



PROGRAMME

27th

**EVER
CONGRESS**

**3 - 5 November 2024
Valencia**

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LC: Lens and Cataract	Rafael I. BARRAQUER , Barcelona (2023-2028)
MBGE: Molecular Biology / Genetics / Epidemiology	Christina ZEITZ , Paris (2019-2024)
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About the programme book

Sessions



Business Meeting



Poster Session



Company Interested Symposium



Plenary Session



Course



Rapid Fire Session



Joint Meeting



Special Interest Symposium



Keynote Lecture



Free Paper Session

Symbol

rf = Rapid Fire presentation

Scientific sections

ACB	=	Anatomy / Cell Biology
COS	=	Cornea / Ocular Surface
EOVS	=	Electrophysiology, Physiological Optics, Vision Sciences
G	=	Glaucoma
IM	=	Immunology / Microbiology
LC	=	Lens and Cataract
MBGE	=	Molecular Biology / Genetics / Epidemiology
NSPH	=	Neuro-ophthalmology/Strabismology / Paediatric Ophthalmology / History of Ophthalmology
PBP	=	Physiology / Biochemistry / Pharmacology
PO	=	Pathology / Oncology
RV	=	Retina / Vitreous

08:30-08:45 | Auditorium 1

PS

Welcome by the EVER President 2024

Sunday
3 November 2024

08:45-09:30 | Auditorium 1

PS

EVER Acta Lecture



Introduced by: **Franziska G. Rauscher** (*Germany*)

Methods for early detection of selective loss of visual function in diseases of the retina

John Barbur (*United Kingdom*)

Retinal mechanisms evolved to extract and code efficiently the most important information present in retinal images. Luminance contrast, 'red/green', 'yellow/blue', 'white-black', and 'light-flux' channels extract the signals needed to account for most attributes of our visual perception, including the ability to judge the level of ambient lighting. By employing two types of photoreceptors, rods and cones, the visual system achieves an extraordinarily large, dynamic range of useful vision, but this involves extensive compromises. The spatial, temporal and chromatic properties of the signals extracted from the retinal image vary greatly with the level of ambient illumination. Visual acuity, contrast sensitivity, red/green and yellow/blue colour vision and motion and rapid flicker sensitivity, all worsen with decreasing light level. The extent to which visual performance is compromised in the mesopic range is also affected by normal aging and retinal disease.

In this lecture I shall describe a number of advanced vision and optometric tests designed to reduce within subject variability, to account for normal age-related changes, to isolate selectively red/green and yellow/blue colour mechanisms and most importantly, to test specifically for the rate of loss of visual sensitivity in the mesopic range. Results from extensive investigations in patients with diabetes, age-related macular degeneration and glaucoma will be used to illustrate the usefulness of these tests in the early detection of retinal disease. Unique results from single patient studies will also be presented to illustrate some visual consequences of abnormal interaction of rod and cone signals in the mesopic range.

09:30-10:45 | Auditorium 1

SIS COS-21 - Instrument-based diagnosis of keratoconus and corneal ectatic diseases

Starting with the first Placido topographers on the market in the 1990's instrument-based screening methods for corneal ectasia developed rapidly. First, topographers were used to analyze the corneal front surface geometry to provide dedicated metrics showing the probability or similarity of ectatic corneal diseases. In the early stage these metrics were designed mostly for a high specificity. With the modern tomographers data of corneal thickness and back surface could be included to enhance the diagnostic performance especially in early stages of keratoconus, and those metrics could be used in clinical routine for monitoring of the disease progression and indication for surgery. Within the last years machine learning applications have been gaining tremendous relevance in nearly all disciplines in medicine, and supervised learning techniques are used to perform classification or graduation of ectatic diseases. Especially with the new therapeutic options such as corneal collagen crosslinking or intracorneal ring (segment) implantation which could prevent further progression of the disease if applied in the early stage a timely detection and reliable staging is mandatory.

Organizer: **Achim Langenbucher** (Germany)

Co-Organizer: **Michael Belin** (USA)

- 09:30 Corneal ectatic disorders – clinical appearance and differential diagnosis
Laszlo Modis (Hungary)
- 09:43 Ectasia screening with the Pentacam Scheimpflug tomographer – The Belin Ambrosio module
Michael Belin (USA)
- 09:56 Ectasia screening with the Placido topographer and the anterior segment OCTs
Achim Langenbucher (Germany)
- 10:09 KC staging / monitoring & Corvis biomechanical analysis
Elias Flockerzi (Germany)
- 10:22 Deep learning in early keratoconus – where are we and where would we like to go
Benjamin Fassbind (Switzerland)
- 10:35 Discussion

09:30-10:45 | Auditorium 2

FP Free Paper Session 1

Moderators: **Christina Zeitz** (France), **Sarah Zwingelberg** (Germany)

