



SCIENTIFIC PROGRAM

THURSDAY, FEBRUARY 16

15:00-17:15	Registration
17:15-17:20	Opening remarks

SESSION 1

BIOMARKERS AND TECHNOLOGY FOR SUBTYPING EYE DISEASE: ENABLERS OF TRANSLATIONAL MEDICINE AND TARGETED THERAPIES

Moderators: Oliver Zeitz, Dan Stamer

17:20-17:40	Outside-ophthalmology perspective: State-of-the-art for biomarkers in oncology Friedhelm Bladt
17:40-18:00	Mining retinal imaging data for biomarkers of disease and therapy Sebastian Waldstein
18:00-18:20	The potential of ocular exosomal biomarkers as therapeutic targets, and diagnostic and prognostic indicators Mikael Klingeborn
18:20-18:40	Tearfilm biomarkers Leopold Schmetterer
18:40-20:00	WELCOME RECEPTION

FRIDAY, FEBRUARY 17

SESSION 2

NEW INSIGHTS IN THE THERAPEUTIC APPROACHES TO AMD: IS THERE A HOPE FOR AN AFFORDABLE TREATMENT?

Moderators: Cathy Bowes Rickman, Chiara Eandi

09:20-09:40	From AMD-associated polymorphisms to drug target identification Florian Sennlaub
09:40-10:00	Complement signaling at the RPE: Implications for AMD Olaf Strauss
10:00-10:20	Placental growth factor: An additional therapeutic target for AMD Sandro De Falco
10:20-10:40	Effects of Anti-C5a therapy on early and wet models of AMD Cathy Bowes Rickman
10:40-10:50	BREAK AND EXHIBITS

SESSION 3

DIABETIC RETINOPATHY, A DISEASE OF INCREASING CONCERN

Moderators: Marina Ziche, Ash Jayagopal

- 10:50-11:10 iPSCs as a novel strategy for vascular repair in the retina
Maria Grant
- 11:10-11:30 Angiogenic/inflammatory activity of humor vitreous in
proliferative diabetic retinopathy
Marco Presta
- 11:30-11:50 B2R signaling in neo-angiogenesis
Sandra Donnini
- 11:50-12:10 Imaging vascular dysfunction in diabetic retinopathy
Ash Jayagopal
- 12:10-13:30 LUNCH PANEL
IT-ARVO sponsored symposium

SESSION 4

REGULATORY ISSUES GOVERNING OPHTHALMIC DRUGS: PHARMACOECONOMICS AND DRUG DEVELOPMENT IN A CHANGING WORLD

Moderators: Filippo Drago, Peter Kador

- 13:30-13:50 Challenges to the economic evaluation of interventions
for retinal conditions: A review of NICE technology
appraisals in retinal vein occlusion and diabetic macular edema
Chrissy Almond
- 13:50-14:10 Combination therapies in retinal diseases: Anticipated hurdles
for regulatory approval and health technology assessment.
Is there a risk for patient access to new innovative
medicine in ophthalmology?
Jean Claude Castanier
- 14:10-14:30 Off-label drug use in ocular pharmacology
Lucia Gozzo
- 14:30-14:50 Clinical prevention of cataracts in diabetic dogs by kinostat
Peter Kador
- 14:50-15:10 BREAK AND EXHIBITS

SESSION 5

YOUNG INVESTIGATOR SESSION

Moderators: Malinda Fitzgerald, Alessia Pascale

- 15:10-15:25 Treatment of HDAC3 selective inhibitor prevents retinal
ganglion cell nuclear atrophy and apoptosis after acute
and chronic optic nerve injury
Heather Schmitt

- 15:25-15:40 Neuroprotection and neuroregeneration of Retinal Ganglion Cells using products of peripheral nerves predegeneration
Adrian Smedowski
- 15:40-15:55 Epigenetics as a code for mitochondrial DNA mismatch and its dysfunction in diabetic retinopathy
Manish Mishra
- 15:55-16:10 P2X7 receptor as a pharmacological target in diabetic retinopathy
Chiara Platania
- 16:10-16:25 Spleen derived monocytes in subretinal inflammation
Christophe Roubexis
- 16:25-16:40 The role of canonical Wnt signaling and K-cadherin in the maintenance of intraocular pressure
Hannah Webber

