

Scientific Programme

Monday, 10 September 2018

Session: Ocular Immunology
08:00 - 10:00

Hall 1A

IMM1, Cross-talk of innate immunity in the retina: Mononuclear phagocytes and RPE control retinal inflammation

Chairs:

Thomas Langmann, Köln, Germany
Florian Sennlaub, France

Microglia-RPE Interactions and Immunotherapies for Retinal Degenerations	08:00
Thomas Langmann, Köln, Germany	
How AMD Genetic Risk Factors Affect RPE-mediated Mononuclear Phagocyte Elimination	08:24
Florian Sennlaub, France	
NLRP3 Inflammasome as Therapeutic Target in Age-related Macular Degeneration	08:48
Tim Krohne, Bonn, Germany	
Complement Regulation at the Retina-choroidal Interface	09:12
Heping Xu, Belfast, United Kingdom	
The Role Of Akt2/IFNλ/LCN-2 Pathway in Neutrophil Regulation during Age-related Macular Degeneration (AMD)	09:36
Sayan Ghosh, Pittsburgh, Pennsylvania, United States	

Session: RPE-Choroid
08:00 - 10:00

Hall 1B

RPE1, Non-VEGF mechanisms in angiogenesis

Chairs:

Mary Elizabeth Hartnett, United States

IQGAP1 Regulates VEGF-induced Choroidal Endothelial Cell Migration through Rac1	08:00
Mary Elizabeth Hartnett, United States	
Negative Regulators of Angiogenesis and Exudative AMD	08:27
Nader Sheibani	
Non-canonical Tyrosine Kinase Receptor Signaling Pathways	08:54
Michael E. Boulton	
Endothelial-specific targeting for anti-angiogenesis: a role for the glycocalyx	09:21
Patricia A. D'Amore, Boston, United States	

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MicroRNA-145 Regulates Endothelial Cell Function and Pathologic Angiogenesis by Suppression of Tmod3 in a Mouse Model of Proliferative Retinopathy 09:48
Chi-Hsiu Liu, Boston, Massachusetts, United States

Session: Ocular Imaging & Psychophysics
08:00 - 10:00

Hall 2A

IMA1, High resolution retinal imaging technologies and imaging of inherited retinal degenerations

Chairs:

Joseph Carroll, United States

Measuring Human Cone Function with 1.6 MHz Adaptive Optics Optical Coherence Tomography 08:00
Ravi Jonnal, Sacramento, CA, United States

Assessing Retinal Structure in Patients with X-linked Cone Opsin Mutations Using Adaptive Optics Scanning Light Ophthalmoscopy 08:27
Emily Patterson, Milwaukee, Wisconsin, United States

OCT Angiography and Cone Photoreceptor Imaging in Geographic Atrophy 08:54
Jacque Duncan, San Francisco, California, United States

Understanding Retinal Directionality in Imaging and in Vision - Seeing beyond Waveguiding 09:21
Brian Vohnsen, Dublin, Ireland

Cone Photoreceptor Structure in RPE65-Associated Leber Congenital Amaurosis 09:48
Angelos Kalitzeos, London, United Kingdom

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
08:00 - 10:00

Hall 2B

OPT1, Emerging therapies for ocular malignancies

Chairs:

Sarah Coupland, Liverpool, United Kingdom

Genetics and Molecular Pathways in Conjunctival Melanoma 08:00
Alexandre Moulin, Lausanne, Switzerland

Emerging New Therapies in Ocular Melanoma 08:35
Sarah Coupland, Liverpool, United Kingdom

Emerging Insights on Ocular Adnexal Lymphoma 09:10
Timothy Sullivan, Australia

Elucidating the Role of Oncogenic Cysteinyl Leukotriene Receptor 2 in Uveal Melanoma Using CRISPR/Cas9 Genome Editing 09:45
Kayleigh Slater, Dublin, Ireland

Scientific Programme

Session: Epidemiology of Eye Disease & Global Eye Health
08:00 - 10:00

Meeting Room 3B

EED1, The importance of metrics in global eye health and making this data 'actionable'

Chairs:

Rupert Bourne, United Kingdom

Rapid Assessment of Avoidable Blindness (RAAB) studies - their evolution and their contribution	08:00
Hans Limburg, Grootebroek, Netherlands	
The Global Vision Database and what it tells us about vision impairment now and into the future	08:24
Rupert Bourne, United Kingdom	
Novel technologies to expand diagnostic capacity in surveys	08:48
Pete Jones	
Data driven visible eye health systems- the inclusion of innovative techniques to expand the diagnostic capacities of RAAB	09:12
Nigel Bolster	
Making these data actionable - the view of the CEO of the International Agency for Prevention of Blindness	09:36
Peter Holland	

Session: Cross-Discipline
08:00 - 10:00

Meeting Room 1A

IND1, ER Stress and UPR in ocular health and disease

Chairs:

Jonathan Lin, San Diego, United States

The Role of Cell Stress Responses in Retinal Degeneration	08:00
Michael Cheetham, London, United Kingdom	
Integrated Stress Response, Protein Synthesis and New Therapeutic Strategies for Treatments of Retinal Degenerative Disorders	08:20
Marina Gorbatyuk, Birmingham, Alabama, United States	
Stem Cell Modeling of ATF6 Cone Photoreceptor Diseases	08:40
Jonathan Lin, San Diego, United States	
Consequences of Blood Retinal Barrier Breakdown	09:00
Timothy Lyons, Charleston, South Carolina, United States	
A Unified Mechanism for Multiple Forms of Cone Photoreceptor Degeneration	09:20
Yingbin Fu, Houston, TX, United States	
Implication of Various Oxidative Stress Pathways in the Phenotype of Prpf31-Mutant Mice	09:40
Abdallah Hamieh, Paris, France	

Scientific Programme

Session: Cornea and Ocular Surface
08:00 - 10:00

Meeting Room 1B

COS1, Advances in biomaterial technology and cell based therapies for corneal regeneration

Chairs:

Mark Ahearne, Dublin, Ireland
Neil Lagali, Linköping, Sweden

Bioengineering the Corneal Stroma for Therapeutic Keratoplasty	08:00
Neil Lagali, Linköping, Sweden	
Making Corneas from Corneas	08:27
Mark Ahearne, Dublin, Ireland	
Initial Experience with Acellular Porcine Corneal APC Deep Anterior Lamellar Keratoplasty	08:54
Miltos Balidis, Thessaloniki, Greece	
The Role of Substrate Curvature on Corneal Stromal Cell Behavior	09:21
Ricardo Gouveia, Newcastle, United Kingdom	
Mesenchymal Stem Cells for Corneal Epithelial Regeneration: Source Dependent Variations and Status of Transdifferentiation	09:48
Sachin Shukla, Boston, United States	

Session: Retinal Cell Biology
08:00 - 10:00

Meeting Room 2A

RCB1, Dynamic cellular processes in the photoreceptor inner / outer segment

Chairs:

Vadim Y. Arshavsky, United States
David S. Williams, United States

Mitochondrial Ca²⁺ and Photoreceptor Function	08:00
Susan Bockerhoff, United States	
Photoreceptor Dysfunction Associated with Rhodopsin Mislocalization	08:24
Yoshikazu Imanishi, Cleveland, United States	
New Insights into the Mechanism of Photoreceptor Disc Morphogenesis	08:48
Vadim Y. Arshavsky, United States	
Opsin's Route to the Cilium	09:12
Abhishek Chadha, Los Angeles, CA, United States	
The Intrinsic Peripheral Membrane Protein Compartmentalization Code of Photoreceptor Neurons	09:36
Peter Calvert, Syracuse, NY, United States	

Scientific Programme

Session: Glaucoma
08:00 - 10:00

Meeting Room 2B

GLA1, Schlemm's canal and beyond, novel targets for glaucoma

Chairs:

William Dan Stamer, Durham, United States

Revisiting the Role of Fibronectin for Trabecular Aqueous Humor Outflow	08:00
Ernst R. Tamm, Regensburg, Germany	
Probing the Stiffness of Human Inner Wall Endothelium of the Schlemm's Canal and its Substrate In-Situ	08:20
Amir Vahabikashi, Evanston, IL, United States	
The Mechanobiology of the Inner Wall, Where Flow Shapes Function	08:40
Darryl R. Overby, United States	
Role of Endothelial Caveolin-1 in the Conventional Outflow Pathway	09:00
Michael Elliott, United States	
Neuronal Control of Intraocular Pressure through Innervation of the Schlemm's Canal	09:20
Krishnakumar Kizhatil, Bar Harbor, Maine, United States	
Structure and Function of the Porcine Distal Outflow Tract	09:40
Nils Loewen, Pittsburgh, United States	

Session: Retinal Cell Biology
08:00 - 10:00

Meeting Room 3A

RCB2, Epigenetic orchestra in diabetic retinopathy

Long Non-coding RNAs in Diabetic Retinopathy - New Kids on the Block	08:00
Subrata Chakrabarti, London, Canada	
MicroRNAs in diabetic retinopathy: modulators of oxidative stress and inflammation beyond gene expression	08:24
Manuela Bartoli, Augusta, Georgia, United States	
Developing a molecular signature for vascular complications in Diabetes	08:48
Anand Hardikar	
Epigenomic Profiling of Retinal Progenitor Cells Unveils Developmentally Regulated Reliance of Open Chromatin on the Transcription Factor Lhx2	09:12
Cristina Zibetti, Baltimore, MD, United States	

Opening Ceremony, Plenary Lecture
10:30 - 12:00

Hall 1A

Opening Ceremony & The Retina Research Foundation's Paul Kayser International Award in Retina Research & Plenary Lecture

Scientific Programme

Introduction	10:30
Michael Cheetham, London, United Kingdom	
Chemistry and Biology of Vision	10:40
Krzysztof Palczewski	
Award Ceremony	11:25

Session: RPE-Choroid
13:00 - 15:00

Hall 1A

RPE2, RPE-Choroid pathological immune processes: Molecules

Chairs:

Robert Mullins, United States

The Membrane Attack Complex (MAC): A Smoking Gun in Age-related Macular Degeneration	13:00
Robert Mullins, United States	
Aryl Hydrocarbon Receptor Activity Regulates RPE and Choroidal Cell Health	13:27
Goldis Malek, United States	
The Role of Factor H and its Transcripts in AMD	13:54
Simon Clark, United Kingdom	
Aberrant BMAL1 Dependent Claudin-5 Cycling Induces Geographic Atrophy	14:21
Natalie Hudson, Dublin, Ireland	

Session: Cornea and Ocular Surface
13:00 - 15:00

Hall 1B

COS2, Corneal transplantation and immunomodulation

Chairs:

Thomas Ritter, Galway, Ireland

The Taming of the Shrew? Modulation of the Immune Response in Penetrating Keratoplasty. From the Past to the Future	13:00
Uwe Pleyer, Berlin, Germany	
Plasmacytoid dendritic cells mediate alloantigen-specific immune tolerance in corneal transplantation	13:27
Pedram Hamrah, Boston, Massachusetts, United States	
Mesenchymal Stem Cell Therapy to Promote Corneal Allograft Survival - From Bench to Bedside	13:54
Thomas Ritter, Galway, Ireland	
Gene therapy to modulate corneal graft survival	14:21
Thomas A. Fuchsluger, Erlangen, Germany	

Scientific Programme

Corneal Substitutes from Decellularized Porcine Tissues 14:48
Julia Fernández-Pérez, Dublin, Dublin, Ireland

Session: Glaucoma
13:00 - 15:00

Hall 2A

GLA2, Neuroprotection and neuroregeneration for glaucoma treatment

Chairs:

Keith Martin
Jonathan Crowston

Gene Therapy for Neuroprotection in Glaucoma 13:00
Keith Martin

Muscle LIM Protein is expressed in the injured adult CNS and promotes Axon Regeneration 13:20
Dietmar Fischer, Germany

Neurorecovery in Glaucoma 13:40
Jonathan Crowston

AKT-dependent and Independent Pathways Mediate PTEN Deletion-induced CNS Axon Regeneration 14:00
Yang Hu, Palo Alto, California, United States

Treatment with P38 Inhibitor Birb 796 is Neuroprotective in Models of Glaucoma 14:20
Wendi Lambert, Nashville, TN, United States

Cholesterol Imetabolism is Impaired in Glaucoma 14:40
Sanjoy K. Bhattacharya, Miami, United States

Session: Retinal Cell Biology
13:00 - 15:00

Hall 2B

RCB3, Cell fate specification in the retina: From development to regeneration

Chairs:

Michel Cayouette, Canada

Investigating Donor-host Photoreceptor Interactions 13:00
Valerie Wallace, Canada

Retinal Repair through Photoreceptor Transplantation 13:27
Robin Ali, London, United Kingdom

Comprehensive analysis of retinal development at the single cell level identifies novel regulators of temporal patterning and proliferative quiescence. 13:54
Seth Blackshaw, Baltimore, Maryland, United States

Scientific Programme

Growth of Mammalian Retina by mTORC1-induced RPC Proliferation and Retinal Neurogenesis	14:21
Jin Woo Kim, Daejeon, Korea, Republic of	
Impacts of Neurogenic Factors on Retinal Ganglion Cell Development in the Avian Retina and in Human ES Cell-derived Retinal Organoids	14:48
Xian-jie Yang, United States	

Session: Cross-Discipline
13:00 - 15:00

Meeting Room 3B

IND2, Lymphatics and Glymphatics in and around the eye

Chairs:

Tailoi Chan-Ling, Sydney, Australia
Carol Toris, Cleveland, OH, United States
Paul Kaufman, Madison, United States

The Ocular Glymphatic Clearance System	13:00
Xiaowei Wang, Copenhagen, Denmark	
Near-Infrared Imaging of Lymphatic Function and Cerebrospinal Fluid Outflow	13:24
Steven Proulx, Zurich, Switzerland	
Active Lymphatic Drainage from the Eye Measured by Noninvasive Photoacoustic Imaging of Near-infrared Nanoparticles	13:48
Yeni Yucel, Canada	
Evidence for lymphatics and glymphatics in posterior eye and their draining lymph nodes	14:12
Tailoi Chan-Ling, Sydney, Australia	
Determining Mechanisms of Aqueous Humor Drainage Using Mice	14:36
Simon John, United States	

Session: Cross-Discipline
13:00 - 15:00

Meeting Room 1A

IND3, Dementia in the Eye

Chairs:

Imre Lengyel, United Kingdom

Neuropathological Hallmarks of Alzheimer's Disease in Post Mortem AD Retinas	13:00
Jurre den Haan	
Alzheimer's Disease β-Amyloid ($A\beta$) Pathology in the Lens of the Eye: Pathway to Early Diagnosis and Effective Treatment	13:22
Lee Goldstein	

Scientific Programme

Is the Retina a Reliable Window to Look into the Brain in Alzheimer's Disease? Lessons from an Animal Model	13:44
António Francisco Ambrósio, Coimbra, Portugal	
Update on Ultrasensitive Methods to Detect Molecular Changes in Neurodegenerative Dementias	14:06
Henrik Zetterberg	
Investigating Tau Pathology through the Eye: A Preclinical and Clinical Study of Frontotemporal Dementia	14:28
Ian Harrison	

Session: Retinal Cell Biology
13:00 - 15:00

Meeting Room 1B

RCB4, Epigenetic, miRNA and transcriptional modulators of retinal disease

Chairs:

Neena B. Haider, Boston, United States
Margaret DeAngelis, United States

Modulating the Normal and Degenerating Retina Through Transcriptional Regulation	13:00
Neena B. Haider, Boston, United States	
Elucidating AMD pathophysiology through allelic specific expression in donor eyes	13:27
Margaret DeAngelis, United States	
Comparative transcriptomic analyses of Muller glia reprogramming	13:54
John Ash, United States	
Using gene editing to obtain systems-level insights into AMD	14:21
Sudha Iyengar, Cleveland, United States	
Her9/HES4 Is a Notch-independent Regulator of Vertebrate Photoreceptor Differentiation	14:48
Ann Morris, Lexington, Kentucky, United States	

Session: Lens
13:00 - 15:00

Meeting Room 2A

LEN1, Redox Biology of the Eye Lens

Chairs:

Marc Kantorow, United States

Characterisation of a GSH Export Pathway in Human Lenses: Implications for the Lens in Maintaining Redox Balance in the Ocular Humors	13:00
Julie Lim, New Zealand	
Lens Epithelial Cells Adaptation and Transformation under Oxidative Stress	13:20
Xingjun Fan, Cleveland, OH, United States	

Scientific Programme

Hypoxia Regulation of Lens Structure and Function	13:40
Lisa Brennan, United States	
TGFβ-induced Lens EMT Leading to Cataract Requires Nox4 Activity	14:00
Shannon Das, Australia	
Sulforaphane Reactivates Cellular Antioxidant Defense	14:20
Eri Kubo, Japan	
Peptide-induced Formation of Protein Aggregates and Amyloid Fibrils in Recombinant Human and Guinea Pig αA-crystallins: A Possible Role for Crystallin Disulfide-crosslinking	14:40
Frank Giblin, United States	

Session: Epidemiology of Eye Disease & Global Eye Health
13:00 - 15:00

Meeting Room 2B

EED2, Global perspectives on AMD and diabetic retinopathy

Chairs:

Tunde Peto, United Kingdom

Global Perspectives on AMD and Diabetic Retinopathy	13:00
Tunde Peto, United Kingdom	
Dietary Patterns and Risk of Age Related Macular Degeneration	13:30
Jayne Woodside, United Kingdom	
Obesity, metabolic syndrome and diabetic retinopathy: Beyond hyperglycemia	14:00
Islam Mohamed, Elk Grove, United States	
Testing functional deficits in AMD and DR - what matters to the patient	14:30
Ruth Hogg, United Kingdom	

Session: Cross-Discipline
13:00 - 15:00

Meeting Room 3A

IND4, Retinoids in development, maturation, and aging

Chairs:

John M. Nickerson, Atlanta, Georgia, United States

Thyroid Hormone Regulates Long-wavelength Vision via Two Molecularly Distinct Mechanisms	13:00
Joseph Corbo, St. Louis, United States	
Functional Role of RPE65 Palmitoylation	13:35
T. Michael Redmond, Bethesda, United States	
The role of IRBP in eye size determination	14:10
John Nickerson, Atlanta, United States	

Scientific Programme

Role of retbindin in retinal flavin homeostasis **14:45**
Muayyad Al-Ubaidi, United States

Session: Retinal Cell Biology
15:30 - 17:30

Hall 1A

RCB5, Diabetic retinopathy - Where do we stand?

