198. Pharmacodynamics of Non-invasive Electroosmotic Delivery of Bevacizumab for the Treatment of Choroidal Neovascularization in Rabbits. Sarah Molokhia. May 4, 3:45pm.

#2294 - B0199. Topically administered regorafenib eye drops inhibit grade IV lesions in the non-human primate laser CNV model. Michael Boettger. May 4, 3:45pm.

#2298 - B0203. Combined targeting of VEGF and PDGF to reverse neovascularization and prevent fibrosis. Breda Walsh. May 4, 3:45pm.

#2305 - B0210. Can drug combinations targeting PI3K/Akt/mTOR pathway inhibit angiogenesis, inflammation or permeability in human RPE and endothelial cell lines? Temitope Sasore. May 4, 3:45pm.

#2331 - B0265. Hypoxia alters the polarized movement, expression, and secretion of proteins in retinal pigmented epithelial (RPE) cells by inhibiting retromer function. Philip Mzyk. May 4, 3:45pm.

#2438 - C0088. Changes in the purinergic system in the retina of a glaucomatous model. Jesus Pintor. May 4, 3:45pm.

#2463 - C0113. Read-through of LCA16 (KCNJ13) nonsense mutations W53X and R166X by RTC-14. Pawan Shahi. May 4, 3:45pm.

#2465 - C0115. Tetramethylpyrazine (TMP), a Unique Small Molecule Modulator of Chemokine receptor, CXCR4. Jing Zhuang. May 4, 3:45pm.

#2466 - C0116. Cationic Branched Peptides as Antibiotic Adjuvants. Rajamani Lakshminarayanan. May 4, 3:45pm.

#2467 - C0117. CX3CL1-CX3CR1 axis in diabetic retinopathy (DR) in STZ-diabetic mice. Sergio Caballero. May 4, 3:45pm.

#2468 - C0118. A novel therapeutic target for treating neurodegeneration and vascular permeability in Diabetic Retinopathy. H Uri Saragovi. May 4, 3:45pm.

#2470 - C0120. A small molecule pharmacotherapy ameliorates laser-induced choroidal neovascularization. Rania Sulaiman. May 4, 3:45pm.

#2473 - C0123. Unusual pharmacodynamics of the optimized RBP4 antagonist in dogs. Boglarka Racz. May 4, 3:45pm.

#2476 - C0126. Receptor Interacting Protein-2 (RIP2) Mediated Caspase-1 Activation in Müller Cells Under Hyperglycemic Conditions. Derrick Feenstra. May 4, 3:45pm.

#2478 - C0128. Ranibizumab treatment protects retinal cells in an ischemia model. Stephanie Joachim. May 4, 3:45pm.

#2479 - C0129. Biotic Implant for Local Oxygenation. Jeffrey Olson. May 4, 3:45pm.

#2036. AAV-mediated rescue of a mouse model of X-linked Congenital Stationary Night Blindness. Miranda White. May 4, 4pm.

#2039. A novel platform for minimally invasive delivery of cells and therapeutics to the posterior segment. Ygal Rotenstreich. May 4, 4:45pm.

### Retina

#1511 - B0237. Intravitreal injection of Fc-fragments has multiple adverse effects on retina and choroid. Ulrich Schraermeyer. May 4, 8:30am.

#1282. Reduction of Macular Edema and Pro-permeability Factors after Dexamethasone Implant Injection in Retinal Vein Occlusion; the Ozurdex for Retinal Vein Occlusion (ORVO) Study. Tahreem Mir. May 4, 9am.

#1276. Defining parameters for photoreceptor replacement therapy. Jie Zhu. May 4, 9:15am.

#1284. Comparison of Two Mineralocorticoid Receptor Antagonists in the Treatment of Central Serous Chorioretinopathy. Paola Carrai. May 4, 9:30am.

#1279. ApoA-I Mimetic Peptide L-4F Reduces Significantly Lipid Deposits in Bruch's Membrane and Complement Activation in Geriatric Monkeys with Age-Related Maculopathy. Martin Rudolf. May 4, 10am.

#2284 - B0189. Results from the Phase I GEM study, evaluating safety and tolerability of subretinally-injected lentiviral vector (RetinoStat®) for the treatment of wet age-related macular degeneration (AMD). Simon Chandler. May 4, 3:45pm.

#2287 - B0192. HC-HA/PTX3, an active matrix component of amniotic membrane, inhibits proliferation and epithelial mesenchymal transition of RPE cells: a potential novel therapy for PVR. Ajay Kuriyan. May 4, 3:45pm.

#2288 - B0193. Inhibition of the alternative pathway of complement accelerates recovery from smoke-induced functional and morphological ocular injury. Baerbel Rohrer. May 4, 3:45pm.

#2361 - C0011. Nicotine Enhances Oxidative Stress Mediated Retinal Degeneration In The Aging Eye. Heping Xu. May 4, 3:45pm.

### Retinal Cell Biology

#1480 - B0117. Thyroid hormone receptor  $\beta$  differentially regulates zebrafish cone photoreceptor identity based on developmental stage. Michele DuVal. May 4, 8:30am.

#1824 - B0136. Subretinal implantation of human embryonic stem cell derived RPE on ultrathin polyester carriers in rabbits. Fabian Thielges. May 4, 11am.

#1690. Lamination of the inner retina is required for formation of the deep and intermediate vascular plexi during development of the mouse retina. Aaron Simmons. May 4, 12:30pm.