AOPT GENERAL BUSINESS MEETING

16:40-17:40

POSTER SESSION

Moderators: Shusheng Wang, Julie Crider

17:40-19:00

SATURDAY, FEBRUARY 18

SESSION 6

ADVANCES IN OCULAR DRUG DELIVERY AND ITS ROLE IN PATIENT'S COMPLIANCE

Moderators: Uday B. Kompella, Claudio Bucolo

- 08:40-09:00 Biodegradable implants for sustained drug release: Manufacturing considerations, drug stability, and drug release
Uday B. Kompella
- 09:00-09:20 What delivery strategy for poorly soluble drugs?
Robert Gurny
- 09:20-09:40 Sustained release microtechnologies for the treatment of neurodegenerative diseases of the posterior segment
Maria Del Rocio Herrero Vanrell
- 09:40-10:00 Melanin binding and active transport in the RPE: Impact on ocular drug delivery and pharmacokinetics
Arto Urtti

10:00-10:20 Recent advances in the application of lipid-based nanocarriers to ocular drug delivery
Rosario Pignatello

10:20-10:40 BREAK AND EXHIBITS

SESSION 7

GLAUCOMA: RESEARCH AND DRUG DISCOVERY IN THE XXI CENTURY

Moderators: Carol Toris, Padmanabhan Pattabiraman

10:40-11:00 NCX 667, a lead nitric oxide (NO)-donating compound for a new class of ocular hypotensive agents
Francesco Impagnatiello

11:00-11:20 New glaucoma drainage device designs for lowering of IOP
Carol Toris

11:20-11:40 New highly effective and long-acting anti-glaucoma drug, new periorbital delivery method
David Woodward

11:40-12:00 Glycosylation status of clusterin, a secretory chaperone protein, regulates phagocytic activity and apoptosis in trabecular meshwork cells
Padmanabhan Pattabiraman

12:00-13:20 LUNCH-N-LEARN

Key note speaker Eric Pearlman

Lab managing&career negotiation Carol Toris & Thomas Yorio

Working in IndustryAchim Krauss

Starting a company/entrepreneurship Peter Kador & Robert Gurny

The balancing act-Research, teaching...life in general Malinda Fitzgerald

Peer Review Dan Stamer

SESSION 8

NEUROPROTECTION IN OPHTHALMOLOGY: DO WE STILL NEED IT?

Moderators: Neville Osborne, Iok-HouPang

13:20-13:40 Enhancement of mitochondrial function non-invasively as a means to provide neuroprotectionin ophthalmology?
Neville Osborne

13:40-14:00 The challenges in conducting neuroprotection studies
Iok-Hou Pang

14:00-14:20 Modulating autophagy to achieve retinal neuroprotection
Rossella Russo

14:20-14:40 Melatonin prevents photoreceptors death during aging
Gianluca Tosini

14:40-15:00 BREAK AND EXHIBITS

SESSION 9

OCULAR IMMUNE DISORDERS IN THE TIME OF GLOBALIZED MEDICINE

Moderators: Pedram Hamrah, Juana Gallar

- 15:00-15:20 Immunological basis for ocular graft versus host disease and novel therapeutic targets
Sabrina N. Copsel
- 15:20-15:40 Targeting inflammation: Pathogenesis and novel treatments for dry eye
Stefano Barabino
- 15:40- 16:00 Rationale and mechanisms of neuro-regenerative therapy in patients with ocular surface disease
Pedram Hamrah
- 16:00- 16:20 Neuroanatomical, behavioral and electrophysiological data in a mouse model of dry eye
Fanny Joubert