Chairs:

Renu Kowluru, United States

Dyslipidemia and diabetic retinopathy **15:30**
Julia V. Busik, Michigan, United States

Molecular Mechanisms of Diabetic Retinopathy-Arginase as a Therapeutic Target **15:52**
Ruth B. Caldwell, Augusta, GA, United States

DRGen Study: Novel Genetic Variants in Extreme and Advanced Phenotypes of Diabetic Retinopathy **16:14**
Arup Das, New Mexico, United States

Neuronal Dysfunction in Diabetic Retinopathy **16:36**
Machelle T. Pardue, Decatur, Georgia, United States

Rac1-Nox2 Signaling Axis in the Pathogenesis of Diabetic Retinopathy: Complexity of Simplicity **16:58**
Anjan Kowluru, United States

A Diabetic Milieu Induces Premature Senescence in Retinal Endothelial Cells **17:20**
Pietro Maria Bertelli, Belfast, Northern Ireland, United Kingdom

Session: RPE-Choroid
15:30 - 17:30

Hall 2A

RPE3, RPE and choroid: Stem cells for disease modeling and transplantation

Chairs:

Budd Tucker, United States

Generating and Regenerating Cone Photoreceptors **15:30**
Michel Cayouette, Canada

Surgical strategies for RPE cell delivery in animal models **15:57**
Boris Stanzel, Germany

Subretinal Implantation of a Bioengineered Embryonic Stem Cell-Derived Retinal Pigment Epithelium Monolayer in Dry Age Related Macular Degeneration **16:24**
Dennis O. Clegg, Santa Barbara, California, United States

Scientific Programme

Autologous iPSC Derived CECs for Evaluating Pathophysiology and Treatment of AMD **16:51**
Budd Tucker, United States

Endothelial Colony Forming Cell Modulation of Choroidal Angiogenesis **17:18**
Stuart McKeown, Belfast, United Kingdom

Session: Cornea and Ocular Surface
15:30 - 17:30

Hall 2B

COS3, Inflammation / Infection of the cornea and ocular surface

Chairs:

Susmit Suvas, United States

Mast Cells: Beyond Allergic Eye Disease **15:30**
Sunil Chauhan, Boston, United States

It Gets Nerves to Control Ocular Surface Inflammation **15:57**
Giulio Ferrari, Milan, Italy

Sub-anticoagulant Dose Heparin Is a Potential Therapy for Inflammation and Ocular Surface Disease in Dry Eye and oGVHD **16:24**
Sandeep Jain, Chicago, Illinois, United States

Novel Approaches to Control Immunopathogenesis Associated with Herpes Stromal Keratitis (HSK) **16:51**
Susmit Suvas, United States

KLF4 and TGF- β Superfamily Crosstalk in Corneal Epithelial Homeostasis **17:18**
Shivalingappa Kottur Swamynathan, Pittsburgh, PA, United States

Session: Cross-Discipline
15:30 - 17:30

Meeting Room 3B

IND5, Early development of the lens and retina

Chairs:

Lena Gunhaga, Sweden

Stephen Wilson, London, United Kingdom

Eye Morphogenesis in the Blind Mexican cavefish **15:30**
Sylvie Retaux, France

Mechanisms Underlying Lens Transdifferentiation in Neural Retina Cells and Pituitary Precursors **15:56**
Hisato Kondoh, Japan

Specification of the Retina Pigment Epithelium and its Implication in Vertebrate Optic Cup Morphogenesis **16:22**
Paolo Bovolenta, Spain

Scientific Programme

- Using zebrafish to provide genetic models of human congenital eye abnormalities** **16:48**
Stephen Wilson, London, United Kingdom
- Temporal Requirement of Mab2112 during Eye Development in Chick Reveals Stage Dependent Functions for Retinogenesis** **17:14**
Soufien Sghari, Umeå, Sweden

Session: Ophthalmic Genetics/Genomics
15:30 - 17:30

Meeting Room 1A

OGM1, Advances in genetics of childhood glaucoma

Chairs:

Francesca Pasutto

- Angiopoietin Receptor TEK-associated Primary Congenital Glaucoma: Three New Variants and Expansion of the Phenotype** **15:30**
Terri Young, Madison, United States
- ANGPT1 Variants Contribute to Early and Late-onset Glaucoma** **16:00**
Janey Wiggs, United States
- Biallelic CPAMD8 Variants Associated with Congenital Glaucoma and Anterior Segment Dysgenesis** **16:30**
Emmanuelle Souzeau, Bedford Park, SA, Australia
- Strain Dependent Differences Modulating Ocular Phenotypes in Lmx1b Mutant Mice** **17:00**
Nicholas Tolman, Bar Harbor, United States

Session: Glaucoma
15:30 - 17:30

Meeting Room 1B

GLA3, New drugs / Delivery systems for glaucoma

Chairs:

Najam Sharif, United States
Augusto Azuara-Blanco

- Omidenepag Isopropyl (DE-117): The Next Generation Drug to Treat Glaucoma** **15:30**
Najam Sharif, United States
- Pros and Cons of Extraocular, Intracameral, Supraciliary and Intravitreal Sustained Release Drug Delivery Systems for Glaucoma Therapy** **15:50**
Uday Kompella, United States
- The Discovery and SAR of Rhopressa, the First FDA-approved ROCK Inhibitor for the Treatment of Glaucoma, Containing the NCE Netarsudil** **16:10**
Mitchell deLong, Durham, North Carolina, United States

Scientific Programme

Hydrogen Sulfide-releasing Compounds: Potential Role in Glaucoma Pharmacotherapy	16:30
Sunny Ohia, Houston, United States	
Latanoprostene Bunod: A Nitric Oxide-donating Prostaglandin Analog with a Dual Mechanism of Action for Intraocular Pressure Lowering	16:50
Megan Cavet, Rochester, United States	
The Science Behind the Design and Material Comprising the InnFocus MicroShunt®	17:10
Leonard Pinchuk, Miami, United States	

Session: Retinal Cell Biology
15:30 - 17:30

Meeting Room 2A

RCB6, Animal models of cone health and disorder

Chairs:

Ben Sajdak, United States

Cellular-scale two-Photon Excited Fluorescence Imaging of Retina in the Living Macaque	15:30
Jennifer Hunter, Rochester, New York, United States	
Cone-rich Rodents as Useful Animal Models of Human Visual Physiology and Pathology	15:57
David Hicks, France	
Assessing the Roles of Irbp and Irbp-like in the Zebrafish Eye	16:24
Ross Collery, United States	
High Resolution Imaging and Correlative Histology in Cone-dominant Mammals	16:51
Ben Sajdak, United States	
In vivo Electroretinographic Differentiation of Rod, Short-wavelength and Long/Medium-wavelength Cone Responses in Dogs Using Silent Substitution Stimuli	17:18
Freya Mowat, Raleigh, United States	

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
15:30 - 17:30

Meeting Room 2B

OPT2, Genetics and inflammation in ocular melanoma

Chairs:

Emine Kilic, Rotterdam, Netherlands
Martine Jager, Leiden, Netherlands

Update on the Genomics of Uveal Melanoma	15:30
Emine Kilic, Rotterdam, Netherlands	
Analyzing the Function of BAP1 in Uveal Melanoma	15:57
Joni Turunen, Finland	

Scientific Programme

The Immune Microenvironment in Ocular Melanoma Martine Jager, Leiden, Netherlands	16:24
Toll-like Receptors, Melanocytes and Ocular Melanoma Michele Madigan, Sydney, Australia	16:51
Arginase 1 Promotes Retinal Neurovascular Protection from Ischemia through Suppression of Macrophage Inflammatory Responses R. William Caldwell, Augusta, Georgia, United States	17:18

Session: Ocular Immunology
15:30 - 17:30

Meeting Room 3A

IMM2, Microbiota & Eye diseases

Chairs:

Lai Wei, China

Gut Microbiota and the Gut-retina Axis Influence Pathological Choroidal Neovascularization Elisabeth Andriessen, Montreal, Canada	15:30
Infectious Etiology of Age-related Macular Degeneration Lai Wei, China	15:57
The Use of Predatory Prokaryotes to Control Human Ocular Pathogens Robert Shanks, Pittsburgh, PA, United States	16:09

Poster Session
17:30 - 19:00

Poster Area

Cornea and Ocular Surface

The Association between Smartphone Addiction and Dry Eye Disease: A Cross Sectional Study Yara Alqahtani, Jeddah, Saudi Arabia	
Expression of IQGAP-1 in Pterygium Body and the Association with Clinical Grading Tzu-Ting Lai, New Taipei City, Taiwan, Province of China	
4D Tissue Engineering: Shaping the Corneal Stroma Using Localised, Time-dependant, Cell-mediated Contraction Martina Miotto, Newcastle upon Tyne, United Kingdom	
Gene Expression Analysis of Conjunctival Epithelium of Stevens-Johnson Syndrome Patients in the Chronic Stage Mayumi Ueta, Kyoto, Japan	
Mega-dose Dietary Riboflavin and Direct Sunlight UV Exposure in the Treatment of Keratoconus and Post-refractive Surgery Ectasia John Jarstad, Columbia, Missouri, United States	
Optimal Cryopreservation Conditions for Limbal Stem Cells Charlie Osei-Bempong, Newcastle Upon Tyne, Tyne and Wear, United Kingdom	

Scientific Programme

Cell Alive System (CAS) as a New Freezing Storage System for Donor Cornea

Tetsuya Kawakita, Tokyo, Japan

A Nonlinear Viscoelastic Model of Corneal and Whole-eye Motion under Air-puff Loading by a Dynamic Scheimpflug Analyzer

B. Audrey Nguyen, Columbus, Ohio, United States

Asymmetrical Endothelial Cell Migration from in vitro Quarter-DMEK Grafts

Alina Miron, Rotterdam, Zuid Holland, Netherlands

Effect of Extraction Method and Location on in vitro Stromal Cell Behavior

Thomas Volatier, Gateshead, Tyne And Wear, United Kingdom

A Mesenchymal Stem Cells Patch for Corneal Wound Healing

Olla Al-Jaibaji, Newcastle Upon Tyne, United Kingdom

Poster Session
17:30 - 19:00

Poster Area

Epidemiology of Eye Disease & Global Eye Health

Safety of Wearing Contact Lenses for Patients Using Selective Serotonin Reuptake Inhibitors (SSRIS)

Yi-Pei Liu, Taipei City, Taiwan, Province of China

Acute Ophthalmoplegia in Herpes Zoster Ophthalmicus: Clinical Features and Radiographic Findings

Wenting Zhou, Singapore, singapore, Singapore

Ocular Axial Length and its Associations in Russia: The Ural Eye and Medical Study

Gyulli Kazakbaeva, Ufa, Russian Federation

Poster Session
17:30 - 19:00

Poster Area

Glaucoma

Three Techniques to Adjust IOP Immediately Following Femtosecond Laser-Assisted (FLACS) & Micro Incision Cataract Surgery (MICS) to Avoid IOP Spikes (the #1 Post-Operative Complication in Cataract Surgery)

Jella Angela An, Columbia, Missouri, United States

Targeting of CD44 by Hyaluronan Coated-nanoparticles in Outflow Tissues - A New Therapeutic Approach for Glaucoma

Franziska Froemel, Regensburg, Germany

Early Deficits in Visual and Retinal Function in the Rat Microbead Model of Glaucoma

Bailey G. Hannon, Atlanta, Georgia(GA), United States

The in vivo Effect of Netarsudil on Mouse Outflow Facility Using iPerfusion

Joseph M Sherwood, London, Other, United Kingdom

Scientific Programme

Genetic Suppression of Mechanosensitive Piezo Channel Reduces Intraocular Pressure by Promoting Aqueous Humor Outflow in Mice

Wei Zhu, Qingdao, China

Neuroprotection of Retinal Ganglion Cells with Metallothionein-2 in FLOREC Retinal Explants Culture

Marita Pietrucha-Dutczak, Katowice, Poland

Functional Analysis of MANF in Retinal Ganglion Cells by Oxidative Stress

Ji-Ae Ko, Hiroshima, Japan

Novel Low Molecular Weight Compound OBP-801 Ameliorates Detrimental Scar Formation Accompanied in Glaucoma Filtration Surgery

Yuji Yamamoto, Kyoto, Japan

Assessing Shear Stress in Schlemm's Canal Using Shear Stress-Responsive Reporter Adenoviruses

Fiona McDonnell, Durham, NC, United States

Systemic Vascular Risk Factors for Multiple Retinal Nerve Fiber Layer Defects

Chan Kee Park, Seoul, Korea, Republic of

Analyzing the Role of Cav-1 in Mediating Acute IOP Induced Inner Retinal Deficits

Mojdeh Abbasi, Sydney, NSW, Australia

Endosomal Function and Glaucoma

Brian S. McKay, Tucson, Arizona, United States

Is Protein Acetylation Crucial for Retina Neuroprotection in Glaucoma?

Syed Zaidi, Charleston, SC, United States

The Activation of Endocannabinoid Signaling and Microglial Activity after Optic Nerve Injury

Margaret Luke, Halifax, Canada

The Apoptotic Machinery in the Retinal Ganglion Cells of Bax Heterozygous Animals is Deactivated Several Months After Optic Nerve Crush

Ryan Donahue, Madison, WI, United States

Hand-Held Spectral Domain Optical Coherence Tomography Measurements of Anterior Chamber Angle in Children with Congenital Glaucoma

Budor Edawaji, Leicester, United Kingdom

Poster Session
17:30 - 19:00

Poster Area

Lens

Cataracts Are a Non-cancerous Effect of Ionizing Radiation - A Lifetime Study in Mice

Claudia Dalke, Neuherberg / Munich, Germany

Post-transcriptional Control in the Lens: Function of the Cataract-linked RNA-binding Protein Celf1

Sandeep Aryal, Newark, Delaware, United States

Effects of PI3K and PTEN ON Lens Postnatal Growth and Homeostasis

Caterina Sellitto, Stony Brook, United States

Scientific Programme

Heparan Sulfate Proteoglycans in the Lens: The Role of Glycosaminoglycan Chain Sulfation in Epithelial Cell Mitogenesis

Taylor F.L. Wishart, Sydney, New South Wales, Australia

Poster Session
17:30 - 19:00

Poster Area

Ocular Imaging and Psychophysics

Investigating Retinal Biomarkers for Usher Syndrome in Preparation for Gene Therapy

Jasdeep Singh Gill, London, United Kingdom

Longitudinal Phenotyping of Non-syndromic Retinitis Pigmentosa Caused by Mutations in USH2A

Yun Lin Ang, London, United Kingdom

Imaging Dementia through the Eye

Lajos Csincsik, Belfast, Northern Ireland, United Kingdom

Intravitreal Anti-vascular Endothelial Growth Factor Therapies for Diabetic Macular Edema with Practical Protocol

Toshiyuki Oshitari, Chiba, Chiba, Japan

Evaluation of Intravitreal Anti-vascular Endothelial Growth Factor Injections on Renal Function in Patients with Diabetic Macular Oedema

Patrick Gallagher, Belfast, Northern Ireland, United Kingdom

Comparing Intravitreal (IVT) Pharmacokinetics of Selected Antiangiogenic Agents in Rabbits Using ESI-LC-MS/MS

Nabanita Halder, New Delhi, India

Tetramethylpyrazine Attenuates Intraocular Inflammation in Experimental Autoimmune Uveitis through Modulating Stat3 and Stat4 Pathways

Bo Lei, Chongqing, China

Efficacy of Nonsteroidal Anti-inflammatory Drugs (NSAIDs) in Patients with Retinopathy: A Systematic Review and Meta-analysis

Muhammed Khaled Elfaituri, Tripoli, Libya

Metformin Improves Retinal Capillary Perfusion and Reserves Retinal Function in Diabetic Mice

Xiaoxi Qiao, Detroit, United States

Reassessment of Treatment Resistant Exudative AMD Diagnosis with Indocyanine Green Angiography Prior Switching Anti-VEGF Treatment to Aflibercept