SIG. The Lasker/IRRF Initiative on Restoring Vision to the Blind. John Dowling. May 4, 1pm.

#2334 - B0268. A “fast food” diet alone is sufficient to cause age-related retinal changes in mice. Gavin Roddy. May 4, 3:45pm.

#2369 - C0019. Role of Homocysteine in Retinal Neurodegeneration. Hirofumi Kinoshita. May 4, 3:45pm.

## Tuesday, May 5

### Biochemistry/Molecular Biology

#2596. Rhodopsin binding-induced conformational changes in arrestin-1. Sarah Melissa Jacobo. May 5, 8:30am.

#2597. Classification of Rhodopsin mutations by integrated in silico and in vitro analyses for screening of chaperon molecules to rescue misfolding. Valeria Marigo. May 5, 8:45am.

#2598. Functional Characterization of the Bardet-Biedl Syndrome1 M390R Mutation in Zebrafish. Diane Slusarski. May 5, 9am.

#2602. A possible role for lnc-RNA in mouse and human retina. Lina Zelinger. May 5, 10am.

#3183. CRISPR/CAS9-Mediated In Vivo Gene Editing Corrects The Retinal Dystrophy Phenotype of S334ter-3 Rats. Benjamin Bakondi. May 5, 11am.

#3184. AAV-compatible MiniPromoters with selectivity for bipolar, horizontal, and Müller glia cells. Elizabeth Simpson. May 5, 11:15am.

#3188. Nrf2 promotes neuron survival in mouse models of neurodegeneration and acute nerve damage. Wenjun Xiong. May 5, 12:15pm.

#3189. Delaying Retinal Degeneration in a Mouse Model of Geographic Atrophy: An Antioxidant Gene Therapy Approach. Manas Ranjan Biswal. May 5, 12:30pm.

#3590 - A0019. Rapid high-yield production of rhodopsin knockout *Xenopus laevis* using CRISPR/Cas9. Joanna Feehan. May 5, 3:45pm.

### Clinical/Epidemiologic Research

#2568. Free thyroxine increases the risk of AMD. Gabrielle Buitendijk. May 5, 8:30am.

#2574. CFH, ARMS2, Dietary Zinc and Age-Related Macular Degeneration; a Population-based Assessment. Paul Healey. May 5, 10am.

### Cornea

#3006 - D0171. Study of riboflavin intracorneal penetration aided by Biological assisted Laser Printing (BioLP) for optimized and customized corneal collagen crosslinking in ectatic corneal diseases. Antoine Robinet. May 5, 8:30am.

#2577. Increased mitochondrial fission in Fuchs Endothelial Corneal Dystrophy. Takashi Miyai. May 5, 9am.

#3162. Replacing the Slit Lamp with a Mobile Multi-Output Projector Device for Anterior Segment Imaging. Shantanu Sinha. May 5, 11am.

#3197. Progenitor cell transplantation rescues lacrimal gland acinar structure in the thrombospondin-1 null (TSP-1-/-) mice. Helen Makarenkova. May 5, 11am.

#3198. Induction of Lacrimal Gland Epithelial Cell Phenotype from Human ES Cells by Defined Factors. Masatoshi Hirayama. May 5, 11:15am.

#3199. Regulation of Meibomian Gland Formation and Function. Mindy Call. May 5, 11:30am.

SIG. Aging SIG: Blue Light Matters as a Camera and a Clock! Kazuo Tsubota. May 5, 1pm.

#3530. Quantification of 16S Bacteria and Torque Teno Virus in Dry Eye Syndrome and Clinical Correlations. Cecilia Lee. May 5, 4:45pm.

#### **Eye Movements/Strabismus/Amblyopia/Neuro-ophthalmology**

# 3196. Evaluation of a Novel Digital Infant Acuity Test. Laura Butler. May 5, 12:30pm.

# 3862 - C0267. Improvements on a Method for Recognizing Colorblind Malingering. Andrew Pouw. May 5, 3:45pm.

#### **Genetics Group**

# 3786 - C0028. Prevalence of CFH and ARMS2 Genetic Polymorphisms in African-American Patients with Age-Related Macular Degeneration. Amar Shah. May 5, 3:45pm.

#### **Glaucoma**

#2589. Blockade of Retinal Gap Junctions Offers Significant Neuroprotection in an Experimental Mouse Model of Glaucoma. Stewart Bloomfield. May 5, 8:30am.

#2591. Losartan is neuroprotective in experimental mouse glaucoma. Harry Quigley. May 5, 9am.

#2592. The energy sensor AMP-activated protein kinase (AMPK) signals neuronal death in glaucoma through inhibition of the mammalian target of rapamycin (mTOR). Nicolas Belforte. May 5, 9:15am.

#3177. Visual Performance assessment using a mobile platform. Peter Rosen. May 5, 11:15am.

SIG. Neuroinflammation, systemic inflammation, and RGC damage in POAG. Markus Kuehn. May 5, 1pm.

#3542. The Effects of VEGF and anti-VEGF on Outflow Facility in Mice and Humans. Darryl Overby. May 5, 4:30pm.

#3544. Recreation of a 3-D Physiological Model of Conventional Outflow Tract in vitro. Karen Torrejon. May 5, 5pm.

### **Immunology/Microbiology**

SIG. Microbiomes and Biofilms: Targeting Ocular Surface Infections and Inflammation. Irmgard Behlau. May 5, 8:30am.