PANEL DISCUSSION

Moderators: Achim Krauss, Teresio Avitabile

- 16:20-17:30 Bridging industry, academia and clinicians for the benefit of the global medicine

KEYNOTE ADDRESS

Moderator: Thomas Yorio

- 17:30-18:40 Fungal keratitis, a major cause of blindness and visual impairment worldwide, especially in developing countries
Eric Pearlman
- 19:00-21:30 **BANQUET DINNER**

SUNDAY, FEBRUARY 19

SESSION 10

GENETIC AND ORPHAN EYE DISEASES

Moderators: Cheryl Rowe-Rendleman, Santi Spampinato

- 08:40-09:00 Focus on retinitis pigmentosa (RP):
Translatability of success in animal models of orphan and genetic diseases of the eye
Claire Gelfman

- 09:00-09:20 Progesterone analogs as neuroprotectants in animal models of retinitis pigmentosa
Tom Cotter
- 09:20-09:40 Neuroprotection in inherited retinal degenerations: Role of antioxidants and neurotrophins to preserve or rescue cone function
Benedetto Falsini
- 09:40-10:00 The metabolic and redox signaling controlled by the rod-derived cone viability gene NXNLI
Thierry Léveillard
- 10:00-10:20 Development of investigational gene therapy for RPE65-mediated inherited retinal disease
Daniel Chung
- 10:20-10:40 **BREAK AND EXHIBITS**

SESSION 11

OCULAR BLOOD FLOW: AN ISSUE FOR DIAGNOSIS AND THERAPY

Moderators: Jeffrey Kiel, Leopold Schmetterer

- 10:40-11:00 Regional differences in blood flow as the basis for understanding retinal vascular disease
Toke Bek
- 11:00-11:20 Novel treatment for diabetic retinopathy by drug repositioning
Taiji Nagaoka
- 11:20-11:40 Retinal and choroidal vascular responses to electrical brain stem stimulation in rats
Clemens Strohmaier
- 11:40-12:00 Retinal oxygen extraction in diabetes and glaucoma
Doreen Schmidl
- 12:00-13:00 **LUNCH PANEL**

SESSION 12

TREATMENT OF REFRACTIVE ERROR DEFECTS: WHAT IS THE ROLE OF OCULAR PHARMACOLOGY?

Moderators: Christine F. Wildsoet, Caterina Gagliano

- 13:00-13:20 Can drug delivery help solve the problem of myopia?
Heather Sheardown
- 13:20-13:40 Efficacy of atropine for progressive myopia in Europeans: Two year results and comparison with results from East Asia
Jan-Roelof Polling

- 13:40-14:00 Orthokeratology combined with long-term instillations of very small atropine concentrations: A pre-evaluation of the myopia stabilizing effect
Elena Tarutta
- 14:00-14:20 Design, synthesis, and characterization of a selective inhibitor for retinaldehyde dehydrogenase (ALDH1A) enzymes
Angelica Harper
- 14:20-14:40 Medication crosslinking of the sclera: An experimental implementation of a technology of sclera strengthening treatment of myopia
Elena Iomdina
- 14:40-15:00 **BREAK AND EXHIBITS**

SESSION 13

OCULAR SURFACE DISEASES: AN EMERGING CONCERN IN OPHTHALMOLOGY

Moderators: **David Goldblum, Christophe Baudouin**

- 15:00-15:20 Corneal gene therapy: Beyond viral vectors
Alexander V. Ljubimov
- 15:20-15:40 Severe ocular allergies: From pathophysiology to future therapies
Andrea Leonardi
- 15:40-16:00 Gabapentin eye drops for the treatment of ophthalmic pain and ocular surface inflammation
Dario Rusciano
- 16:00-16:20 Altered electrical activity of corneal sensory receptor fibers during regeneration after corneal microkeratome lesion in the guinea-pig
Juana Gallar
- 16:20-16:40 Unique hydrogel technology in vitro model representing corneal layers
Agne Žiniauskaitė
- 16:40-17:00 Closing remarks