Ali Demircan, Istanbul, Turkey

Real-life Evidence on Treatment Outcomes of Polypoidal Choroidal Vasculopathy in Turkey

Gokhan Demir, Istanbul, Turkey

The Evaluation of Topical SPL, a Novel Dendrimer Antiviral, against Adenovirus in NZW Rabbit Ocular Models

Eric Romanowski, Pittsburgh, Pennsylvania, United States

Scientific Programme

Comparison of an Intravitreal Dexamethasone Implant and Anti-VEGF Drugs in Treatment of Macular Edema: A Meta-analysis of Randomized Controlled Trials

Shuai Ming, Zhengzhou, Henan, China

Pentraxin 3 Enhances Myeloid Cell Phagocytic Function

Varun Pathak, Belfast, Antrim, United Kingdom

Targeting SRPK1 with Novel Potent and Selective Inhibitors Blocks Choroidal Neovascularisation through Modulating VEGF-A Alternative Splicing

Elizabeth Stewart, Nottingham, United Kingdom

Ocular Pharmacokinetics of Cyclosporine after Ocular Administration of OTX-101, a Novel Nanomicellar Formulation of Cyclosporine in New Zealand White Rabbits

Sidney L. Weiss, Delray Beach, FL, United States

Vasoreparative Cell Therapies for Ischaemic Retinopathies

Sarah Chambers, Belfast, United Kingdom

Mitochondrial Morphology Change and the Expression of Mitochondrial Fission/Fusion Genes in RPE Cells under Oxidative Stress

Xu Liu, Xi'an, 陕西省, China

The Role of the LIM Homeodomain 2 (Lhx2) in Differentiation of the Mammalian Retinal-Pigmented Epithelium (RPE)

Ahuvit David, Tel Aviv, Israel

eNOS 4a/b Polymorphism Frequency in Jordanian Diabetic Retinopathy Patients

Diala Abu-Hassan, Amman, Jordan

Novel Frameshift Mutation in MAB21L2 in Two Patients with Bilateral Colobomata without Skeletal Malformation

Martin Wendlandt, Munich, Germany

Conditional Lack of Bcl-2 in Pericytes and Astrocytes Distinctly Impacts Retinal Vascularization

Christine Sorenson, Madison, Wisconsin, United States

A Novel Missense Mutation, G2284E, in the Zinc Finger Protein (ZNF469) Gene Contribute to the Pathogenesis of Korean Keratoconus Patients

Choun-Ki Joo, Korea, Republic of

Poster Session
17:30 - 19:00

Poster Area

Retinal Cell Biology

Decreased Uncoupling Protein 2 Expression in Aging Retinal Pigment Epithelial Cells

Xia Wang, Xi'an, Shannxi, China

Protective Effects of Single or Combinations of Neuroprotective and Regenerative Agents against Degeneration of RGCs in Optic Nerve Crash Rat Model

Guzel Bikbova, Chiba, Japan

Correlation between Uncorrected Visual Acuity and Macular Distortion in Idiopathic Epiretinal Membrane Patients

Janghoon Lee, Seoul, Korea, Republic of

Scientific Programme

IL-1b in ROP and Choroidal Degeneration

Jose-Carlos Rivera, Montreal, Quebec, Canada

Endothelial-cell Specific Inactivation of TSPAN12 Reveals Pathological Consequences of Barrier Defects in an Otherwise Intact Vasculature

Harald J. Junge, Boulder, CO, United States

Stochastic Refractory Sampling Maximises Visual Information in a Limited Neural Channel

Zhuoyi Song, Sheffield, United Kingdom

Counteracting GCAP-dependent Activation of Retinal Guanylyl Cyclase (RetGC) by RD3 Protein is Essential for Preventing Photoreceptor Degeneration

Alexander Dizhoor, United States

Increased Levels of Lysyl Oxidase in the Vitreous Humor of Diabetic Patients with Advanced Diabetic Retinopathy

Manju Subramanian, Boston, Massachusetts, United States

COMP-Ang1 Stabilizes Hyperglycemic Disruption of Blood-retinal Barrier Phenotype in Human Retinal Microvascular Endothelial Cells

Keith David Rochfort, Dublin, Outside US, Ireland

RPE65 Gene Therapy Restores Melanopsin Function in a Mouse Model of Leber Congenital Amaurosis

Aisling Lynch, London, United Kingdom

A Novel Murine Model for Age-related Macular Degeneration Induced by Combined Chronic Exposure to Light and Hydroquinone

Zhang Jing, Beijing, China

Effect of a Traditional Chinese Medicine, BSYJ on Photoreceptor Apoptosis in RCS Rat with Inherited Retinal Degeneration

Liang Lina, Beijing, shijingshan, China

BACE1 Plays a Critical Role in Retinal Pigment Epithelial Cell Homeostasis

Sayak Mitter, Birmingham, Alabama, United States

Activation of Sigma 1 Receptor (Sig1R) Regulates NRF2 in Cone Photoreceptor Cells

Sylvia Smith, Augusta, Georgia, United States

Spatial and Temporal Recruitment of Systemically Administered RPE65-programmed Bone Marrow-derived Cells to the Retina in a Mouse Model of AMD

Skyler Boehm, Birmingham, Alabama, United States

Subretinal Macrophages Produce Classical Complement Activator C1q Leading to the Progression of Focal Retinal Degeneration

Helen Jiao, Canberra, Australia

Rapid Aging XPG^{-/-} Mice Model Age-related Retinal Inflammation and Functional Deficits

Olivia E. O'Leary, Basel, Switzerland

RPE Tissue-specific Factor H Deletion Induces AMD-like Features

Katharina Lueck, London, United Kingdom, United Kingdom

Investigating the Transcriptome and Epigenome of Reprogrammed Zebrafish Retinal Müller Glia during Retinal Damage

Patrick Boyd, Notre Dame, United States

Scientific Programme

Photoreceptor Outer Segment Phagosome Maturation in the Retinal Pigment Epithelium

Ankita Umapathy, Los Angeles, CA, United States

Disruption of MicroRNA 204 Triggers Autophagy-related Retinal Degeneration

Congxiao Zhang, Bethesda, Maryland, United States

Retinoic Acid and Insulin Play a Critical Role in the Regulation of the Blood-Retinal Barrier in Diabetes

Bela Anand-Apte, Cleveland, OH, United States

Poster Session
17:30 - 19:00

Poster Area

RPE Choroid

Eplerenone in Treatment of Chronic Non-resolving Central Serous Chorioretinopathy without Active Choroidal Neovascularization

Gleb Arslanov, Saint Petersburg, Russian Federation

Scientific Programme

Tuesday, 11 September 2018

Session: Ocular Immunology
08:00 - 10:00

Hall 1A

IMM3, Inflammation in age-related macular degeneration

Chairs:

Matthew Campbell, Dublin, Ireland

Signalling from the Toll/IL-1 Receptor (TIR) Domain Family in Retinal Degeneration	08:00
Sarah Doyle, Ireland	
Inflammasome in RPE and AMD	08:40
Nikolaos Efstathiou, Boston, Massachusetts, United States	
Nucleoside Analogs Prevent RPE Degeneration due to Multiple AMD Stimuli	09:20
Bradley Gelfand, United States	

Session: Retinal Cell Biology
08:00 - 10:00

Hall 1B

RCB7, Retinal organoids: Developing disease models and transplantation

Chairs:

Magdalene Seiler, United States

Retinal Regeneration Therapy Using iPSC Derived Retina	08:00
Michiko Mandai, Japan	
Deconstructing Retinal Organoids: To Assess the Heterogeneity, Maturity and Transplantation Potential of hESC-derived Photoreceptors	08:26
Joseph Collin, Newcastle upon Tyne, United Kingdom	
Using Patient-derived Human Induced Pluripotent Stem Cells to Model Inherited Retinal Disease	08:52
Erin Burnight, Iowa City, United States	
Modeling Retinal Ganglion Cell Development and Disease with Human Pluripotent Stem Cells	09:18
Jason Meyer, Indiana, United States	
Understanding Why PAX6 Gene Mutations Cause Poor Vision from Birth	09:44
Lisa Maria Hentschel, London, United Kingdom	

Scientific Programme

Session: Glaucoma
08:00 - 10:00

Hall 2A

GLA4, Inner Plexiform Layer

Chairs:

James Morgan, Cardiff, United Kingdom

Mayhem in the IPL? Retinal ganglion cell degeneration in experimental glaucoma and mitochondrial neuropathy	08:00
James Morgan, Cardiff, United Kingdom	
Müller Cell Changes during Disturbed Energy Metabolism	08:30
Miriam Kolko, Glostrup, Denmark	
Retinal ganglion cell degeneration in human glaucoma	09:00
James R Tribble, Stockholm, Sweden	

Session: Cornea and Ocular Surface
08:00 - 10:00

Hall 2B

COS4, Advances in corneal crosslinking

Chairs:

James V. Jester, California, United States

David Paik, New York City, United States

Corneal Cross-linking Solutions: A Better Way to Strengthen the Cornea for Keratoconus?	08:00
David Paik, New York City, United States	
Advances in the Use of Genipin in Corneal Crosslinking	08:22
Marcel Y Avila, Bogota DC, Colombia	
Use of Ultrafast Lasers for Enhancement of Corneal Biomechanics towards Treating Corneal Ectasias and Refractive Error Correction	08:44
Sinisa Vukelic, New York City, United States	
Non Linear Corneal Collagen Cross Linking (NLO CXL)	09:06
James V. Jester, California, United States	
In vitro Effectiveness of Photodynamic Antimicrobial Chemotherapy with TONS504 for Eradication of Acanthamoeba	09:28
Taichiro Chikama, Hiroshima, Japan	
Discussion	09:50

Session: Ocular Imaging & Psychophysics
08:00 - 10:00

Meeting Room 3B

IMA2, Imaging and understanding retinal blood flow and vasculature disease

Chairs:

Stephen Burns, United States

Scientific Programme

Quantifying Retinal Microvasculature with AOSLO vs. OCTA	08:00
Ann Elsner, United States	
Alterations in Retinal Oxygen Delivery, Metabolism and Extraction Fraction due to Ischemia	08:26
Mahnaz Shahidi, Los Angeles, United States	
Insights Into the Retinal Vasculature from OCT Angiography in Normal Eyes and in Diabetic Retinopathy	08:52
Amani Fawzi, Chicago, Illinois, United States	
Static and Dynamic Changes of Retinal Microvasculature in Multiple Sclerosis	09:18
Sarah Houston, London, England, United Kingdom	
In vivo Imaging of Retinal Neovascularization Using Self-quenched ICG-based Imaging Agents	09:39
Derrick Feenstra, Basel, Switzerland	

Session: RPE-Choroid
08:00 - 10:00

Meeting Room 1A

RPE4, RPE organelles

Chairs:

Aparna Lakkaraju, San Francisco, United States

The Importance of Phagosome Content and Motility for Avoiding RPE Indigestion	08:00
David S. Williams, United States	
RPE Exosomes in Health and Disease	08:27
Catherine Bowes Rickman, United States	
LC3 dependent degradative processes in RPE lipid homeostasis.	08:54
Kathleen Boesze-Battaglia, Philadelphia, United States	
A Common Pathway Regulates Endosome Biogenesis and Exosome Secretion in the RPE	09:21
Aparna Lakkaraju, San Francisco, United States	
Innate/Inflammatory Cross Talk Between Macrophages (Mps) and RPE Cells Are Mediated by Exosomes Secreted by RPE Cells: Proposal of New Trait for the Pathogenesis of Age-related Macular Degeneration (AMD)	09:48
Rei Murakami, Kyoto, Kyoto, Japan	

Session: Ocular Immunology
08:00 - 10:00

Meeting Room 1B

IMM4, Novel topics in immune homeostasis and ocular surface inflammatory disease

Chairs:

Daniel Saban, United States

Scientific Programme

Immune Mediated Conjunctival Scarring: Current Understanding of the Aldehyde Dehydrogenase/Retinoic Acid Autocrine and Paracrine Regulation of Fibrosis	08:00
John K. Dart, London, United Kingdom	
Altered B Cell Homeostasis in Chronic Graft versus Host Disease	08:22
Stefanie Sarantopoulos, North Carolina, United States	
An Ocular Surface Commensal as a Possible Pathobiont in Autoinflammatory Disease	08:44
Anthony St. Leger, Pittsburgh, Pennsylvania, United States	
No Gain, No Pain: A Potential Role of Melanopsin in Corneal Trigeminal Neurons	09:06
Anna Matynia, Los Angeles, California, United States	
Linking Immunity and the Etiology of Meibomian Gland Dysfunction	09:28
Daniel Saban, United States	
Involvement of IQGAP-1 in Human Corneal Epithelial Cell Tight Junction Control and Wound Healing	09:50
Elizabeth P. Shen, New Taipei City, Taiwan, Province of China	

Session: Cross-Discipline
08:00 - 10:00

Meeting Room 2A

IND6, Proteinopathy in AMD: protein misfolding, clearance and putative therapy targets

Chairs:

Kai Kaarniranta, Kuopio, Finland

Cystatin C in the Regulation of Proteostasis in RPE Cells	08:00
Luminita Paraoan, Liverpool, United Kingdom	
Loss of Cryba1 in RPE Cells Affects the Phosphorylation Profile of Proteins Involved in the Calcium Signaling Pathway	08:24
Debasish Sinha, Pittsburgh, PA, United States	
Age-related Retinal Changes in NRF-2 and PGC-1α Deficient Mice	08:48
Kai Kaarniranta, Kuopio, Finland	
Protective Mechanisms and Therapeutic Potential of αB Crystallin-derived Chaperone Peptides in AMD	09:12
Ram Kannan, Los Angeles, United States	
Mammalian Target of Rapamycin as a Potential Target of Neovascular Age-related Macular Degeneration: A Evidence in Laser-induced CNV Mouse Model	09:36
Tae Kwan Park, Korea, Republic of	

08:00 - 10:00

Meeting Room 2B

Empty Slot

Scientific Programme

Session: Lens
08:00 - 10:00

Meeting Room 3A

LEN2, Models for lens fibrosis and PCO

Chairs:

Melinda Duncan, United States

Using a Mouse Model to Discover How Events Occurring in the Eye Immediately after Cataract Surgery Elicit PCO	08:00
Melinda Duncan, United States	
The Human Capsular Bag Model of Posterior Capsule Opacification	08:22
Michael Wormstone, United Kingdom	
Investigating Pro-regenerative and Pro-fibrotic Processes in an Ex Vivo Mock Cataract Surgery Model	08:44
Janice Walker, Philadelphia, United States	
Application of the Canine Lens to Further the Understanding of Posterior Capsule Opacification	09:06
Heather Chandler, United States	
Regulation of TGFβ-mediated Pathways Leading to Lens Epithelial to Mesenchymal Transition: Mammalian Models for Understanding Fibrotic Cataract Pathology	09:28
Frank Lovicu, Australia	
Morphological Comparison of in vivo and in vitro Developed Posterior Capsule Opacification in Human Donor Eyes	09:50
Justin Christopher D'Antin, Barcelona, Spain	

Opening Ceremony, Plenary Lecture
10:30 - 11:45

Hall 1A

The Ernst H. Barany Prize & Plenary Lecture

Introduction	10:30
William Stell	
Complement-Activation and Age-Related Macular Degeneration: Mechanisms, Treatments and Diagnostics	10:40
Bärbel Rohrer, Charleston, South Carolina, United States	
Award Ceremony	11:25

Business Meeting
11:45 - 12:15

Meeting Room 3B

ISER General Business Meeting (members only)

Scientific Programme

Session: Industry Sponsored Session
12:00 - 12:45

Meeting Room 1A

A new dawn in disease diagnosis - harnessing the power of artificial intelligence

Artificial Intelligence (AI) is the new face to diagnosis in medicine. Companies large and small are embracing this technology to assist clinicians in disease diagnosis as an efficiency gain in time, accuracy and people resource. To realize fully these goals for the technology, it is important to define the parameter space so that expectations are realistic because every diagnosis concerns an individual person and not a number.

Refreshments will be provided courtesy of Durham University and the Academic Health Science Network for North East and North Cumbria.