### **Lens**

#2635 - A0048. A Critical Interaction of N-cadherin and Microtubules in Lens Morphogenesis. Caitlin Logan. May 5, 8:30am.

#3215. Small Molecule Inhibition of Crystallin Protein Aggregation in Hereditary Cataracts. Leah Makley. May 5, 12pm.

#3217. Evaluation of Therapeutic Interventions for Postoperative Inflammation and Fibrosis in a Juvenile Rabbit Animal Model of Lensectomy with Intraocular Lens Insertion. Joseph Bogaard. May 5, 12:30pm.

### **Multidisciplinary Ophthalmic Imaging Group**

SIG. Advancements in high-resolution in-vivo imaging: current technologies and future potentials. David Ammar. May 5, 1pm.

### **Physiology/Pharmacology**

#2759 - B0081. Quantitative Analysis of Retinal Blood Flow in Normal and Glaucoma by Doppler Fourier-Domain Optical Coherence Tomography. Sowmya Srinivas. May 5, 8:30am.

#3085 - D0281. Release of fluconazole from daily disposable contact lenses using a novel in vitro eye model. Chau-Minh Phan. May 5, 8:30am.

#3247 - A0096. Activation of the sigma receptor 1 modulates AMPA receptor-mediated light-evoked excitatory postsynaptic currents in rat retinal ganglion cells. Lei-Lei Liu. May 5, 11am.

#3250 - A0099. Physiological Characterization of Retinal Ganglion Cell Types in *Tilapia mariae*. Hope Shi. May 5, 11am.

#3273 - A0193. Secretion profile of human trabecular meshwork cells following recovery from prolonged corticosteroid treatment. Guorong Li. May 5, 11am.

#3368 - B0194. Determination of a No Observable Effect Level (NOEL) for Endotoxin following a Single Intravitreal Administration to Male Dutch Belted Rabbits. Tim Streit. May 5, 11am.

#3432 - C0243. The influence of race and gender on the risk of hair loss secondary to methotrexate.. Sarah Escott. May 5, 11am.

#3436 - C0247. Serous retinopathy associated with MEK inhibition (binimetinib) for metastatic cutaneous and uveal melanoma. Camiel Boon. May 5, 11am.

#3159. The inhibitory effect of betaine on pathologic retinal neovascularization via suppression of reactive oxygen species mediated VEGF signaling. Jonggu Lee. May 5, 11:45am.

#3161. Safety and acceptability of an organic light emitting diode (OLED) sleep mask for the treatment of retinal diseases: INSIGHT Study. Gabriela Czanner. May 5, 12:15pm.

#3633 - A0127. Characterization of CRB1 gene therapy in a retinal degeneration mouse model. Timothy Day. May 5, 3:45pm.

#3636 - A0130. Assessing the tropism of adeno-associated virus serotypes in the primate retina for gene therapy. Pavitra Ramachandran. May 5, 3:45pm.

#3728 - B0217. Central serous chorioretinopathy: profile of subretinal fluid spontaneous resolution. Alejandra Daruich. May 5, 3:45pm.

## Retina

#2776 - B0158. Fundus Autofluorescence Captured with a Non-Mydriatic Retinal Camera in Vegetarians vs Non Vegetarians. Sumana Kommana. May 5, 8:30am.

#2784 - B0166. Retinal microvascular evaluation in Alzheimer's disease. Gareth McKay. May 5, 8:30am.

#2818 - C0046. Inverse Association Between L-DOPA and Age-Related Macular Degeneration. Kamyar Vaziri. May 5, 8:30am.

#2834 - C0062. Submacular surgery versus anti-VEGF for retinal pigment epithelial tear in neovascular age-related macular degeneration. Antonio Peroglio Deiro. May 5, 8:30am.

#2843 - C0071. Luminal and stromal areas of choroid determined by binarization method of optical coherence tomographic images. Shozo Sonoda. May 5, 8:30am.

#3350 - B0133. Optical coherence tomography angiography (OCTA) detection of choroidal neovascularization (CNV) in chronic central serous chorioretinopathy (CSCR). Marco Bonini. May 5, 3:45pm.

#3144. BEVORDEX - A multicentre randomized clinical trial of intravitreal dexamethasone versus intravitreal bevacizumab for persistent diabetic macular edema. Mark Gillies. May 5, 3:45pm.

#3153. Treatment of obstructive sleep apnea with continuous positive airway pressure therapy improves functional and anatomical outcomes in exudative age related macular degeneration. Brooke Nesmith. May 5, 11am.

SIG. The Future of Phase IV Studies: Real-world outcomes of treatment for retinal disease. Adnan Tufail. May 5, 11am.

#3749 - B0238. Efficacy and Safety of Intravitreal Aflibercept Injection (IAI) for Treatment of Macular Edema Following Branch Retinal Vein Occlusion (BRVO): 52-Week Results of the VIBRANT Study. David Boyer. May 5, 11am.

#3752 - B0241. Combination Therapy with Dexamethasone Intravitreal Implant and Macular Grid Laser in Patients with Branch Retinal Vein Occlusion. Domenico Massaro. May 5, 3:45pm.

#3764 - C0006. Inverse relationship between blood 25-hydroxyvitamin D and age related macular degeneration. Sung Pyo Park. May 5, 3:45pm.

#3825 - C0187. Asymmetric inter-eye progression in Stargardt disease. Stanley Lambertus. May 5, 3:45pm.

#3513. Efficacy of Autologous Transplantation of the Internal Limiting Membrane for Large Macular Holes. Yining Dai. May 5, 3:45pm.

### **Retinal Cell Biology**

#3170. cGMP production of neural retina from hiPSCs. David Gamm. May 5, 11:15am.

#3171. The RPE as stem-like cells for retinal regeneration in adult mouse. Shu-Zhen Wang. May 5, 11:30am.

#3173. Characterization of Human Stem Cells Generated from AMD Patients. Lucian Del Priore. May 5, 12pm.

#3593 - A0022. Genome editing and gene replacement: towards the treatment of Batten disease. Luke Wiley. May 5, 3:45pm.

#3596 - A0025. Gene-edited human pluripotent stem cell derived 3D retinas for modeling photoreceptor development and disease. Karl Wahlin. May 5, 3:45pm.

## **Wednesday, May 6**

### **Anatomy and Pathology/Oncology**

#4334. Tumor diameter contributes prognostic information that enhances the accuracy of gene expression profile molecular classification in uveal melanoma. Jiucheng He. May 6, 8:30am.

### **Biochemistry/Molecular Biology**

#3986. The Cu/Zn<sup>+</sup> superoxide dismutase knockout mouse (Sod1<sup>-/-</sup>), a model of age-related macular degeneration (AMD), exhibits anti-retinal autoantibodies (AABs) and marked signs of intraretinal inflammation prior to onset of an AMD-like phenotype. David New. May 6, 8:30am.

#4234 - C0243. Otx2-genetically modified retinal pigment epithelial cells rescue photoreceptors after transplantation. Christo Kole. May 6, 8:30am.

#3987. In-silico model of retinal cholesterol dynamics: Insights into the pathophysiology of dry AMD. Seyedeh Zekavat. May 6, 8:45am.

#3990. A genetic variant in NRP1 is associated with worse response to ranibizumab treatment in neovascular age-related macular degeneration. Laura Lorés de Motta. May 6, 9:30am.

#3991. Intravitreally delivered neprilysin reduces amyloid-beta in the mouse eye. Rajni Parthasarathy. May 6, 9:45am.



#4633 - D0008. A conditional knockout mouse for Pnpla2 in photoreceptors. Federica Polato. May 6, 11am.

#4641 - D0016. A knockin mouse model for Usher Syndrome Type IIA mutation in usherin gene leads to an early-onset hearing and a late-onset retinitis pigmentosa. Maggie Yoder. May 6, 11am.

#4644 - D0019. Accumulation of non-outer segment proteins in the outer segment underlies photoreceptor degeneration in BBS. Seongjin Seo. May 6, 11am.

SIG. CRB1 in Flies, Mice, and Patients: Function, Disease Phenotype, and Gene Therapy. Stephen Tsang. May 6, 1pm.

SIG. Autophagy in Glaucoma, Friend or Foe? Paloma Liton. May 6, 1pm.

SIG. Calcification and its consequences for AMD: A new take on an old story. Imre Lengyel. May 6, 1pm.

#5202 - D0084. Proteomic Analysis of Saliva From Diabetic Patients in Different Stages of Diabetic Retinopathy. Khai Meng Chang. May 6, 3:45pm.

### Cornea

#3975. Pre-loaded donor corneal lenticules in a new validated 3D printed smart storage glide for Descemet Stripping Automated Endothelial Keratoplasty. Diego Ponzin. May 6, 9am.

#4357. Meganuclease Targeting Herpes Simplex Virus protects Corneal Graft Against Viral Endothelitis. Eric Gabison. May 6, 12:15pm.

#4810. Topical Rapamycin suppresses lacrimal gland inflammation in a mouse model of Sjögren's Syndrome. Mihir Shah. May 6, 4:30pm.

### Eye Movements/Strabismus/Amblyopia/Neuro-ophthalmology

#4313 - D0247. Automated Photosensitivity Assessment in Achromatopsic and Healthy Subjects. Mariela Aguilar. May 6, 8:30am.

#3996. Saccadic control in anorexia nervosa. Larry Abel. May 6, 9:15am.

#4738 - D0183. Google Glass in Oculoplastic Surgery: measurement of the margin reflex distance. Rohini Rao. May 6, 11am.

#5212 - D0217. Preliminary Evaluation of a Mobile App for Strabismus Screening. Shrinivas Pundlik. May 6, 3:45pm.

#5213 - D0218. Development of 3D mouse-assisted Hess-Lancaster test. Jong-Mo Seo. May 6, 3:45pm.

### Genetics Group

#4351. Effect of translaminar pressure modification on the rat optic nerve head. Ching-Yu Cheng. May 6, 12:30pm.

## Glaucoma

#3979. In-vivo 3D Deformation of Lamina Cribrosa Microstructure in Response to Acute Changes in Intraocular and Cerebrospinal Fluid Pressures. Bo Wang. May 6, 8:30am.

#4126 - B0135. Ocular Hemodynamic Parameters and Neuroretinal Rim Area in Normal-tension Glaucoma Patients with Different Intracranial Pressure Values. Lina Siaudvytyte. May 6, 8:30am.

#3983. Macular Mitochondrial Flavoprotein Autofluorescence in Eyes with Primary Open Angle Glaucoma. Alexander Pinhas. May 6, 9:30am.

#3984. Longitudinal Profiles of Intraocular Pressure, Ocular Morphology and Visual Pathway Integrity in DBA/2J and C57BL/6J Mice. Xiaoling Yang. May 6, 9:45am.