Sponsor: Intogral Limited Durham UK (http://intogral.com)

Chairs:

Roy Quinlan, United Kingdom
Boguslaw Obara, Durham, United Kingdom

Problems with diagnosis - consistent phenotyping of major eye diseases and impact on large-scale clinical trials	12:00
Tunde Peto, United Kingdom	
Macular Hole and Edema Segmentation with 3D Image-to-Image Networks	12:05
Boguslaw Obara, Durham, United Kingdom	
AI and diabetic eye disease - what is needed to turn potential into reality	12:20
Tunde Peto, United Kingdom	
Improved care of the patient with age-related macular degeneration (AMD) using big data, machine learning	12:35
Andrew Lotery, Southampton, United Kingdom	

Session: RPE-Choroid
13:00 - 15:00

Hall 1A

RPE5, Photoreceptor-RPE interface

Chairs:

Silvia Finnemann, United States

Revisiting Recessive Stargardt Disease Pathogenesis	13:00
Roxana Radu, United States	
Understanding the Dynamics of Subretinal Space in Health and Disease	13:24
Karina Guziewicz, United States	
The Circadian Regulation of RPE Functions	13:48
Kenkichi Baba, United States	
RPE Contributions to Photoreceptor Outer Segment Renewal	14:12
Silvia Finnemann, United States	

Scientific Programme

β A3/A1-crystallin is a Potential Regulator of Receptor Tyrosine Kinases (RTKs) Endocytosis and Maintain the Polarity of RPE Cells 14:36
Peng Shang, Pittsburgh, PA, United States

Session: Ocular Immunology
13:00 - 15:00

Hall 1B

IMM5, Inflammation in diabetic retinopathy; From microglia to macular edema

Chairs:

Przemyslaw (Mike) Sapieha, Montreal, Canada

HMGB1 as an Inflammatory Mediator in Diabetic Retinopathy 13:00
Elia Duh, Baltimore, Maryland, United States

Harnessing Activation of the "Innate Repair Receptor" (IRR) to Prevent Inflammatory Pathology in Diabetic Retina 13:24
Alan Stitt, Belfast, United Kingdom

Conditional Endothelial Expression of Pro-barrier Occludin Mutant Preserves Visual Function in Diabetes 13:48
David Antonetti, United States

Novel Insights into the Role of VEGF and NRP1 in Ocular Neoangiogenesis 14:12
Alessandro Fantin, London, United Kingdom

Characterization of Monocyte Derived Macrophages in Diabetic Retinopathy 14:36
Guillaume Blot, Paris, France

Session: Cross-Discipline
13:00 - 15:00

Hall 2A

IND7, Circadian clock in the retina modulates retinal development, function, and neuronal viability

Chairs:

Gianluca Tosini, Atlanta, United States

The Circadian Clock Modulates Photoreceptor Functioning and Viability during Aging 13:00
Gianluca Tosini, Atlanta, United States

Multiple Effects of Retinal BMAL1 Disruption: Structure and Function during Development and Aging 13:27
P. Michael Iuvone, Atlanta, Georgia, United States

Melatonin is a key player in the circadian physiology of the retina 13:54
Virginie Laurent-Gyde, Strasbourg, France

An Opposing Role for Neuronal and Endothelial Bmal1 in Retinal Vascular Growth, Remodeling, and Homeostasis 14:21
Sujata Rao, Cleveland, Ohio, United States

Scientific Programme

Differential Roles for Cryptochromes in the Mammalian Retinal Clock 14:48
Stuart Peirson, Oxford, United Kingdom

Session: Ophthalmic Genetics/Genomics
13:00 - 15:00

Hall 2B

OGM2, Beyond the genome: Functional genomics in genetic eye disease

Chairs:

Elfride De Baere, Belgium

The Non-coding Morbid Genome of Inherited Retinal Diseases 13:00
Elfride De Baere, Belgium

Frequent Variants in the Japanese Population Determine Quasi-Mendelian Inheritance of Rare Retinal Ciliopathy 13:22
Carlo Rivolta, Switzerland

Identification of Pseudo-exons due to Deep-intronic ABCA4 Variants in Stargardt Disease Using Midigenes and Patient-derived Photoreceptor Progenitor Cells 13:44
Frans Cremers, Netherlands

Comprehensive Characterization of Cis-regulatory Elements in Human Retina 14:06
Timothy Cherry, United States

Dissection of Cis-regulatory Elements of PITX2 14:28
Elena Semina, Milwaukee, United States

Detection of Novel Alternative Splicing Events in Retinal Microvascular Endothelial Cells Using Single Cell RNA Sequencing 14:50
Mark Watson, Belfast, Antrim, United Kingdom

Session: Glaucoma
13:00 - 15:00

Meeting Room 3B

GLA5, Novel technologies for exploring the glaucomatous eye

Chairs:

Andrew Tatham

The Role of OCT Angiography in Glaucoma 13:00
Andrew Tatham

OCT and Glaucoma Diagnosis 13:22
Augusto Azuara-Blanco

Optimising the Perimetric Detection and Monitoring of Glaucoma with Two- and Three-dimensionally Scaled Stimuli 13:44
Padraig Mulholland

Biomarkers or Endpoints in Glaucoma 14:06
M Francesca Cordeiro, London, United Kingdom

Scientific Programme

The Waist of the Nerve Fiber Layer at the Optic Nerve Head (PIMD-2Pi), a Potential Morphometric Estimate of Glaucoma Progress 14:28
Per G. Söderberg, Uppsala, Sweden

Session: Retinal Cell Biology
13:00 - 15:00

Meeting Room 1A

RCB8, Modeling of retinal circulation and metabolism

Chairs:

Robert A. Linsenmeier, Evanston, United States

Mathematical Models of Retinal Circulation and Metabolism 13:00
Robert A. Linsenmeier, Evanston, United States

Retinal Capillary Oximetry by Visible Light Optical Coherence Tomography 13:22
Robert A. Linsenmeier, Evanston, United States

Computational Investigation of Mass Transfer between the Choriocapillaris and the Outer Retina 13:34
Moussa A. Zouache, Salt Lake City, United States

Predicting Spatial Patterns of Retinal Degeneration in Retinitis Pigmentosa using Mathematical Models 13:56
Paul Roberts, Birmingham, United Kingdom

Retinal Vascular Wall Thickness in Hypotensive Subjects, the Naive Vascular State: Data and Theoretical Model 14:16
Thomas Gast, United States

Statistical Assessment of Blood Vessel Activity as a Surrogate of in vivo Retinal Vascular Function 14:38
Joan M. Nunez do Rio, London, United Kingdom

Session: Retinal Cell Biology
13:00 - 15:00

Meeting Room 1B

RCB9, Signal transduction and congenital diseases of photoreceptors

Chairs:

Alexander Dizhoor, United States

Dysregulation of Second Messenger Homeostasis and Congenital Retinal Dystrophies: The Variety of GUCA1A Mutations in Photoreceptors 13:00
Daniele Dell'Orco, Verona, VR, Italy

Retinal Guanylyl Cyclase RetGC1 and its Regulatory Proteins in Congenital Eye Diseases 13:27
Igor Peshenko, United States

Retinal Dysfunction of Second Messenger Homeostasis in Photoreceptor Cells Caused by Mutations in Guanylate Cyclase GC-E 13:54
Karl-Wilhelm Koch, Oldenburg, Germany

Scientific Programme

Pre-clinical Development of an AAV Based Gene Therapy for the Treatment of Retinal Disease Due to Recessive Mutations in GUCY2D	14:21
Sanford Boye, FL, United States	
Photoreceptor Degeneration Driven by Ca²⁺-dependent Enzymatic Activity	14:48
Michael J. Power, Tübingen, Baden-Württemberg, Germany	

Session: Lens
13:00 - 15:00

Meeting Room 2A

LEN3, Architecture & ultrastructure of the lens

Chairs:

Roy Quinlan, United Kingdom

Introduction	13:00
Roy Quinlan, United Kingdom	
Ankyrin-B and Ankyrin-G Play Distinct and Crucial Roles in Lens Morphogenesis, Cytoarchitecture and Function	13:10
Vasantha Rao, Durham, North Carolina, United States	
Fine Tuning of Ocular FGF Activity Regulates Differentiation and Collective Movement of Lens Fibre Cells	13:30
Yuki Sugiyama, Okinawa, Japan	
The Epithelial Template for Coordinated Growth of the Eye Lens	14:00
Alexia Kalligeraki, United Kingdom	
Caspases Processing of BFSP1 Produces C-terminal Fragments Containing Lipid Binding Domains	14:30
Miguel Jarrin, Durham, United Kingdom	
Discussion	14:45

Session: Epidemiology of Eye Disease & Global Eye Health
13:00 - 15:00

Meeting Room 2B

EED3, Seeing to learn and work: Understanding and reducing the burden of uncorrected refractive error on adults and children

Chairs:

Nathan Congdon, Ireland

Strategies to Prevent Children's Myopia	13:00
Ian Morgan, Australia	
The Impact of refractive correction on productivity and education	13:27
Effect of Providing Near Glasses on Productivity Among Presbyopic Rural Indian Tea Workers: The PROSPER (PROductivity Study of Presbyopia Elimination in Rural-dwellers) Randomised Controlled Trial	13:54
Nathan Congdon, Ireland	

Scientific Programme

Models of spectacle delivery for children in China 14:21
Matthew Boswell

Session: Cornea and Ocular Surface
13:00 - 15:00

Meeting Room 3A

COS5, Keratoconus: Biology and management

Chairs:

Vishal Jhanji, United States
Arkasubhra Ghosh, Bangalore, India

Surgical Management of Keratoconus 13:00
Sheraz Daya, United Kingdom

Molecular Marker for Keratoconus 13:33
Calvin C. P. Pang, Hong Kong, China

Understanding the immune and inflammation pathways in Keratoconus 14:06
Arkasubhra Ghosh, Bangalore, India

The Effect of Medium Composition and Substrate Curvature on the Behavior of Keratoconus-derived Corneal Stromal Cells 14:39
Anna Song, Newcastle upon Tyne, United Kingdom

Session: RPE-Choroid
15:30 - 17:30

Hall 1A

RPE6, Bruch's membrane

Chairs:

Christine Curcio, Birmingham, AL, United States

BLamD, BLinD, BrM - What's the Difference, and Why it Matters for AMD 15:30
Christine Curcio, Birmingham, AL, United States

Calcification of Bruch's Membrane in ABCC6 Knock-out Mice and Other Models for Pseudoxanthoma Elasticum (PXE) and AMD 15:54
Arthur A. Bergen, Netherlands

The Role of EFEMP1 Gene in Malattia Leventinese, AMD, and beyond 16:18
Lihua Marmorstein, Rochester, Minnesota, United States

Late-onset Retinal Degeneration: Molecular Mechanisms and Phenotypic Consequences of C1QTNF5 Mutations 16:42
Astra Dinculescu, United States

Considerations in Studying Transport across Bruch's Membrane 17:06
Mark Johnson, United States

Scientific Programme

Session: Cross-Discipline
15:30 - 17:30

Hall 1B

IND8, Molecular regulation of ocular morphogenesis

Chairs:

Sabine Fuhrmann, United States

Roles for Notch Signaling during Early Eye Morphogenesis	15:30
Nadean Brown, United States	
The Epithelial Cell Behaviors that Drive Lens Placode Invagination	15:54
Tim Plageman, Ohio, United States	
Extrinsic Regulation of Retinal Pigment Epithelium and Optic Cup Morphogenesis	16:18
Sarah McFarlane, Calgary, Canada	
Analysis of Transcriptomic Change during Periocular Neural Crest Cell Differentiation into Corneal Cells	16:42
Peter Lwigale, Houston, Texas, United States	
The Rho GTPase Cdc42 is Required for Filopodia Formation during Closure of the Optic Fissure	17:06
Sabine Fuhrmann, United States	

Session: Glaucoma
15:30 - 17:30

Hall 2A

GLA6, Metabolic dysfunction/ bioenergetics in glaucoma

Chairs:

Patrick Yu-Wai-Man, United Kingdom
Colm O'Brien, Dublin, Ireland

Targeting Neuronal Mitochondria for Neuroprotection in Glaucoma	15:30
Pete Williams, Stockholm, Sweden	
Mitochondrial Efficiency: The Holy Grail of Glaucoma Resistance?	15:52
Gerassimos Lascaratos, United Kingdom	
Lamina Cribrosa Cell Bioenergetics in Glaucoma	16:14
Colm O'Brien, Dublin, Ireland	
Axonal Metabolic Rescue in Glaucoma	16:36
Denise Inman	
Metabolomics in Mitochondrial Optic Neuropathies	16:58
Patrick Yu-Wai-Man, United Kingdom	
The Hypoxic Microenvironment: How it Influences LOXL1 Expression in Pseudoexfoliation Glaucoma	17:20
Alison Greene, Dublin, Ireland	

Scientific Programme

Session: Ocular Immunology
15:30 - 17:30

Hall 2B

IMM6, Advances in the diagnosis and management of uveitis

Chairs:

Conor Murphy, Dublin, Ireland

Non Systemic Therapy in Sight Threatening Uveitis	15:30
Dara Kilmartin	
Improving Clinical Outcomes in Acute Anterior Uveitis-associated Spondyloarthritis	16:02
Conor Murphy, Dublin, Ireland	
MicroRNA Therapeutics for the Treatment of Autoimmune Uveitis	16:34
Stephane Heymans, Maastricht, Netherlands	
Non-tuberculous Mycobacterial Endophthalmitis Complicated by ESRD	17:06
Interleukin 35 and IL-12p35 Suppressed Uveitis and Encephalomyelitis in Mice by Inducing the Expansion of IL-10-producing and/or IL-35-producing Breg and Treg Cells	17:18
Charles E. Egwuagu, Bethesda, United States	

Session: Ophthalmic Genetics/Genomics
15:30 - 17:30

Meeting Room 3B

OGM3, Genes, cell death and glaucoma

Chairs:

Rob Nickells, United States

Maintenance and Regeneration of Retinal Ganglion Cell Dendrites after Axonal Injury	15:30
Adriana Di Polo, Canada	
JNK Dependent MAPK Signaling Has Multiple Roles in Axon Injury Induced Retinal Ganglion Cell Death	15:52
Richard Libby, Rochester, United States	
Exploring the Pathological Contribution of HDAC3 in the Death of Retinal Ganglion Cells	16:14
Rob Nickells, United States	
Retina Circuit Disassembly and Connectivity in Glaucoma	16:36
Yvonne Ou	
Responses to Axotomy-induced Retinal Ganglion Cell (RGC) Death in Adult Rodents	16:58
Manuel Vidal-Sanz, Spain	
Efficient Simultaneous Mapping of Many Retinal Ganglion Cell Center-Surround Receptive Fields	17:20
John B Troy, Evanston, Illinois, United States	

Scientific Programme

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
15:30 - 17:30

Meeting Room 1A

OPT3, New candidate drugs and targets for angiogenesis

Chairs:

Tim Corson, United States
Alison Reynolds, Dublin, United Kingdom

Semaphorins as Angiogenic Modulators in the Retina	15:30
Andreas Stahl, Freiburg, Germany	
Soluble Epoxide Hydrolase as a Target for Anti-angiogenic Therapies	15:52
Tim Corson, United States	
Opticin and its Potential as an Anti-angiogenic Therapeutic for Pre-retinal Neovascularization	16:14
Paul N. Bishop, Manchester, United Kingdom	
Phenotype-based Discovery and Development of Small Molecules as Retinal Therapeutics	16:36
Alison Reynolds, Dublin, United Kingdom	
Drug Development of Topical Therapeutics for Retinal Neovascular Diseases	16:58
David Bates, Nottingham, United Kingdom	
Selectively Targeting VEGFR2 Trafficking in Endothelial Cells Prevents Wet AMD	17:20
Kaori Yamada, Chicago, IL, United States	

Session: Retinal Cell Biology
15:30 - 17:30

Meeting Room 1B

RCB10, Molecular mechanisms of rhodopsin signaling

Chairs:

Vsevolod Gurevich, United States

Molecular Mechanism of G protein Binding to Rhodopsin	15:30
Oliver Ernst, Toronto, Canada	
Role of structural dynamics in retinal binding and release to rhodopsin	16:00
David Farrens, Portland, United States	
Molecular Mechanism of Arrestin-1 Binding to Rhodopsin	16:30
Vsevolod Gurevich, United States	
Efficiency of Rod Transduction Activation by a Single Opsin Molecule	17:00
Vladimir Kefalov	

Scientific Programme

Session: Lens
15:30 - 17:30

Meeting Room 2A

LEN4, Lens differentiation, regeneration and cataract treatment

Chairs:
David Li

Mouse Lens Lacking SUMO1 Is Prone to Stress-induced Apoptosis through Activation of both Extrinsic and Intrinsic Death Pathways	15:30
David Li	
The cAMP Responsible Element Binding Protein (CREB) Regulates Lens Differentiation through Control of Various Sets of Downstream Genes	15:54
Wang Ling, Guangzhou, China	
Modulation of ERK1/2 in Lens by Spreds	16:18
Fatima Wazin, Sydney, NSW, Australia	
Tropomyosin 3.1 is a Target to Prevent Lens Epithelial-to-Mesenchymal Transition during Cataract Formation	16:30
Justin Parreno, La Jolla, CA, United States	
Role of Thiol Antioxidants in Prevention and Treatment of Cataract	16:42
Nuran Ercal, United States	
Investigating the Initial Molecular Mechanisms of Human Cataract Formation Using Light-focusing Micro-lenses Derived from Pluripotent Stem Cells	17:06
Michael O'Connor, Australia	

Session: Epidemiology of Eye Disease & Global Eye Health
15:30 - 17:30

Meeting Room 2B

EED4, Glaucoma: Approaches to the most common cause of irreversible blindness in areas of limited resources

Chairs:
Tony Realini, Morgantown, United States

Global Epidemiology of Glaucoma - The Global Causes of Blindness and Distance Vision Impairment 1990-2020: A Systematic Review and Meta-analysis Presented on behalf of the Vision Loss Expert Group	15:30
Alex Silvester	
Barriers to Glaucoma Care in Low Resource Areas	15:55
Olusola Olawoye, Ibadan, Nigeria	
Managing Glaucoma in Low Resource Areas: Role of Selective Laser Trabeculoplasty	16:20
William Eric Sponsel	
The African Glaucoma Consortium - A Model for Regional Problem-solving	16:45
Tony Realini, Morgantown, United States	
Discussion	17:10