#3985. Bleb analysis of glaucoma filtration surgery using quantitative birefringence imaging of the anterior eye. Deepa Kasaragod. May 6, 10am.

#4384. Study of diseased and normal optic nerve and retina to identify microRNAs involved in glaucomatous optic neuropathy. Terry Gaasterland. May 6, 12:15pm.

#4820. A Novel Non-Invasive Method for In Vivo Measurement of Ocular Biomechanical Properties. Arthur Sit. May 6, 3:45pm.

#4822. Biomechanical Insult Initiates a Novel Molecular Switch of the Adapter Protein PEA15 to Promote Matrix Remodeling and Apoptosis. Jeremy Sivak. May 6, 4:15pm.

## Lens

#4010. Generation of lentoid bodies from human urinary cell derived induced pluripotent stem cells. Qiuli Fu. May 6, 9:45am.

#4835. Control of lens fiber development by Lhx2-regulated neuroretinal Fgfs. Thuzar Thein. May 6, 4pm.

## Low Vision Group

#4768 - D0255. Yoga increases the sensory contribution to balance in visually impaired persons at risk for falls. Pamela Jeter. May 6, 11am.

## Multidisciplinary Ophthalmic Imaging Group

#4103 - B0025. Slitlamp-mounted smartphone adapters using reverse engineering with 3D scanning and 3D printing. Charline Boente. May 6, 8:30am.

SIG. Advanced computational ophthalmic image analysis: New frontiers in big data processing. Sebastian Waldstein. May 6, 1pm.

SIG. Swept Source Optical Coherence Tomography in Ocular Diseases. Ludwig Heindl. May 6, 1pm.

## Physiology/Pharmacology

#4049 - A0226. Pseudomonas aeruginosa Ocular Strains Resistant to Ceftazidime in Northeast of Mexico. Pedro González. May 6, 8:30am.

#4135 - C0018. Vancomycin incorporated collagen hydrogel implant for the prevention of ocular infections. Debasish Mondal. May 6, 8:30am.

#4136 - C0019. Comparative ex-vivo trans-scleral diffusion permeability of dexamethasone sodium phosphate in equine, porcine and rabbit scleras. Pamela Ko. May 6, 8:30am.

#4138 - C0021. Penetration of Polar Sulforhodamine B into the Cornea. Sangly Srinivas. May 6, 8:30am.

#4139 - C0022. A Novel Carboxymethylated Hyaluronic Acid Polymer for Sustained Drug Delivery to Ocular Surface. Hee-Kyoung Lee. May 6, 8:30am.

#4140 - C0023. A Novel, Non-invasive, Self-Administered, Preservative-Free, Sustained Release Product (EySite-TPTM) for Glaucoma Therapy. Shikha Barman. May 6, 8:30am.

#4146 - C0029. Ranibizumab Delivery Device Using Polyethyleneglycol Dimethacrylates. Toshiaki Abe. May 6, 8:30am.

#4147 - C0030. Cell-penetrating peptide constructs as non-invasive drug delivery vehicles for ranibizumab and bevacizumab. Felicity De Cogan. May 6, 8:30am.

#4153 - C0036. Pharmacokinetic and Safety Evaluation of a Transscleral Sustained Unoprostone Release Device. Nobuhiro Nagai. May 6, 8:30am.

#4154 - C0037. SSustained Release Dexamethasone Implants for In Vitro – In Vivo Correlations. Yunpeng Bai. May 6, 8:30am.

#4199 - C0168. Removal of lipofuscin from the RPE of Abca4-/- mice with THPE: quantitative and toxicity studies. Tatjana Taubitz. May 6, 8:30am.

#4207 - C0176. A High-throughput Screen to Identify Candidate Drugs to Prevent Proteotoxic Stress-Induced Retinal Pigment Epithelium Cell Death. Balendu Jha. May 6, 8:30am.

#4232 - C0241. The Nrf-2 activator sulforaphane protects retinal cells from oxidative stress induced retinal injury. Chang-Hao Yang. May 6, 8:30am.

#4258 - C0267. Sigma-1 Receptor Increases Mitochondrial Membrane Potential in Glucose and Oxygen deprived Retinal Ganglion Cells. Dorette Ellis. May 6, 8:30am.

#4398 - A0024. Retinal oxygen extraction in humans. Rene Werkmeister. May 6, 11am.

#4399 - A0025. Regulation of Glutamate-Induced Excitotoxicity in Bovine Neural Retina by L-cysteine and Anandamide. Leah Mitchell. May 6, 11am.

#4401 - A0027. Regulation of K<sup>+</sup>-induced [3H]D-aspartate release by the non-enzymatic, DHA-derived metabolite, 4(S)-F4t-neuroprostane in bovine retina, in vitro. Catherine Opere. May 6, 11am.

#4403 - A0029. Attenuation of c-Jun, Bax and Bid expression in retinas of ETB receptor-deficient rats following ocular hypertension. Alena Minton. May 6, 11am.

#4408 - A0034. SEffect of Sodium Hydrosulfide on Aqueous Humor Outflow: Role of Prostanoids and Cyclic AMP. Jenaye Robinson. May 6, 11am.

#4409 - A0035. Inter-visit repeatability of retinal blood oxygen saturation and total retinal blood flow measurements under conditions of hypoxia, hyperoxia and normoxia in healthy individuals. Kalpana Rose. May 6, 11am.

#4414 - A0040. Aqueous Humor Ascorbate and Total Reactive Antioxidant Potential: Correlation with Introcular pO<sub>2</sub> in vivo. Carla Siegfried. May 6, 11am.

#4622 - B0263. Aflibercept Intravitreal Injection for Myopic Choroidal Neovascularization. Joao Nassaralla. May 6, 11am.

SIG. Strategies to circumvent barriers for ocular delivery of small and large molecules. Ashim Mitra. May 6, 1pm.

#4848 - A0001. Identification of a highly efficacious, ultra-long acting ocular hypotensive agent in non-human primates. Carol Toris. May 6, 3:45pm.

#4849 - A0002. Aqueous humour outflow physiology in NOS3 knockout mice. Yuan Lei. May 6, 3:45pm.

#4850 - A0003. Variations in Active Areas of Aqueous Humor Outflow Through the Trabecular Outflow Pathway. Elliott Cha. May 6, 3:45pm.

#4851 - A0004. Comparison of Aqueous Outflow Facility Measurement by Pneumatography and Digital Schiøtz Tonography. Arash Kazemi. May 6, 3:45pm.

#4852 - A0005. Trabecular Meshwork Exosomes: Fibronectin Binding and ECM homeostasis. W Dismuke. May 6, 3:45pm.

#4853 - A0006. Baicalein lowers intraocular pressure and increases outflow facility in mouse eye. Hoi Lam Li. May 6, 3:45pm.

#4855 - A0008. Role of Importins and Exportins in steroid-induced effects in trabecular meshwork. Adnan Dibas. May 6, 3:45pm.

#4857 - A0010. The Compensatory Role of Endothelium-Derived Hyperpolarizing Factor (EDHF) in Cholinergic Vasodilatation of the Mouse Ophthalmic Artery. Caroline Manicam. May 6, 3:45pm.

#4859 - A0012. The Effect of Antioxidant Supplementation on Oxygen Induced Retinal Vasoconstriction in an Inflammatory Model in Humans. Doreen Schmidl. May 6, 3:45pm.

#4862 - A0015. Arterial hypertension induces retinal degeneration in mice with pressure-overload cardiac hypertrophy. Shu-Huai Tsai. May 6, 3:45pm.

#4865 - A0018. Evaluation of Retinal Microcirculation in Patients with Type 1 Diabetes Mellitus using a laser Doppler velocimetry. Taiji Nagaoka. May 6, 3:45pm.

#4866 - A0019. A Multi-Center, Double-Masked, Randomized, Vehicle-Controlled, Parallel-Group Study Evaluating the Safety of Brimonidine Tartrate Ophthalmic Solution 0.025% Used Four Times Daily in a Population of Pediatric, Adult, and Geriatric Subjects. Quintus Ngumah. May 6, 3:45pm.

#4867 - A0020. Zylet (loteprednol etabonate 0.5%/tobramycin 0.3%) Compared with Tobradex (dexamethasone 0.1%/tobramycin 0.3%) for the treatment of blepharitis in a large international population. Timothy Comstock. May 6, 3:45pm.

#4868 - A0021. Clinical and experimental evidence for post-stroke demyelination in nonarteritic anterior ischemic optic neuropathy (NAION). Gregory Fu. May 6, 3:45pm.

#4869 - A0022. Retrospective review of interventional thrombolysis for central retinal artery occlusion at the University of Kansas Medical Center. Lillian Yang. May 6, 3:45pm.

#4926 - B0054. Cone spacing measures over 12 months in eyes with retinitis pigmentosa. Angela Baldwin. May 6, 3:45pm.

#4960 - B0159. Oxygen Glucose Deprivation Produced Increased Susceptibility of Retinal Ganglion Cells to AMPA Receptor-Mediated Cell Death. Yong Park. May 6, 3:45pm.

## Retina

#4168 - C0051. Postoperative endophthalmitis after intravitreal anti-vascular endothelial growth factor (anti-VEGF) injections: incidence and associated factors, including nurse injectors in a series of 31,561 cases. Jonathan Kirk. May 6, 8:30am.

#3956. Hyperspectral Autofluorescence (AF) Characterization of Drusen in Donor Eyes with Age-Related Macular Degeneration (AMD). Yuehong Tong. May 6, 8:45am.

#4596 - B0237. Systemic Counterregulatory Response of Placental Growth Factor Levels to Intravitreal Aflibercept Therapy. Claus Zehetner. May 6, 11am.

#4323. Neurodevelopmental outcomes of preterm infants treated with bevacizumab for severe retinopathy of prematurity. Julie Morin. May 6, 12:15pm.

#5111 - C0147. A novel technique for securing sclerotomies in 20-gauge transconjunctival pars plana vitrectomy: Surgical outcomes and complications in 529 consecutive cases. Marwan Abouammoh. May 6, 3:45pm.

#5135 - C0199. Consuming a buttermilk drink containing lutein-enriched egg-yolk daily for 1 year improves macular pigment optical density and visual acuity in subjects with early signs of age-related macular degeneration. Tos TJM Berendschot. May 6, 3:45pm.

#5141 - C0205. Automated quantification of choriocapillaris thickness near drusen. Li Zhang. May 6, 3:45pm.

#4803. IL-18 immunotherapy for neovascular AMD; Tolerability and efficacy in non-human primates. Matthew Campbell. May 6, 4:30pm.

#4805. Final Results from a Phase 2 Study of Squalamine Lactate Ophthalmic Solution 0.2% (OHR-102) in the Treatment of Neovascular Age-related Macular Degeneration (AMD). Jason Slakter. May 6, 5pm.