Scientific Programme

Session: Cornea and Ocular Surface
15:30 - 17:30

Meeting Room 3A

COS6, Genetics of keratoconus

Chairs:

Colin Willoughby

Genetic and Functional studies of Keratoconus	15:30
Shukti Chakravarti, New York, United States	
Genetic Investigation of Causes and Mechanisms behind Keratoconus: an Update	16:00
Pirro Hysi, London, United Kingdom	
New Advances in Genetics of Syndromic and Non-syndromic Keratoconus	16:30
Yelena Bykhovskaya	
The Integrated Stress Response in Keratoconus	17:00
James Foster, Baltimore, Maryland, United States	

Poster Session
17:30 - 19:00

Poster Area

Cornea and Ocular Surface

Nucleic Acid Stimulation Increases Barrier Function in Immortalized Corneal and Conjunctival Epithelium via Toll-like Receptor 3	
YURIKO BAN, Nantan, Japan	
Evaluation of the Suitability of Biocompatible Carriers as Artificial Transplants Using Cultured Porcine Corneal Endothelial Cells	
Alina Miron, Rotterdam, Zuid Holland, Netherlands	
Integral Analysis of Cytokines and miRNAs in the Aqueous Humor of Bullous Keratopathy Patients to Develop Prognostic Biomarkers	
Morio Ueno, Kyoto, Japan	
Topical TRPM8 Antagonist AMTB Reduces the Activity of Cold Thermosensitive Trigeminal Neurons Innervating the Ocular Surface	
Ariadna Diaz-Tahoces, San Juan de Alicante, Spain	
Wnt/β-catenin Signaling Pathway Promotes Self-renewal and Stemness of Conjunctival Stem Cell	
Chang Rae Rho, Daejeon, Korea, Republic of	
Influence of Material Stiffness on a Corneal Epithelial Cell Line	
Sophia Masterton, Dublin, Dublin, Ireland	
Effects of Y-27632, a ROCK Inhibitor on Human Corneal Endothelial Cells Cultured by Isolating Human Corneal Endothelial Progenitor Cells	
Ji Won Jung, Incheon, Jung-gu, Korea, Republic of	
Laminin N Terminus α31 Distribution and Influence on Matrix Organisation Indicates a Role Controlling the Maturation of Corneal Epithelium after Wounding	
Lee Troughton, Liverpool, England, United Kingdom	

Scientific Programme

Deep Anterior Lamellar Keratoplasty with Xenograft. First Clinical Results

Miltos Balidis, Thessaloniki, Greece

Epithelial Repair and Re-innervation after Corneal Alkali Burn

M.Carmen Martinez-Garcia, Valladolid, Valladolid/Castilla y León, Spain

Corneal Cold Thermoreceptors Activity Decreases with Age

Juana Gallar, Spain

Poster Session
17:30 - 19:00

Poster Area

Epidemiology of Eye Disease & Global Eye Health

Accuracy of Diabetic Retinopathy Screening in Final-year Medical Students

Saksakul Engchuan, Phuket, Not applicable, Thailand

Comparison between Amblyopia Treatment with Glasses only and Combination of Glasses and Open-type Binocular "Occlu-pad" Device: A Randomized Clinical Trial

Yo Iwata, Sagamihara, Japan

Consultations in Ouessou, Extreme North, Congo: Incidence of Reversible and Irreversible Blindness -2017

André Mampouya Diandomba, Brazzaville, Congo

Prevalence of Pterygium and its Associations in Russia. The Ural Eye and Medical Study

Renat Kazakbaev, Ufa, Russian Federation

Poster Session
17:30 - 19:00

Poster Area

Glaucoma

Aqueous Humour Outflow Involves Metabolic Activity

Ester Reina-Torres, London, United Kingdom

Dowregulation of tight junctions in Schlemm's Canal endothelia decreases intraocular pressure and increases outflow facility in murine models of ocular hypertension

Ruth A Kelly, Dublin, Ireland

An Assessment of Inflammatory Response after Retrobulbar Injection of Genipin

Richard Kijoon Kim, Atlanta, GA, United States

AP-2 β Expression Is Required in the Periocular Mesenchyme for Normal Development of the Trabecular Meshwork

Judith West-Mays, Canada

Glaucoma Risk Gene Tmco1 Binds to RNA in the Nucleolus and Affects Trabecular Meshwork Cell Viability

Shiwani Sharma, Australia

Scientific Programme

Compelling Structural and Functional Evidence for Lymphatics in Arachnoid and Dura Mater of Human Optic Nerve Meninges: Enhanced Immune Response and Lymphatic Changes in Glaucoma Pathogenesis

Mohammad Uddin, Sydney, NSW, Australia

Comparison of Pattern Electroretinograms of Glaucoma Patients with Initial Parafoveal Scotoma versus Initial Peripheral Nasal Step

Da Young Shin, Seoul, Korea, Republic of

Preliminary Study of the Effect of Prostaglandin Analogs on Corneal Biomechanics and IOP Measurement Error with Goldmann Applanation Tonometry

Cynthia J Roberts, Columbus, United States

Visual Evoked Potentials Detect Functional Correlates of Demyelination, Remyelination and Axon Loss in Feline Models of Common Optic Neuropathies

Gillian J. McLellan, Madison, Wisconsin, United States

The Role of Schlemm's Canal Endothelium Cellular Connections in Giant Vacuole and Pore Formation: A 3D Electron Microscopy Study

Haiyan Gong, Boston, Massachusetts, United States

TGF β 2 Regulates the Expression of ECM and Associated Proteins by Modulating miRNA Expression in Human ONH Cells

Navita Lopez, Fort Worth, United States

Poster Session
17:30 - 19:00

Poster Area

Lens

An Unstable Relationship: Dimerization of Human γ S-crystallin Leads to Non-cooperative Unfolding and the Formation of an Aggregation-prone Intermediate Associated with Cataract

David Cameron Thorn, Canberra, ACT, Australia

Effect of Intracameral Dexamethasone Injection at Conclusion of Cataract Surgery on Macular Thickness in Diabetics

Ahmed Hussien, Alexandria, Egypt

An Approach to Understanding Lens Epithelium Homeostasis - The Effect of Low Dose Ionising Radiation on Proliferation, Cell Density and Cellular Organisation

Alice Uwineza, Durham, Durham, United Kingdom

Development of Intraocular Delivery System for Controlled Release of Therapeutic Agents Used in the Treatment of PCO

Veronica Hidalgo-Alvarez, Norwich, Norfolk, United Kingdom

Comparison of Contact Lens Hygiene Compliance and Self-management Behaviors between Medical and Non-medical Students in Saudi Arabia

Shehana Alqahtani, Riyadh, Saudi Arabia

AKT Actively Regulates Epithelial-Mesenchymal Transition (EMT) of Human Lens Epithelial Cells through EZH2-H3K27me3 Axis

Jiawen Xiang, Changsha, China

Scientific Programme

Poster Session
17:30 - 19:00

Poster Area

Ocular Imaging and Psychophysics

Quantifying the Ellipsoid Zone Loss in Childhood-onset Stargardt Disease

Michalis Georgiou, London, United Kingdom

Reversible Cone Photoreceptor Dysfunction in Mice Lacking the Antioxidant Enzyme Methionine Sulfide Reductase A.

Francesca Mazzoni, Bronx, New York, NY, United States

Citrulline Protects Human Retinal Pigment Epithelium Cells against Oxidative Stress

Nathalie Jacquemot, Clermont-Ferrand, France

Pragmatism of Randomised Clinical Trials on Ranibizumab for the Treatment of Diabetic Macular Oedema: Impact on Clinical Outcomes

Stephen Stewart, Belfast, -- select one --, United Kingdom

Therapeutic Effect of Mesenchymal Stromal Cells in the Cornea in a GVHD Murine Model

Almudena Velasco, Salamanca, Salamanca, Spain

Intravenous Treatment of Choroidal Neovascularization by Photo-targeted Nanoparticles

Yanfei Wang, Boston, United States

Identification and Analysis of Retinal Ganglion Cell Promoters

Sophia Millington-Ward, Dublin, Ireland

Safety of a new Biodegradable Poly(ϵ -caprolactone) Implant to the Retina of Wistar Rats

Raquel Boia, Coimbra, Portugal

Delayed Treatment with AAV2.COMP-Ang1, a Potent, Bioengineered Angiopoietin-1 Replacement Therapy, Prevents Proliferative Vascular Changes Associated with Progression of Diabetic Retinopathy

Lara Carroll, Salt Lake City, Utah, United States

Three Year Real World Outcomes of Fluocinolone Acetonide Implant in Patients with DMO Considered Insufficiently Responsive to Prior Therapies

Claire Tomkinson, Manchester, United Kingdom

Use of SRPK1 Inhibitors in Diabetic Retinopathy

Naseeb Malhi, Nottingham, United Kingdom

The Efficacy of Intravitreal Anti-VEGF Injection for the CNV Occurring at the Margin of Posterior Staphyloma

Kook Lee, Seoul, Korea, Republic of

Efficacy of Allergic Immunotherapy on Vernal Keratoconjunctivitis

Kin Lun Lau, Newcastle upon Tyne, United Kingdom

Poster Session
17:30 - 19:00

Poster Area

Ophthalmic Genetics/Genomics

The Role of Genomic Analyses in Pathogen Identification in Keratitis

Michael Glenn, Belfast, United Kingdom

Scientific Programme

Lens Fiber Cell Morphogenesis and Genetic Modifiers in Cataractogenesis of Gja3 Knockout Mice

Chun-Hong Xia, Berkeley, United States

Prevalence of Age-related Macular Degeneration Associated Genetic Risk Factors and 4-year Progression Data in the Irish Population

Emma Connolly, Dublin, Ireland

YAP1 Mediates Notch Induction of Epithelial-mesenchymal Transition (EMT) in RPE

Qingxian Lu, Louisville, Kentucky, United States

Leucine-rich Repeats of PXDN Is Essential for Lens Development

Longhao Kuang, Shenzhen, Guangdong, China

Poster Session
17:30 - 19:00

Poster Area

Retinal Cell Biology

Is Rod-derived Cone Viability Factor an Allosteric Regulator of the Glucose Transporter GLUT1?

Alexandra Saint Charles, Paris, France

Regulating Placental Growth Factor (PLGF) Bioactivity in the Outer Retina as a New Therapeutic Approach to Age-related Macular Degeneration

Fiona Cunningham, Belfast, United Kingdom

CRB2 Is Involved in the Apicobasal Polarization of RPE Cells by Participating in Tight Junction Maintenance and Cell Cycle Arrest

Alicia Segurado, Salamanca, Spain

Glycogen Synthase Kinase 3 Restricts the Genesis of Displaced Ganglion Cells during Retinal Development

Jerome Roger, Orsay, France

Investigating a Role for SARM in Retinal Degeneration - Characterization of the Rhodopsin/SARM Double Knockout Mouse

Ema Ozaki, Dublin, Outside of U.S., Ireland

Is the Retina a Reliable Mirror of Alzheimer's Disease Brain? Screening of Molecular and Cellular Parameters

Ana Catarina Rodrigues Neves, Coimbra, Portugal

Diabetes-induced Visual Dysfunction in Rats Is due to a Combination of Inner Retina Thinning and Outer Retina Swelling

Alistair J. Barber, Hershey, United States

The Sodium Iodate (NAIO₃) Model of Degeneration: Deciphering the Oxidative Stress Regulatory Mechanisms in the Retina and RPE

Vera Bonilha, United States

CNG Channel Inhibition as a Treatment Option for Rod Degeneration in Retinitis Pigmentosa

Soumyaparna Das, Tuebingen, Germany

Scientific Programme

Multiomics Study of Primary Human Foetal Retinal Pigment Epithelial Cells: Effects of Zinc Supplementation

Eszter Emri, Belfast, United Kingdom

Gap Junctions Formed By Connexin 43 in Astrocytes Contribute to Neuronal Damage after Ischemia-reperfusion Injury

Miduturu Srinivas, New York, United States

Impact of α -adducin Deletion on the Retinal Structure and Function

Elisa Julião Campos, Coimbra, Portugal

Retinal Ganglion Cells Are Protected through Hypothermia Treatment in a Porcine Retina Organ Culture Model

Jose Hurst, Tübingen, Baden-Württemberg, Germany

Novel Function of β -catenin in Regulation of RPE Adhesion Junctions

Qiutang Li, Louisville, Kentucky, United States

Insulin Activates the PI3K/Akt/GSK3 Pathway in Culture Rat Retinal Pigment Epithelium

Rocío Salceda, Mexico, D.F., Cd. Mex., Mexico

Pre-transplantation Analysis of Retinal Organoids Using Dual-wavelength Excitation of Metabolic Markers

Magdalene Seiler, United States

Peptides Derived from PEDF Prevent Apoptosis and Promote Apical Localization of Rhodopsin in Retina Photoreceptors

German Michelis, Bethesda, Maryland, United States

A Lipidic Phloroglucinol Derivative Against Carbonyl and Oxidative Stress Involved in Macular Dystrophy

Philippe Brabet, Montpellier, France

Global Gene Expression Analysis of Zebrafish Eye with Digenic *eyes^{+/-}; Irp5^{+/-}* Retinitis Pigmentosa-candidate Mutations

Shimpei Takita, Suita, Japan

Distribution of Pregnancy Zone Protein in the human eye - implications for type two diabetes mellitus

Lasse Hansen Olesen, Aarhus C, Denmark

Immunogold Electron Microscopy Reveals Re-localization of Gap Junctions in Retinal Pigment Epithelium during Phagocytosis

Viivi Jokinen, Tampere, Finland

The Effect of Substrate Composition on Retinal Ganglion Cell Neurite Growth

Karl Erich Kador, Kansas City, MO, United States

tLearning The Hard Way: Role of Vascular Stiffening in Early Diabetic Retinopathy and AMD

Kaustabh Ghosh, Riverside, United States

Retinal mTORC Expression and Protein Synthesis

Thomas Gardner, Ann Arbor, Michigan, United States

High Serum Iron Levels Can Promote Retinal Degeneration

Joshua Dunaief, Philadelphia, PA, United States

Scientific Programme

The Vasoreparative Potential of Endothelial Colony-forming Cells in the Ischemic Retina Is Enhanced by a Non-hematopoietic Erythropoietin Mimetic

Paul Canning, Belfast, United Kingdom

An Usher Syndrome Type IIA Knockin Model Exhibits Late-onset Retinitis Pigmentosa

Muna Naash, Houston, TX, United States

Flavin Homeostasis in the Mouse Retina during Aging and Degeneration

Muayyad Al-Ubaidi, United States

Functional Roles of the Fragile X Syndrome-related Gene in the Retina

Taro Chaya, Suita, Japan

Insights into RAB28-associated Retinal Degeneration from *C. elegans* and Zebrafish

Stephen Carter, Dublin, Ireland

Sustained Intraocular VEGF Neutralisation Does Not Induce Vascular Degeneration in a Mouse Model of Type 1 Diabetes

Judith Lechner, Belfast, United Kingdom

The Effect of Donor and Recipient Age on the Recruitment of Systemically Administered RPE65-programmed Bone Marrow-derived Cells to the Retina and Visual Function Outcomes in a Mouse Model of AMD

Juliete Silva, Birmingham, Alabama, United States

The trafficking of HCN1 channels in photoreceptors

Sheila Baker, Iowa City, Iowa, United States

Hybrid Phagosome Degradation Pathways Are Required for Lipid Homeostasis

Brent Bell, Philadelphia, PA, United States

Ablation of the Rod Specific Protein Retbindin Impairs the Metabolic Homeostasis of the Retina Leading to Progressive Degeneration of Both Rods and Cones

Tirthankar Sinha, Houston, Texas, United States

Poster Session
17:30 - 19:00

Poster Area

RPE Choroid

Compromised Heterophagy, Autophagy and Reduced Metabolic Efficiency in Retinal Pigment Epithelium (RPE) Contribute to Age-related Retinal Degeneration During “Physiological Ageing”

Saeed Shahhossein-Dastjerdi, Sydney, Australia

Scientific Programme

Wednesday, 12 September 2018

Session: RPE-Choroid
08:00 - 10:00

Hall 1A

RPE7, Emerging concepts in metabolic coupling in the outer retina and relationship to disease

Chairs:

Kathleen Boesze-Battaglia, United States
Nancy J. Philp, United States

Retina, RPE and Metabolic Symbiosis	08:00
James Hurley	
New Insights in the Nucleoredoxin-like 1 Metabolic and Redox Signaling	08:27
Thierry Leveillard, France	
Cell-specific genetic deletion of Slc2a1 and Bsg provide model systems for understanding metabolic coupling in the outer retina as driven by substrate availability	08:54
Nancy J. Philp, United States	
Role of Aerobic Glycolysis in Photoreceptors	09:21
Claudio Punzo, United States	
A Key Element of the Directionality of the Metabolic Flux between Rod and Cone Photoreceptors	09:48
Géraldine Millet-Puel, Paris, France	

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
08:00 - 10:00

Hall 1B

OPT4, Cell-based therapeutics for eye disease

Chairs:

Marius Ader, Germany
Boris Stanzel, Germany

Creating Efficient hPSC-RPE Transplants - Can We Predict the in vivo Functionality in vitro?	08:00
Tanja Ilmarinen, Finland	
Successful Subretinal Transplantation of Clinically Compatible Polarized RPE Cell Sheets Derived from Human Pluripotent Stem Cells in Rodents and Primates	08:20
Olivier Goureau, France	
Autologous Cell Therapy for Macular Degeneration: From Proof of Concept to a Clinical Trial	08:40
Juan Amaral, United States	

Scientific Programme

Rescue of vision by photoreceptor cell transplantation involves multiple cellular mechanisms	09:00
Rachel Pearson, United Kingdom	
Overexpression of β-Secretase 1 (BACE1) by AAV-mediated Gene Delivery Provides Protection in a Mouse Model of AMD	09:20
Xiaoping Qi, Birmingham, Alabama, United States	
Implementing the Patient Perspective in Your Research	09:40
Melissa Jones, Dublin, Ireland	

Session: Glaucoma
08:00 - 10:00

Hall 2A

GLA7, Glaucoma genetics

Chairs:

Janey Wiggs, United States

A Cumulative Genetic Risk Score Is Associated with Younger Age of Diagnosis in Primary Open Angle Glaucoma	08:00
Jessica Cooke Bailey	
Genomic locus modulating corneal thickness in the mouse identifies POU6F2, a potential risk of developing glaucoma	08:22
Eldon Geisert, Atlanta, GA, United States	
Mitochondrial Genetics and Primary Open Angle Glaucoma	08:44
Colin E. Willoughby, Coleraine, Northern Ireland, United Kingdom	
Quantitative Traits and GWAS Unravelling the Genetics of Primary Open Angle Glaucoma	09:06
Kathryn Burdon, Australia	
Increased Retinal APBB2 and β-amyloid in Eyes with an APBB2 Risk Allele Associated with POAG	09:28
Carly J. van der Heide, Iowa City, IA, United States	
Genome-wide Transcriptome Profiling of Human Trabecular Meshwork Cells Treated with TGFβ2 Identifies Enrichment of the RhoA Signalling Pathway	09:44
Karen Lester, Liverpool, United Kingdom	

Session: Epidemiology of Eye Disease & Global Eye Health
08:00 - 10:00

Hall 2B

EED5, Big data & image analysis

Chairs:

Pearse Keane, United Kingdom
Ton Coolen

Reading Centres and Telemedicine in Ophthalmology	08:00
Konstantinos Balaskas, United Kingdom	

Scientific Programme

Medical Image Processing and Analysis - An Overview	08:24
Tariq Aslam, Manchester, United Kingdom	
Teleophthalmology - a platform to facilitate collaborative eye care	08:48
Dawn Sim, United Kingdom	
Artificial Intelligence in Ophthalmology - The Moorfields-DeepMind Collaboration	09:12
Pearse Keane, United Kingdom	
Implementation of Virtual Clinics for Medical Retina Patients in a Tertiary Eye Care Referral Centre	09:36
Karsten Kortuem, Munich, Germany	

Session: Ocular Immunology
08:00 - 10:00

Meeting Room 3B

IMM7, Interleukin 1beta and the AMD eye: Effects and treatment strategies

Chairs:

Joanne A. Matsubara, Canada

Microglia-derived IL-1β Contributes to the Progression of Retinal Degenerations	08:00
Nilisha Fernando, Canberra, Australia	
Humoral Immunity in AMD: Predictive Value and Possible Role in Disease Progression	08:27
Chuan-Hui Kuo, Vancouver, Canada	
Allosteric Modulation of IL-1R: Selectivity and Efficacy in Retinopathy	08:54
Sylvain Chemtob, Montreal, QC, Canada	
Subretinal Mononuclear Phagocyte-derived IL-1β Induces Rod Loss and Cone Segment Degeneration	09:21
Xavier Guillonneau, France	
Inflammasome Activation by Experimental DNA Damage in Retinal Pigment Epithelium Cells	09:48
Anu Kauppinen, Finland	

Session: Lens
08:00 - 10:00

Meeting Room 1A

LEN5, Target identification and management of PCO

Chairs:

Michael Wormstone, United Kingdom

Open Bag IOLs and VEGFR Inhibition in the Management of PCO	08:00
Julie Eldred, United Kingdom	
Resveratrol Inhibits Fibrotic Events Associated with PCO	08:22
Andrew Smith, United Kingdom	

Scientific Programme

Pharmacological PCO Prophylaxis - Using the IOL as a Drug Delivery Device	08:44
Christian Wertheimer, Munich, Germany	
Fabrication of Implantable IOLs Using 3D Printing Technology	09:06
Aram Saeed, United Kingdom	
The Role of $\alpha V\beta 8$-integrin in Posterior Capsular Opacification (PCO) Pathogenesis	09:28
Mahbubul Shihan, Newark, Delaware, United States	
EGF Potentiates TGF-beta-Induced Epithelial-mesenchymal Transition in Lens by Enhancing EGF Receptor Signaling	09:44
Daisy Shu, Camperdown, NSW, Australia	

Session: Retinal Cell Biology
08:00 - 10:00

Meeting Room 1B

RCB11, Transient receptor potential signaling in the eye

Chairs:

David Krizaj, United States

TRPM1 and TRPM3: Drug and Autoimmune Targets in the Retina	08:00
Catherine Morgans, United States	
TRPV2 and Diabetic Retinopathy	08:24
Peter Barabas, Belfast, United Kingdom	
Vanilloid TRP Channels Regulate Neuroglial Signaling in the Mammalian Retina	08:48
David Krizaj, United States	
Organization of the TRPM1 "Signalosome" at the First Visual Synapse	09:12
Kirill Martemyanov, United States	
In vitro Modulation of Retinal TRPV4 - Implications for Neuronal Survival and Neuroinflammation	09:36
Linnea Taylor, Sweden	

08:00 - 10:00

Meeting Room 2A

Empty slot

Session: Ocular Imaging & Psychophysics
08:00 - 10:00

Meeting Room 2B

IMA3, Vision science with Virtual Reality

Chairs:

Jenny Read, United Kingdom
Andrew Glennerster, United Kingdom

Scientific Programme

How Immersive Technologies Will Improve the Health and Education of a City	08:00
Mark Mon-Williams, United Kingdom	
Distance Perception in VR	08:30
Paul Hibbard, United Kingdom	
Simulating the Optics of the Human Eye with Ray-tracing	09:00
Trisha Lian, United Kingdom	
Using VR to Study 3D Space Perception	09:30
Andrew Glennerster, United Kingdom	

Session: Cornea and Ocular Surface
08:00 - 10:00

Meeting Room 3A

COS7, Alternative approaches to corneal epithelial wound healing

Chairs:

Mitchell Watsky, Augusta, United States
May Griffith, Montreal, Canada

Modulation of Healing of Corneal Epithelium Debridement via Interaction of Lumican and TGFβ Receptor 1 (Alk5)	08:00
Winston Kao, Cincinnati, Ohio, United States	
Evaluation of a Novel FKBPL-derived Peptide in the Treatment of Corneal Neovascularisation	08:20
Gideon Obasanmi, Coleraine, United Kingdom	
Transcriptomic Analysis of Expanded Limbal Epithelium Reveals Enrichment for Wound Healing Genes	08:40
Finbarr O'Sullivan, Ireland	
Vitamin D Influences on Corneal Epithelial Wound Healing	09:00
Mitchell Watsky, Augusta, United States	
Corneal Epithelial Regeneration after Biosynthetic Corneal Implantation	09:20
May Griffith, Montreal, Canada	
An Improved Treatment Strategy for Acute Ocular Disease Using Dry-preserved Human Amnion	09:40
Andrew Hopkinson, Nottingham, United Kingdom	

Opening Ceremony, Plenary Lecture
10:30 - 11:45

Hall 1A

The Endre A. Balazs Prize & Plenary Lecture

Introduction	10:30
Yeni Yucel, Canada	
Deconstructing Aqueous Humor Outflow - The Last 50 Years	10:40
Paul Kaufman, Madison, United States	

Scientific Programme

Award Ceremony

11:25

Session: Ocular Immunology
13:00 - 15:00

Hall 1A

IMM8, Immune responses in diabetic retinopathy: Molecules in disease progression

Chairs:

Masaru Takeuchi, Japan
Ahmed M. Abu El-Asrar

Innate Immune Dysregulation and Diabetic Retinopathy Mei Chen, Belfast, Yes, United Kingdom	13:00
Pro-inflammatory role of 12/15-Lipoxygenase-derived Eicosanoids in Diabetic Retinopathy Mohamed Al-Shabrawey, Augusta, United States	13:22
Chemokines in Diabetic Retinopathy: The Good, the Bad and the Ugly Sofie Struyf, Leuven, Belgium	13:44
Osteoprotegerin is a Novel Biomarker of Proliferative Diabetic Retinopathy Ahmed M. Abu El-Asrar	14:06
Involvement of Helper T Cell Immunity Balance in Diabetic Retinopathy Manzo Taguchi, Japan	14:28
VEGF-B Protects Muller Cells under Hypoxic and Oxidative Conditions Maria Llorian-Salvador, Belfast, United Kingdom	14:50

Session: Ophthalmic Genetics/Genomics
13:00 - 15:00

Hall 1B

OGM4, AMD genetics and cell biology

Chairs:

Andrew Lotery, Southampton, United Kingdom

An iPSC Patient Specific Model of CFH (Y402H) Polymorphism Displays Characteristic Features of AMD Majlinda Lako, Newcastle, United Kingdom	13:00
The Impact of Systemic Inflammation on the Retina: Implications for Age-related Macular Degeneration Jessica Teeling, Southampton, United Kingdom	13:27
Molecular Genetics of Age Related Macular Degeneration Andrew Lotery, Southampton, United Kingdom	13:54
Complement Gene Expression and its Modulation in Human Retinal Pigment Epithelium Selina McHarg, Manchester, United Kingdom	14:21

Scientific Programme

Genome-wide DNA Methylation Study in Dry Age-related Macular Degeneration: Novel Candidate Loci Identified and Validated 14:48
Louise Frances Porter, Liverpool, United Kingdom

Session: Lens
13:00 - 15:00

Hall 2A

LEN6, Channels and transporters in lens transparency

Chairs:

Kulandaiappan Varadaraj, United States

AQP0 C-terminal End Truncation Is Critical for Establishing the Refractive Index Gradient in the Lens to Prevent Spherical Aberration 13:00
Kulandaiappan Varadaraj, United States

Lens Channels Regulate Intracellular Hydrostatic Pressure 13:24
Thomas White, Stony Brook, United States

Cataract-linked Connexin50 Mutations Cause Misfolding and ER Stress: Approaches to Treatment 13:48
Eric Beyer, Chicago, Illinois, United States

Functional Organization of AQP0-regulated Membrane Specializations in Lens Fiber Cells 14:12
Woo-Kuen Lo, United States

Cell Adhesion Function of Aquaporin 0 14:36
Yosuke Nakazawa, Japan

Session: RPE-Choroid
13:00 - 15:00

Hall 2B

RPE8, Non-vascular cells of the choroid

Chairs:

Solange Landreville, Canada

Understanding Choroidal Cell Interactions through Tissue Engineering 13:00
Stephanie Proulx, Quebec, Quebec, Canada

Defective Choroidal Blood Flow Baroregulation and Retinal Dysfunction and Pathology following Sympathetic Denervation of Choroid 13:30
Anton J. Reiner, United States

Modeling Mast Cell Involvement in Geographic Atrophy 14:00
Gerard Lutty, United States

Interactions between Uveal Choroidal Melanocytes and Monocytes in vitro 14:30
Mogens Holst Nissen, Denmark

Scientific Programme

Session: Retinal Cell Biology
13:00 - 15:00

Meeting Room 1A

RCB12, Sterol biosynthesis and elimination in retinal structure and function

Chairs:

Irina Pikuleva, Cleveland, OH, United States

The Pathways of Cholesterol Homeostasis in the Retina: Significance and Regulation	13:00
Irina Pikuleva, Cleveland, OH, United States	
Statins, RPE and Drusen	13:33
Xiaohong Chen, Boston, MA, United States	
A Computational Model of Retinal Cholesterol Dynamics: Insights into the Pathophysiology of Dry AMD	14:06
Seyedeh Zekavat, New Haven, Connecticut, United States	
Vitamin-D3 Acts as a Potent Vascular Inducer in Hyperoxic Insult: Primary Human Retinal Pigment Epithelium	14:39
Murugeswari Ponnalagu, Bangalore, India	

Session: Retinal Cell Biology
13:00 - 15:00

Meeting Room 1B

RCB13, Ion channels and ischemic retinopathies

Chairs:

Ashay Bhatwadekar, United States

Kir4.1 Channel Function in the Postischemic Retina of Various Transgenic Mouse Lines with Altered Müller Cell Gliosis	13:00
Antje Grosche, Munich, Germany	
Diabetes and Circadian Regulation of Kir4.1 Channels	13:27
Ashay Bhatwadekar, United States	
Involvement of TRPV1 and TRPV4 Channels in Pathological Retinal Angiogenesis	13:54
Tim Curtis, United Kingdom	
Functional Characteristics of a New Type of Perivascular Cell Displaying Calcium Activity during Changes in Tone of Retinal Arterioles	14:21
Toke Bek, Denmark	
Voltage-gated Ion Channels in RPE Co-regulate the Uptake of Photoreceptor Outer Segments	14:48
Soile Nymark, Tampere, Finland	

Scientific Programme

Session: Glaucoma
13:00 - 15:00

Meeting Room 2A

GLA8, Biomechanics and Astrocyte Mechanobiology in Glaucoma

Chairs:

Shandiz Tehrani, United States
Rudolf Fuchshofer, Regensburg, Germany

Optic Nerve Astrocytes	13:00
Tatjana Jakobs, United States	
Astrocyte Phagocytosis and High Myelin Turnover at the Retrolaminar Optic Nerve Head	13:30
Nicholas Marsh-Armstrong, Davis, United States	
Optic Nerve Head Astrocyte Reactivity in Response to Elevated Intraocular Pressure in a Rat Model	14:00
Shandiz Tehrani, United States	
Cellular Mechanisms of Astrocyte Injury Responses in the Inner Retina and Optic Nerve Head	14:30
Jeremy Sivak, Toronto, Ontario, Canada	

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
13:00 - 15:00

Meeting Room 2B

OPT5, Emerging toolbox of ocular pharmacokinetics and pharmacodynamics

Chairs:

Arto Urtti, Finland

Melanin Binding Kinetics in the Eye	13:00
Arto Urtti, Finland	
Development of Intravitreal Pharmacokinetic Toolbox	13:24
Eva María del Amo Páez, Manchester, United Kingdom	
Semi-mechanistic Models of the Ocular Pharmacokinetics and Pharmacodynamics of Macromolecules Administered by Intravitreal Injection for the Treatment of Retinal Diseases: Theoretical Insights into the Durability of Anti-VEGF Effects	13:48
Norman Mazer, Switzerland	
Studying the Barrier Role of the Vitreoretinal Interface upon Intravitreal Injection of Nanomedicines	14:12
Katrien Remaut, Belgium	
Optimisation of Topical Retinal Drug Delivery of Small Molecule Inhibitors of Pro-angiogenic VEGF-A Splicing	14:36
Jennifer Batson, Nottingham, United Kingdom	
Non-invasive Delivery Utilising Cell Penetrating Peptides to Deliver Therapeutics for the Treatment of Ocular Disease	14:48
Felicity de Cogan, Birmingham, United Kingdom	

Scientific Programme

Session: Cornea and Ocular Surface
13:00 - 15:00

Meeting Room 3A

COS8, Corneal cell-based therapy - Where are we now?