#4806. Phase I/II Prospective Randomized Sham-controlled Study of Low Dose Proton Beam Irradiation combined with Intravitreal anti-VEGF Therapy for Exudative Age-related Macular Degeneration: One-year Results. Senad Osmanovic. May 6, 5:15pm.

### **Retinal Cell Biology**

#4204 - C0173. Using a tandemly linked fluorescent LC3 marker to examine autophagy in transgenic *X. laevis* photoreceptors. Runxia Wen. May 6, 8:30am.

#4652 - D0027. Evaluation of Cone Photoreceptor Pathogenesis in mouse models of X-linked retinitis pigmentosa due to mutations in RPGR and RP2. Linjing Li. May 6, 11am.

#4667 - D0042. Changes in mitochondria respiration in degenerating mouse retina identified by a novel ex vivo assay. Keshav Kooragayala. May 6, 11am.

#4360. Voluntary Exercise is Neuroprotective in an Inherited Retinal Degeneration Mouse Model. Adam Hanif. May 6, 11:15am.

## **Thursday, May 7**

### **Anatomy and Pathology/Oncology**

#5895 - A0066. Retinal Nerve Fiber Layer Thickness Analysis by OCT Improves Diagnostic Performance of Optic Pathway Gliomas Screening in Pediatric Patients with Neurofibromatosis Type 1. Giacomo Miglionico. May 7, 12pm.

### **Biochemistry/Molecular Biology**

#5444 - B0003. Cone rescue depends on Rod-derived Cone Viability Factor. Ying Yang. May 7, 8:30am.

#5454 - B0013. Attempts to increase protein level, membrane-association, and isomerase activity of R91W RPE65 in mouse model. Songhua Li. May 7, 8:30am.

#5455 - B0014. Low temperature-dependent functional rescue of RPE65 mutants associated with retinal degeneration. Minghao Jin. May 7, 8:30am.

#5467 - B0026. The thioredoxin RdCVFL protects against photo-oxidative retinal damage. Ghizlane Elachouri. May 7, 8:30am.

#5469 - B0028. Gene therapy for a mouse model of Achromatopsia. Shanta Sarfare. May 7, 8:30am.

#5499 - B0058. Transcriptome profiling of single rod photoreceptors in the Rd1 mouse. David Wu. May 7, 8:30am.

#5505 - B0064. Interactome analysis reveals that FAM161A is a component of the Golgi-centrosomal network. Pietro Farinelli. May 7, 8:30am.

#5526 - B0085. In-coincidence detection of the Golgi influx of rhodopsin and Arf4-GTP by the Arf GEF GBF1 regulates activation of Arf4 in trafficking to cilia and ROS. Dusanka Deretic. May 7, 8:30am.

#5890 - A0061. Enhancement of non-viral gene delivery to primary mouse retinal pigment epithelium cells using paramagnetic nanoparticles. Oleg Tolmachov. May 7, 12pm.

#5850. Mitochondrial DNA Variants Can Mediate Cellular Methylation Status and Expression of Inflammation, Angiogenesis and Signaling Genes. Cristina Kenney. May 7, 12:30pm.

#5852. 12/15-Lipoxygenase Gene Deletion Attenuates Blood-Retinal Barrier Dysfunction During Diabetic Retinopathy: Contribution of ER Stress. Ahmed Ibrahim. May 7, 1pm.

### **Eye Movements/Strabismus/Amblyopia/Neuro-ophthalmology**

#5306 - A0060. A no-moving-parts sensor for detection of eye fixation using polarized light and retinal birefringence information. Boris Gramatikov. May 7, 8:30am.

#5556 - B0127. The Site of Inflammation in the Artery Wall in Temporal Arteritis. Angeline Wang. May 7, 8:30am.

#5855. Retinal Development in Achromatopsia: A Prospective Study of Infants and Young Children using Optical Coherence Tomography. Helena Lee. May 7, 12pm.

#5857. Very Preterm Neonatal Retinal Nerve Fiber Layer Thickness is a Biomarker of Brain Anatomy and Neurodevelopmental Health. Adam Rothman. May 7, 12:30pm.

### **Glaucoma**

#5691 - C0121. Keeping an Eye on Molecular Imaging: Assessment of Drug Toxicity in Small Ocular Structure using Mass Spectrometry Imaging. Gregory Hamm. May 7, 8:30am.

#5807. FOXC1 directly regulates prostaglandin receptors EP2, EP3, and EP4: A potential molecular explanation for prostaglandin resistant glaucoma in Axenfeld-Rieger Syndrome. Lance Doucette. May 7, 12pm.

#6143 - C0101. Ocular Compliance in Mice. Stephen Schwaner. May 7, 12pm.

#6147 - C0105. Influence of scleral stiffening on intraocular pressure increase during microvolumetric changes. Jun Liu. May 7, 12pm.

### **Lens**

#5599 - B0195. The Mouse Lens Glutathione Redox Transcriptome. Jeremy Whitson. May 7, 8:30am.

#5879. Interactions within  $\beta$ -crystallin complexes revealed by crosslinking and mass spectrometry. Kirsten Lampi. May 7, 12:45pm.

### **Physiology/Pharmacology**

#5410 - A0259. Gene therapy With Self-complementary Recombinant Adeno-associated Virus in Models of Autosomal Dominant Retinitis Pigmentosa Caused by RHO Mutations. Brian Rossmiller. May 7, 8:30am.

#5412 - A0261. PRPF31 delivery onto the retina using a nanoparticle system improves the visual acuity in a mouse model of retinal degeneration caused by A216P mutation in PRPF31 gene. Berta De la Cerda. May 7, 8:30am.

#5448 - B0007. Berberine Protects Against Light-Induced Photoreceptor Degeneration in the Mouse Retina. Delu Song. May 7, 8:30am.

#5453 - B0012. Ocular Safety Study of a HIV-1 Derived Lentiviral Vector after Subretinal Injection in Macaca Fascicularis Eyes: Evidence of a Transient Vascular Reaction Revealed by Retina Imaging. Yvan Arsenijevic. May 7, 8:30am.

#5463 - B0022. Bioinformatics Analysis of Utility of the Mutation-Independent Approach for Hammerhead Ribozyme Therapy of Autosomal Dominant RP due to RHO Mutations. Jack Sullivan. May 7, 8:30am.

#5465 - B0024. Rescuing ABCA4 trafficking mutants as a treatment for Stargardt disease. Liudmila Cebotaru. May 7, 8:30am.

#5569 - B0140. Assessment of rod, cone, and intrinsically photosensitive retinal ganglion cell (ipRGC) contribution to the canine chromatic pupillary response. Connie Yeh. May 7, 8:30am.

#5703 - C0133. 24-hour efficacy of the bimatoprost–timolol fixed combination versus latanoprost as first choice therapy in subjects with high-pressure juvenile-onset open-angle glaucoma. VMario Toro. May 7, 8:30am.

#5723 - C0153. An exploratory microdialysis study to assess the ocular pharmacokinetics of ciprofloxacin eye drops in rabbits. Gerhard Garhofer. May 7, 8:30am.

#5724 - C0154. A novel PLGA-CsA drug delivery system based on glaucoma drainage device. Zhaoxing Dai. May 7, 8:30am.

#5725 - C0155. Determination of in vitro-in vivo correlations of intraocular Kenalog half life with the PK-Eye posterior segment pharmacokinetic model. Sahar Awwad. May 7, 8:30am.

#5726 - C0156. Changing properties of bovine aqueous humor with age. Frank Rozsa. May 7, 8:30am.

#5727 - C0157. Pharmacokinetics and Clearance of Molecules after Microneedle Injection into the Suprachoroidal Space. Bryce Chiang. May 7, 8:30am.

#5729 - C0159. In Vitro Assessment of Moxifloxacin Toxicity to Human Iris Pigment Epithelium. Andrew Perin. May 7, 8:30am.

#5739 - C0169. Vitreous Nonsteroidal Anti-Inflammatory Drug Levels in Vitrectomy Patients Treated with Topical Indomethacin 0.5%, Nepafenac 0.1%, and Bromfenac 0.09%. Raffaele Turano. May 7, 8:30am.

#5891 - A0062. Rescue of transgenic mice expressing human G11778A ND4. Hong Yu. May 7, 12pm.



#5892 - A0063. Analysis of Retinal Blood Flow Velocity Profiles Using Spectral Domain Doppler Optical Coherence Tomography in a Patient with Takayasu's Arteritis. Tomofumi Tani. May 7, 12pm.

#5896 - A0067. Channelrhodopsin-2 gene transduction to rat retina using sonoporation. Joo Yong Lee. May 7, 12pm.

#5897 - A0068. Preclinical Evaluation of ENV905 (Difluprednate) Ophthalmic Implant: A Clinical Candidate for the Treatment of Pain and Inflammation Associated with Ocular Surgery. Andres Garcia. May 7, 12pm.

#5821. Circadian Rhythms of Intraocular Pressure and Core Body Temperature Persist in Continuous Dim Light. Diana Lozano. May 7, 12:15pm.

#5822. Trans-epithelial cross-linking for treatment of progressive keratoconus in eyes with thin cornea. Antonio Longo. May 7, 12:30pm.

#5823. Computational study of aqueous humor dynamics in two different models of posterior chamber phakic lenses. Jose Ignacio Fernandez-Vigo. May 7, 12:45pm.

### **Retina**

#5362 - A0211. Visual acuity impairment under low luminance conditions at baseline is a powerful predictor of visual acuity response to ranibizumab therapy in patients with neovascular age-related macular degeneration. Marc Peden. May 7, 8:30am.

#5367 - A0216. Relationship between hypertension and recurrent subretinal hemorrhage in polypoidal choroidal vasculopathy. Eoi jong Seo. May 7, 8:30am.

#5472 - B0031. Potential treatment candidate for Stargardt disease and dry AMD. Konstantin Petrukhin. May 7, 8:30am.

#5485 - B0044. The role of tryptase and type II collagen in the pathogenesis of idiopathic epiretinal membranes. Tsunehiko Ikeda. May 7, 8:30am.

#5944 - A0115. Reproducibility of Macular Pigment Optical Density Measurement by Two-wave Length Autofluorescence. Qisheng You. May 7, 12pm.

### **Retinal Cell Biology**

#5389 - A0238. Progress Towards Generating Zebrafish Models of Retinitis Pigmentosa. Hannah Henson. May 7, 8:30am.

#5422 - A0271. The role of Tmem135 in retinal aging and mitochondrial dynamics. Wei-Hua Lee. May 7, 8:30am.

#5426 - A0275. Functional and morphological evaluation of a mouse model for the retinal degeneration induced by blue LED. Gyu Hyun Kim. May 7, 8:30am.