Chairs:

Che Connon, Newcastle upon Tyne, United Kingdom
Majlinda Lacko, United Kingdom

Human Stem Cells as a Powerful Tool for Cornea Surface Renewal	13:00
Heli Skottman, Tampere, Finland	
In vitro Modeling of Aniridia-related Pax6 Haploinsufficiency by the Use of CRISPR/Cas9 on Limbal Epithelial Stem Cells and Rescue by Recombinant PAX6 Protein	13:20
Martina Miotto, Newcastle upon Tyne, United Kingdom	
Stem Cell Tracking, Loss and Recovery in the Corneal Epithelium	13:40
Ruby Shalom-Feuerstein, Haifa, N/A, Israel	
Pre-Clinical and clinical evaluation of a regenerative bioengineered corneal implant as an alternative to human donor cornea for treatment of advanced keratoconus	14:00
Mehrdad Rafat, Linköping, Sweden	
Importance of Limbal Tissue Stiffness in Wound Repair	14:20
Che John Connon, Newcastle-upon-Tyne, United Kingdom	
The Role of Nerve Growth Factor in Maintaining the Limbal Stem Cell Proliferative Capacity, Colony-Forming Efficiency and Phenotype	14:40
Ali Ghareeb, Newcastle Upon Tyne, United Kingdom	

15:00 - 15:30

Hall 1D

Meet the Experts Tables

Scientific Programme

Session: RPE-Choroid
15:30 - 17:30

Hall 1A

RPE9, Pathological immune processes in the RPE-choroid: role of immune cells

T.L. Session

Chairs:

Thomas Langmann, Köln, Germany

Identification of Myeloid Cell Populations at Sites of Laser-induced Choroidal Neovascularization by Single-cell Profiling	15:30
Anja Schlecht, Freiburg, Germany	
Complement Regulator FHR-3 Induces the Complosome in RPE Cells	15:57
Nicole Schäfer, Regensburg, Germany	
Complement Dysfunction and Innate Immune Activation in the RPE Choroid with Age	16:24
Ulrich Luhmann, Basel, Switzerland	
Targeting the Translocator Protein (18kDa) (TSPO) Prevents Mononuclear Phagocyte Reactivity in a Murine Laser Model of Wet AMD	16:51
Anne Wolf, Cologne, Germany	
Protective Specialization of Subretinal Microglia to the Retinal Pigment Epithelium in Retinal Degeneration	17:18
Chen Yu, Durham, United States	

Session: Ocular Immunology
15:30 - 17:30

Hall 1B

IMM9, The role of antigen presentation and autoimmunity in retinal diseases

Chairs:

François Willermain, Brussels, Belgium
John V. Forrester, Aberdeen, United Kingdom

How Can We Manipulate Antigen Presentation in Order to Treat Retinal Diseases	15:30
François Willermain, Bruxelles, Belgium	
Potential role of autoimmunity in retinal degenerative disease and glaucoma	15:52
Franz Grus, Mainz, Germany	
Diversity in Autoimmunity against Retinal Antigens in Retinal Degeneration	16:14
Grazyna Adamus, Oregon, United States	
Non-infectious Uveitis: The Question of Autoimmunity	16:36
John V. Forrester, Aberdeen, United Kingdom	
Difficulty of Diagnosis for Ocular Sarcoidosis in Japanese Unprecedented Ageing Society	16:58
Kei Takayama, Tokorozawa, Saitama, Japan	

Scientific Programme

CD8+ T Lymphocytes Contribute to the Development of Neovascularization in Ischemic Retinopathy 17:14
Devy Deliyanti, Melbourne, Australia

Session: Cornea and Ocular Surface
15:30 - 17:30

Hall 2A

COS9, Ocular drug and gene therapeutics delivery

Chairs:

Robin Ali, London, United Kingdom
Morgan Fedorchak, United States

Sustained and Widespread Gene Delivery to the Corneal Epithelium via in situ Transduction of Limbal Epithelial Stem Cells 15:30
Mark Basche, London, United Kingdom

AAV Gene Therapy in the Anterior Eye Prevents and Reverses MPS1 Corneal Disease 15:57
Matt Hirsch, Chapel Hill, North Carolina, United States

Development of a Point-of-Injury Gel Bandage for Ocular Trauma 16:24
Michael Washington

Drug Delivery for Corneal Cystinosis 16:51
Jorge Jimenez, Pittsburgh, United States

Localized AAV-PEDF Gene Therapy for Corneal Neovascularization in vivo 17:18

Session: Retinal Cell Biology
15:30 - 17:30

Hall 2B

RCB14, Retinal plasticity / Remodeling in disease

Chairs:

Bryan William Jones, United States

An Introduction to Retinal Plasticity and/or Remodeling in Disease 15:30
Bryan William Jones, United States

Rod Bipolar cell Networks in Early Retinal Remodeling 15:52
Rebecca Pfeiffer, Utah, United States

Retina Ganglion Cells Regeneration 16:14
Homaira Nawabi, La Tronche, France

Plasticity of Retinal Bipolar Cells 16:36
Daniel Kerschensteiner, Saint Louis, United States

Barriers and Solutions to Retinal Ganglion Cell Regeneration 16:58
Supraja Varadarajan, Stanford, United States

Scientific Programme

Müller Glia Proliferation and Retinal Regeneration Triggered by Acute Damage but Not Progressive Photoreceptor Degeneration in Zebrafish *cep290*^{-/-} Mutants 17:20
Brian Perkins, United States

Session: Ophthalmic Genetics/Genomics
15:30 - 17:30

Meeting Room 3B

OGM5, 100.000 genome project - Ocular results

Chairs:

Andrew Webster, United Kingdom
Christina Zeitz, France

The 100,000 Genomes Project - An Overview 15:30
Freya Boardman-Pretty, United Kingdom

Whole Genome Analysis of Inherited Retinal Disease Patients Reveals Mutations Intractable to Other Detection Strategies 15:52
Gavin Arno, United Kingdom

Utility of WGS in ocular maldevelopment management 16:14
Mariya Moosajee, London, United Kingdom

Using NGS to Find 'Difficult' Alleles 16:36
Christina Zeitz, France

Hypomorphic alleles associated with non-syndromic retinal disease - an advantage of the unbiased nature of next-generation sequencing 16:58
Andrew Webster, London, United Kingdom

Target 5000: Population-scale Genotyping of Inherited Retinal Degenerations in Ireland 17:20
Adrian Dockery, Dublin, Ireland

Session: Lens
15:30 - 17:30

Meeting Room 1A

LEN7, Aggregation of crystallin and cataract

Chairs:

Takumi Takata, Japan

The Mutation Studies for Isomerization Hot Spots of Aspartate Residues in Lens α A-Crystallin 15:30
Takumi Takata, Kumatori-cho, Osaka, Japan

Deamidation of Glutamines in Aged Human Lens Crystallins Is Not Accompanied by Isomerization of the Subsequent Glutamate Residues 16:00
Larry David, United States

The effect of deamidation on gammaS-crystallin stability 16:20
Kirsten J. Lampi, Portland, United States

Scientific Programme

The Dynamics of alpha crystallin activity **16:40**
John Clark, United States

The Effects of Crowding on the Structure of AlphaB-crystallin **17:00**
John Carver, Australia

Session: Cross-Discipline
15:30 - 17:30

Meeting Room 1B

IND9, Studying eye disease in primate models

Chairs:
Trevor McGill

Nonhuman Primate Models of Inherited Retinal Degenerative Diseases **15:30**
Martha Neuringer

Translational Cell-based Therapy Research in the Non-human Primate **16:00**
Trevor McGill

Integrating Quantitative Proteomic, Immunohistochemical, 3D Electron Microscopic and OCT Techniques to Study the Non-human Primate Optic Nerve Head Tissues in Early Experimental Glaucoma **16:30**
Cheri Stowell

Fluorescence Imaging of Hydroxyapatite in Macaque sub-RPE Deposits (Drusen) **17:00**
Richard Thompson, Baltimore, Maryland, United States

Session: Ocular Imaging & Psychophysics
15:30 - 17:30

Meeting Room 2A

IMA4, Advanced vision testing and imaging of ocular mechanics

Chairs:
Pablo Artal, Spain

How Well is the Crystalline Lens or IOL Attached to the Eye? The Lens and IOL Wobbling Effect **15:30**
Juan Tabernero, United Kingdom

Straylight in the Human Eye: Visual Implications, Models and Measurement **16:10**
Harilaos Ginis, Athens, Greece

Non-invasive Assessment of Corneal Biomechanical Properties **16:50**
Susana Marcos, Spain

Scientific Programme

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
15:30 - 17:30

Meeting Room 2B

OPT6, Drug discovery technologies for retinopathies

Chairs:

Sylvain Chemtob, Montreal, QC, Canada

Targeting Semaphorin 3A for Retinal Vascular Disease	15:30
Mike Sapieha, Montreal, Canada	
Unbiased Discovery of anti-Angiogenic and neuroprotective Drugs	16:00
Breandan Kennedy, Dublin, Ireland	
Mitochondrial Targeting for Eye Disease	16:30
Glen T Prusky, United States	
Optogenetics and RP	17:00
Zhuo-Hua Pan, United States	

Session: Cross-Discipline
15:30 - 17:30

Meeting Room 3A

IND10, The emerging roles of extracellular vesicles in health and diseases of the eye

Chairs:

Ana Raquel Santiago, Coimbra, Portugal
Michael Paulaitis

Mesenchymal Stem Cell-derived Exosomes Promote Retinal Ganglion Cell Survival after Optic Nerve Crush and in Rodent Models of Glaucoma	15:30
Stanislav I. Tomarev, United States	
Exosomes Derived from Retinal Pigment Epithelium and its Relationship with Autophagy and Angiogenesis	15:57
Francesco J. Romero, Valencia, Spain	
Cross Talk between Non-pigmented Ciliary Epithelium and Trabecular Meshwork Cells Is Taking Place by Exosomes	16:24
Elie Beit-Yannai, Israel	
Circulating microRNAs in Diabetic Retinopathy	16:51
TA Kamalden, Kuala Lumpur, Malaysia	
Elevated Hydrostatic Pressure-derived Microglial Extracellular Vesicles Drive Microglia Reactivity: Contribution to Neuroinflammatory Response in Glaucoma Models	17:18
Inês Dinis Aires, Coimbra, Portugal	

Scientific Programme

Thursday, 13 September 2018

Session: Retinal Cell Biology
08:00 - 10:00

Hall 1A

RCB16, Inflammation in retinal vascular disease

Chairs:

John Penn, Nashville, United States

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|---|--------------|
| Foxp3+ Regulatory T Cells (Tregs) Dampen the Activation of Microglia and Repair Retinal Vasculopathy | 08:00 |
| Jenny Wilkinson Berka, Australia | |
| Inflammation and Pericyte Health in Diabetic Retinopathy | 08:22 |
| Teri Belecky-Adams, Indianapolis, IN, United States | |
| TXNIP is Required for HFD-induced Retinal Leukostasis, Endothelial Inflammation and Microvascular Lesions through Autocrine Activation of NLRP3 Inflammasome | 08:38 |
| Islam Mohamed, Elk Grove, United States | |
| Cytokine-induced ECM Alterations in DR Pathogenesis | 08:54 |
| Meredith Giblin, Nashville, TN, United States | |
| Inflammatory Resolution and Vascular Restoration in Diabetic Retinopathy | 09:16 |
| Steven F. Abcouwer, Ann Arbor, MI, United States | |
| Diabetes-induced IL1b diminishes the pro-angiogenic function of Myeloid Angiogenic Cells in the retina | 09:38 |
| Reinhold Medina | |

Session: RPE-Choroid
08:00 - 10:00

Hall 1B

RPE10, Regulation and imaging of the choroidal vasculature

Chairs:

Anton J. Reiner, United States
Leopold Schmetterer, Singapore

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|--|--------------|
| Choroidal Blood Flow Autoregulation in Health and Disease | 08:00 |
| Doreen Schmidl | |
| Mechanisms Underlying the Myogenic Constriction of Retinal Arterioles | 08:30 |
| Mary McGahon, Belfast, United Kingdom | |
| Imaging the Choroid with Optical Coherence Tomography Technologies | 09:00 |
| Daniela Ferrara, Medford, United States | |
| Autonomic Control of Choroidal Blood Flow: What's the Anatomy? | 09:30 |
| Falk Schroedl, Austria | |

Scientific Programme

Session: Lens
08:00 - 10:00

Hall 2A

LEN8, Big data in lens research

Chairs:

Salil A. Lachke, United States

Genomics: The Hunt for Cataract-linked Genes in Mouse	08:00
Jochen Graw, Munich, Germany	
Transcriptomic Analysis to Understand FGFR-Regulated Lens Survival and Differentiation	08:24
Michael L. Robinson, Oxford, Ohio, United States	
Analysis of the Many and Varied Lens Proteomes	08:48
Kevin Schey, United States	
Lens Metabolites and Cataractogenesis	09:12
Xiaohua Gong, United States	
Systems biology of the Lens: iSyTE 2.0 Integrated Web Resource Tool for Lens Research	09:36
Salil A. Lachke, United States	

Session: Cross-Discipline
08:00 - 10:00

Hall 2B

IND11, Endogenous regeneration in the retina

Chairs:

Volker Enzmann, Bern, Switzerland
David Hyde, Notre Dame, IN, United States
Katia Del Rio-Tsonis, Oxford, Ohio, United States

Epigenetic Signatures of RPE Reprogramming	08:00
Katia Del Rio-Tsonis, Oxford, Ohio, United States	
Comparative Transcriptomic and Epigenomic Analyses of Retinal Müller Glia during Different Damage Paradigms in Zebrafish, Chick and Mouse	08:30
David Hyde, Notre Dame, IN, United States	
Overcoming a Major Barrier of Neuronal Regeneration in the Mouse Retina	09:00
Mike Karl, Dresden, Germany	
Glial involvement in Retinal De- and Regeneration in Zebrafish and Mouse	09:30
Volker Enzmann, Bern, Switzerland	

Scientific Programme

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
08:00 - 10:00

Meeting Room 3B

OPT7, Ocular drug delivery

Chairs:

Raj Thakur, United Kingdom
Morgan Fedorchak, United States

Simultaneous Co-delivery of Therapeutics with Biodegradable Microparticles. Potential Treatment of Retinal Diseases	08:00
Rocio Herrero-Vanrell, Madrid, Spain	
Biocompatible Nanomaterials for the Treatment of Dry Eye	08:24
Laurence Fitzhenry	
Penetration Enhancers in Ocular Drug Delivery: in vitro and in vivo Studies	08:48
Vitaliy Khutoryanskiy, United Kingdom	
The Development and Commercialisation of Sustained Release Ocular Drug Delivery Systems	09:12
Michael O'Rourke, Tampa, United States	
Lipid-DNA Nanoparticles - A Versatile Vehicle for Anterior Segment Drug Delivery	09:36
Sven Schnichels, Tübingen, Please select an option below, Germany	
Novel Glaucoma Therapy Lowers IOP by 40% after a Single Dose	09:48
Monica Jablonski, Memphis, TN, United States	

Session: Ocular Immunology
08:00 - 10:00

Meeting Room 1A

IMM10, Optic nerve regeneration and inflammation

Chairs:

Wencan Wu
David Krizaj, United States

IL-33/ST2 Signaling in the Glaucomatous Optic Nerve Head	08:00
Markus H. Kuehn, Iowa City, United States	
Inhibition of Early Immune Responses Exacerbate Retinal Ganglion Cell Loss in a Mouse Model of Ocular Hypertension	08:27
Jeffrey Harder, Maine, United States	
Mechanotransduction Drives the Activation of Retinal Müller Cells, Astrocytes and Microglia	08:54
Monika Lakk, Salt Lake City, UTAH, United States	
A Novel Clinically-relevant Optic Nerve Injury Model in Large Animals	09:21
Yikui Zhang, China	
Microglia Depletion Mediated Retinal Ganglion Cell Survival on Branch Retinal Vein Occluded Mice	09:48
Joel Jovanovic, Bern, Switzerland	

Scientific Programme

08:00 - 10:00

Meeting Room 1B

Empty slot

Session: Ocular Imaging & Psychophysics

08:00 - 10:00

Meeting Room 2A

IMA5, Neural and optical factors in vision, vision models, and physiological optics of the eye

Chairs:

Rafael Navarro, Spain

Brian Vohnsen, Dublin, Ireland

Peripheral Vision: Optical and Neural Factors	08:00
Linda Lundström, Stockholm, Sweden	
Vision in infrared mediated with a two-photon process	08:26
Artal Pablo, Murcia, Spain	
Monocular Dynamic Accommodation without Optical Cues	08:52
Philip Kruger, United States	
Evolution of Drusenoid Lesions in Rhesus Macaques as Seen on Multimodal Imaging and Histology	09:18
Glenn Yiu, Sacramento, CA, United States	
Comparison of Manual versus Computer Aided Photoreceptor Detection Methods in Usher Syndrome	09:39
Vasileios Theofylaktopoulos, London, United Kingdom	

Session: Glaucoma

08:00 - 10:00

Meeting Room 2B

GLA9, Pseudoexfoliation Glaucoma Update

Chairs:

Deborah Wallace, Ireland

Yutao Liu

Link between the Genetic and Functional Analyses in Pseudoexfoliation Syndrome/ Pseudoexfoliation Glaucoma	08:00
Francesca Pasutto	
Potential Roles of Aqueous miRNAs in Exfoliation Glaucoma	08:24
Yutao Liu	
Glaucoma: An Insight into Epigenomic Reprogramming	08:48
Deborah Wallace, Ireland	
Loss of Loxl1 Expression in Optic Nerve Head Astrocytes Results in Molecular Signatures Suggestive of Reactive Astrocytosis and Elastinopathy	09:12
Anita Ghosh, Maywood, IL, United States	

Scientific Programme

Regulation of Connective Tissue Growth Factor by miRNA-18a in the Human Trabecular Meshwork Cell Response to TGF β : Therapeutic Opportunities? **09:24**
John Knox, Liverpool, United Kingdom

Session: Cornea and Ocular Surface
08:00 - 10:00

Meeting Room 3A

COS10, Genetics of corneal dystrophies

Chairs:

Tara Moore, San Francisco, California, United States
Andrew Nesbit, United Kingdom

Challenges of CRISPR Gene Editing in Genetic Eye Disease **08:00**
M. Andrew Nesbit, Coleraine, United Kingdom

Advances in the Genetics of Corneal Dystrophies; A Convergent Pathogenic Mechanism for PPCD **08:27**
Alison Hardcastle, London, London, United Kingdom

Gene Editing for Fuchs Endothelial Corneal Dystrophy **08:54**
Albert Jun, Baltimore, Maryland, United States

The Role of HtrA1 Proteolysis in TGF β I-linked Corneal Dystrophy **09:21**
Ebbe Toftgaard Poulsen, Aarhus, Denmark

The Multiple Roles of MiR-146a in Limbal Epithelial Homeostasis **09:48**
Adam Poe, Los Angeles, California, United States

Opening Ceremony, Plenary Lecture
10:30 - 11:45

Hall 1A

The Ludwig von Sallmann Prize & Plenary Lecture

Young Investigator Poster Competition Award Ceremony **10:30**

Introduction **10:35**
Takeshi Iwata, Japan

Stargardt and Other ABCA4 Diseases: A Model for Understanding Complex Genetic and Clinical Correlations **10:45**
Rando Allikmets, United States

Award Ceremony **11:25**

Scientific Programme

Session: Ocular Immunology
13:00 - 15:00

Hall 1A

IMM11, From compliment to insult: The complement system in retinal physiology and disease

Chairs:

Diana Pauly, Regensburg, Germany

Cell Type-specific Complement Expression in the Retina	13:00
Diana Pauly, Regensburg, Germany	
Anaphylatoxin Signaling in RPE Cells	13:27
Olaf Strauß, Berlin, Germany	
TLR2 Bridges Oxidative Damage and Complement Activation and Is a Therapeutic Target for Age-related Macular Degeneration	13:54
Kelly Mulfaul, Dublin, Ireland	
Delivery of Complement Therapeutics: Targeting Pathogenic Self-recognition by Natural IgMs	14:21
Bärbel Rohrer, Charleston, South Carolina, United States	
Effect of the Colony Stimulating Factor-1 Receptor Inhibitor, PLX5622, on the Disease Course of Experimental Choroidal Neovascularization in Mice	14:48
Despina Kokona, Bern, Switzerland	

Session: Ocular Imaging & Psychophysics
13:00 - 15:00

Hall 1B

IMA6, Probing the retina and vision at a single-photoreceptor level, biomarkers, and multiphoton imaging

Chairs:

Jennifer Hunter, Rochester, New york, United States

Stimulus-evoked Intrinsic Reflectance of Cone Photoreceptors: A Biomarker of Cone Function	13:00
Jessica I.W. Morgan, Philadelphia, Pennsylvania, United States	
Probing Spatial and Color Vision at the Resolution of Single Cones	13:30
Ram Sabesan, Seattle, Washington, United States	
Calcium imaging in the living eye: Function, dysfunction and vision restoration in macaque fovea	14:00
Juliette E. McGregor, Rochester, United States	
Functional retinal imaging with Optical Coherence Tomography	14:30
Robert J Zawadzki, Davis, California, United States	

Scientific Programme

Session: Retinal Cell Biology
13:00 - 15:00

Hall 2A

RCB15, Role of Müller glia during retinal degeneration and in vitro development - Implications for the design of new retinal therapies

Chairs:

Astrid Limb

Development and Maturation of Müller Glia during Retinogenesis in 3D Organoid Culture	13:00
Karen Eastlake, London, United Kingdom	
Early Changes of Müller Glia in the Diabetic Retina	13:27
Anna-Monika Pfaller, Germany	
The Role of Proliferation in Müller Cell Remodeling and Subretinal Glial Scar Formation Induced by Retinal Detachment	13:54
Geoff Lewis, San Francisco, United States	
The Hippo/YAP Pathway and Müller Glial Cell Reactivation in the Retina	14:21
Muriel Perron, France	
TGFβ Isoforms Are Differently Modulated during Laser-induced Retinal Degeneration/Regeneration in Mouse and Zebrafish	14:48

Session: Lens
13:00 - 15:00

Hall 2B

LEN9, Physiological optics and biomechanics of the lens

Chairs:

Barbara Pierscionek, United Kingdom

Optics of the Lens and Changes with Ageing	13:00
Barbara Pierscionek, United Kingdom	
Linking the Cellular Physiology of the Lens to its Optical Properties	13:22
Paul Donaldson, New Zealand	
Actin and Lens Biomechanics	13:44
Velia Fowler, United States	
Biomechanics of the Aging Lens	14:06
Matthew A. Reilly	
Effects of Age-related Changes of Lens Physiological Optics on Overall Vision	14:28
Xingzheng Pan, Auckland, New Zealand	
Ray Tracing Confirms the Optical Properties of the Bovine Are Actively Maintained by the Lens Microcirculation System	14:50
Peter Qiu, Auckland, New Zealand	

Scientific Programme

Session: RPE-Choroid
13:00 - 15:00

Meeting Room 3B

RPE11, Molecular characteristic of macula susceptibility for dysfunction and degeneration

Chairs:

Takeshi Iwata, Japan

Inflammation and Cell Death in A2E-associated Retinal Degeneration	13:00
Akiko Maeda, Kobe, Hyogo, Japan	
Investigating Bestrophinopathies Using Induced Pluripotent Stem Cells	13:30
Amanda Carr, United Kingdom	
ARMS2/HTRA1 as Potential Therapeutic Target for Age-related Macular Degeneration	14:00
Takeshi Iwata, Japan	

Session: Retinal Cell Biology
13:00 - 15:00

Meeting Room 1A

RCB17, Vascular dysfunction in retinal disease

Chairs:

John Greenwood, United Kingdom

Vascular Function in Diabetic Retinopathy - Focus on Pericytes	13:00
Matthias Kolibabka, Germany	
Detection of Early Microvascular Retinal Changes in Type I Diabetic Mice with OCT-angiography	13:27
Bala Ambati	
Leucine-rich Alpha-2-glycoprotein-1 Disrupts Vessel Maturation in Developmental Retinal Angiogenesis	13:54
Alexandra Eva Hoeh, London, United Kingdom	
Hyperoxia in ROP in Retinal Vascular Endothelial Cells and in Vivo Models	14:06
Denise McDonald, United Kingdom	
AOSLO Measurements of Capillary and Other Small Vessel Changes in Early Diabetic Retinopathy	14:33
Stephen Burns, United States	

Session: Cross-Discipline
13:00 - 15:00

Meeting Room 1B

IND12, Phosphoinositide signaling in eye

Chairs:

Yang Sun, Indianapolis, United States
Hemant Khanna, United States

Scientific Programme

The Cellular Mechanisms Underlying Lowe Syndrome, an Ocular, Cerebral and Renal Disorder	13:00
Martin Lowe, Manchester, United Kingdom	
Identification of Novel Roles for Inositol Polyphosphate 5-Phosphatases in the Retina	13:22
Michele Davies, Australia	
Mechanistic Insights into Ciliary Signalling and Function Using Gene Discovery and Functional Genomics	13:44
Colin Johnson, Leeds, United Kingdom	
Phosphatidylinositol 3-phosphate 5-kinase Rescues Cone Photoreceptor Degeneration due to the Absence of Phosphatidylinositol 3-phosphate	14:06
Raju Rajala, Oklahoma City, OK, United States	
Essential Roles for Phosphoinositides in Retinal Neurons and Retinal Pigment Epithelium	14:28
Theodore G. Wensel, United States	

13:00 - 15:00

Meeting Room 2A

Empty Session

Session: Ophthalmic Genetics/Genomics
13:00 - 15:00

Meeting Room 2B

OGM6, Mendelian glaucoma genetics

Chairs:

John Fingert, Iowa City, Iowa, United States

Molecular Basis for Glucocorticoid-induced Ocular Hypertension Responsiveness	13:00
Abbot Clark, United States	
NDR Kinases Regulate Retinal Development, Homeostasis and Gene Expression	13:30
Hélène Léger, Philadelphia, PA, United States	
Epigenetic Regulation of the LOXL1 Gene in Pseudoexfoliation Glaucoma	13:50
Sarah Eivers, Dublin, Ireland	
TBK1 Gene and Normal Tension Glaucoma Pathophysiology	14:10
John Fingert, Iowa City, Iowa, United States	
ID1 & ID3 Proteins Block TGFβ2 -Induced Ocular Hypertension and Decreased Aqueous Humor Outflow Facility in Mice	14:30
John Cameron Millar, Fort Worth, Texas, United States	

Scientific Programme

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
13:00 - 15:00

Meeting Room 3A

OPT8, Glioprotection: Pharmacological targeting of optic nerve head astrocytes in glaucoma

Chairs:

Simon Kaja, Maywood, IL, United States

Cellular Mechanisms of Reactive Astrocytosis and Opportunities for Glioprotection	13:00
Simon Kaja, Maywood, IL, United States	
Injury-specific, Distinct Mechanisms of Action of Cellular Stress in Optic Nerve Head Astrocytes Provide Targets for Pharmacological Glioprotection	13:27
Peter Koulen, United States	
The P2X7 receptor for ATP links elevated IOP with cytokine signaling in optic nerve head astrocytes	13:54
Claire Mitchell, Philadelphia, United States	
Transcriptional Changes in Aging and Glaucomatous Murine Optic Nerve Heads	14:21
Ying Zhu, Boston, MA, United States	
CTGF Expression is Induced by Mechanical Forces in Astrocytes of the Glial Lamina under Normal and Glaucomatous Conditions	14:48
Andrea E. Dillinger, Regensburg, Germany	

Session: Cross-Discipline
15:30 - 17:30

Hall 1A

IND13, The Eye - A window into the body

Chairs:

Antonia M. Joussem, Germany
Olaf Strauß, Berlin, Germany

Ocular Imaging of Brain Disease	15:30
Leopold Schmetterer, Singapore, Singapore	
Translational Ophthalmology: Current Challenges at the Interface between Research and Clinic	15:57
Oliver Zeitz, Berlin, Germany	
Can we use the retinal blood vessels to predict "vascular disease"?	16:24
Noemi Lois, Belfast, United Kingdom	
System Medicine in Ophthalmology	16:51
Antonia Joussem, Berlin, Germany	

Scientific Programme

Session: RPE-Choroid
15:30 - 17:30

Hall 1B

RPE12, "Eye-Risk" perspective of AMD

Chairs:

Imre Lengyel, United Kingdom

Serum Biomarkers for Age-related Macular Degeneration Anneke den Hollander, Netherlands	15:30
Towards Personalized Prediction of AMD Cecile Delcourt, Bordeaux, France	15:57
Marius Ueffing representing the Horizon2020 EYE-RISK consortium (www.eye-risk.eu) Marius Ueffing, Tübingen, Germany	16:24
The genetic and epidemiologic perspectives of AMD in EYE-RISK Caroline Klaver, Netherlands	16:51

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
15:30 - 17:30

Hall 2A

OPT9, Personalized medicine and other innovations

Chairs:

Cheryl L. Rowe-Rendleman, United States
Carol Toris, Cleveland, OH, United States

Personalized Medicine: Equal Access for All? Eydie Miller-Ellis, Pennsylvania, United States	15:30
Age and Ethnic Differences in the Eye Show the Need for Personalized Medicine Carol Toris, Cleveland, OH, United States	16:00
Proteomic Identification of Vitreous Biomarkers for Retinal Degeneration Vinit Mahajan, Palo Alto, United States	16:30
Practicalities of Individualized Medicine - Is it Realistic? Cheryl L. Rowe-Rendleman, United States	17:00

15:30 - 17:30

Hall 2B

Empty Slot

Scientific Programme

Session: Cornea and Ocular Surface
15:30 - 17:30

Meeting Room 3B

COS11, Dry eye disease

Chairs:

Conor Murphy, Dublin, Ireland

TFOS DEWS II - highlights and insights in 2018	15:30
Christine Purslow, Newcastle-Under-Lyme, United Kingdom	
Sex, Gender and Hormone Effects on Dry Eye. The Role of Oestrogen	15:58
Blanka Golebiowski	
Targeting Inflammation in Dry Eye Disease-novel MicroRNAs as Potential Therapeutics	16:26
Joan Ni Gabhann, Dublin, Ireland	
Protection by a Metalloporphyrin Superoxide Dismutase Mimetic against Signs of Dry-eye Disease	16:54
Jenni J Hakkarainen, Kuopio, Finland	
Ellipsometry of Human Tears	17:06
Ben Glasgow, Los Angeles, United States	
Comparison of Corneal Lymphangiogenesis during Dry Eye Induction between Two Murine Models: Extraorbital Lacrimal Gland Excision versus Controlled Environmental Chamber	17:18
Sang-Mok Lee, Gangwon-do, Korea, Republic of	

Session: Retinal Cell Biology
15:30 - 17:30

Meeting Room 1A

RCB18, Role of mitochondrial damage in diabetic retinopathy

Chairs:

Julia V. Busik, Michigan, United States

Deciphering Mitochondrial Homeostasis on an Epigenetic Platform	15:30
Renu Kowluru, United States	
Ceramide-induced Mitochondrial Damage in Diabetic Retinopathy	16:00
Denis Proshlyakov, United States	
Mitochondrial Morphology Change and Diabetic Retinopathy	16:30
Sayon Roy, United States	
Mitochondrial Quality Control Becomes Compromised in the Retina During the Progression of Diabetes	17:00
Jose R Hombrebueno, Belfast, Northern Ireland, United Kingdom	
Development of Gene Therapies for Mitochondrial Deficiencies	17:15
Daniel Maloney, Dublin, Ireland, Ireland	

Scientific Programme

Session: Ocular Pharmacology, Therapeutics & Drug Delivery
15:30 - 17:30

Meeting Room 1B

OPT10, Hope or hype for HDAC-mediated neuroprotection / Neurotropism

Chairs:

Francois Paquat Durand, Germany
Orson Moritz, Vancouver, Canada

Inhibitors of HDAC for the Treatment of Hereditary Retinal Degeneration	15:30
Francois Paquet-Durand, Tuebingen, Germany	
Examination of the Effects of Histone Deacetylase Inhibitors on Autophagy and Retinal Degeneration Using Transgenic <i>Xenopus laevis</i>	15:58
Orson Moritz, Vancouver, Canada	
Epigenetic Modifications during Retinal Degeneration Suggest a Deregulation of Photoreceptor Identity and of Postmitotic Cell Status Maintenance	16:26
Yvan Arsenijevic, Lausanne, Please select, Switzerland	
A Selective Histone Deacetylase 6 Inhibitor, Tubastatin A, Rescues Visual Capacity in <i>Raifteiri</i>, a Novel Zebrafish Retinal Mutant Model	16:54
Husvinee Sundaramurthi, Dublin, Ireland	
A New Pluripotent Epigenetic Repressor of Diverse Genes, OBP801, Remarkably Prevents Chorioretinal Fibrosis and Choroidal Neovascularization	17:12
Atsushi Mukai, Kyoto, Japan	

Session: Lens
15:30 - 17:30

Meeting Room 2A

LEN10, Chemical modifications and peptides of crystallins in lens

Chairs:

Ram Nagaraj, United States

Acylation of Lens Proteins Improves the Chaperone Activity of α-crystallin	15:30
Ram Nagaraj, United States	
Peptide Chaperones: Effect of D-amino Acids	15:57
Krishna Sharma, United States	
Phosphorylation of AlphaA-crystallin on T148 Directly Controls its Chaperone Activity and its Protective Function	16:24
Patrice Fort, Ann Arbor, United States	
Neuroprotective Potential of Peptain-1 for Glaucoma.	16:51
Dorota L. Stankowska, Fort Worth, TX, United States	
The Crystal Structure of the Disulfide-linked γS-crystallin Dimer Provides Insight into an Aggregation-prone Oxidation Product Associated with Cataractous Lenses	17:18
Aidan Bradley Grosas, Canberra, Australian Capital Territory, Australia	

Scientific Programme

Session: Retinal Cell Biology
15:30 - 17:30

Meeting Room 2B

RCB19, Retinal glia cells - mediators of neurovascular dysfunction in retinal diseases

Chairs:

Susanne Mohr, Michigan, United States
Marcus Fruttiger, London, United Kingdom

Glial Cells - Gatekeeper of Neuronal and Vascular Functions	15:30
Susanne Mohr, Michigan, United States	
Interactions between Müller Cells and the Vasculature in Human Retinal Disease	15:50
Marcus Fruttiger, London, United Kingdom	
Potential Role of VEGF Signaling in Müller Glia: Implication to Neuroprotection in Long-term Anti-VEGF Therapies for Diabetic Retinopathy, Age-related Macular Degeneration, and Other Hypoxic Retinal Vascular Diseases	16:10
Yun Le, Oklahoma City, OK, United States	
Acute Laser-induced Chorioretinal Damage Elicits Distinct Cytokine/Chemokine Spatiotemporal Profiles in Rats	16:30
Sabine Uhles, Basel, Switzerland	
The Role of Retinal Microglia during Formation of Retinal Neovascularisation in the OIR Mouse Model	16:50
Myriam Böck, Freiburg, Germany	
Effects of Interleukin-6 Trans-signaling on Human Müller Versus Retinal Endothelial Cells under Hyperglycemic Conditions	17:00
Brandon Coughlin, East Lansing, Michigan, United States	

15:30 - 17:30

Meeting Room 3A

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