- 579 Sensitive methods for assessing spatial vision suitable for early detection and monitoring of diabetes
Sajni Bohra, Marisa Rodriguez-Carmona, John Barbur (United Kingdom)
- 292 The incidence of serious anterior segment complications after selective laser trabeculoplasty
Eeva Ojanen, Joni Turunen, Mika Harju (Finland)
- 247 Physiological activation of Liver X receptor provides protection against ocular inflammation in uveitic glaucoma
Jin A. Choi¹, Ji Young Lee¹, Jin-Hyun Ahn¹, Nikolai Skiba², Vasantha Rao² (¹South Korea, ²USA)
- 289 Tissue mimics based on aged decellularized tissue for in vitro modelling of age-related macular degeneration
Blanca Molins, Eliandre Oliveira, Josep Estanyol, Alfredo Adàn (Spain)
- 808 New insights on the genetic basis underlying hereditary high myopia in a cohort of more than 100 Spanish families
Laura González, Xènia Ferrer, Yasmin Soares de Lima, Sandra Suescun Busto, Pilar Méndez-Vendrell, Sheila Ruiz-Nogales, Laura Zahino Lora, Ana Nolla Del Saz, Claudia Garrido, Oscar Recasens, Rafael Navarro, Esther Pomares (Spain)
- 672 Clinical and genetic profile of patients with Leber's congenital amaurosis
Esra Sahli, Büşranur Çavdarlı, Pınar Bingöl Kızıltunç, Huban Atilla (Turkey)

09:30-10:45 | Calatrava 1

RF

Rapid Fire COS

Moderators: **Antonio Di Zazzo** (*Italy*), **Ariadna Diaz-Tahoces** (*Spain*)

- 112 M.081 Novel diagnostic and treatment algorithm for pythium insidiosum keratitis - redefining management guidelines
Bharat Gurnani, Kirandeep Kaur (*India*)
- 786 M.082 Genetically modified mesenchymal stem cells with CXCR4 and TSG-6 as future cell therapy for the ocular surface: in vitro study of the cell migration and the regenerative capacity in an inflammation model
Jessica Nataly Figueroa-Haro, Esther González de la Parte, Beatriz Marceñido, Carmen García Vázquez, Sara Galindo de la Rosa, Marina López Paniagua, Margarita CALONGE, Alberto López-Miguel, Teresa Nieto Miguel, Ana de la Mata Sampedro (*Spain*)
- 222 M.083 Surgical detachment of irido- and lenticulocorneal adhesions in Peters anomaly
Elsa-Leea Kotola, Joni A. Turunen, Päivi Lindahl, Kari Krootila, Anna Majander (*Finland*)
- 304 M.084 Extraction and quantification of human tear proteins sampled by Schirmer test strips. A validated and standardized method
Emanuele Porru, Carmen Ciavarella, Rossana Comito, Gloria Astolfi, Francesco Violante, Piera Versura (*Italy*)
- 470 M.085 Comparative efficacy of receptor tyrosine kinase inhibitors in a mouse model of alkali burn-induced corneal neovascularization
Titas Gladkauskas, Ida Rundgren, Ileana Cristea, Eyvind Rødahl, Cecilie Bredrup (*Norway*)
- 524 M.086 Development of a bioreactor to examine the response of corneal cells to fluid shear stress
Matthia Bonizzi (*Ireland*)
- 575 M.087 Engineering multicellular organoid for corneal niche modelling and regenerative therapies
Ayesha Gulzar, Isilay Goktan, Esra Yalcin, Afsun Sahin, Seda Kizilel (*Turkey*)
- 677 M.088 Efficacy and tolerability of a new riboflavin-based dye compared to double staining with fluorescein and lissamine green in the evaluation of corneal-conjunctival epithelial defects: preliminary data
Mario Troisi, Ciro Caruso, Salvatore Troisi, Carlo Bellucci, Ciro Costagliola (*Italy*)
- 722 M.089 Morphometric histological description of Fuchs endothelial dystrophy guttae
Rahul Jonas, Antonia Howaldt, Mario Matthaei, Simona Schlereth, Björn Bachmann, Claus Cursiefen (*Germany*)
- 818 M.090 Quality control in corneal eye banking: impact of preservation time on graft endothelium
João Castro Cabanas, Daniel Ferreira Cardoso, Pedro Moreira Martins, Ricardo Machado Soares, Ana Clara Ribeiro, Carlos Arêde, Joaquim Sequeira (*Portugal*)
- 884 M.092 In-situ printing of GelMa-based hydrogels for cornea regeneration
Hamid Goodarzi, Boda Om, May Griffith, Christos Boutopoulos (*Canada*)

09:30-10:45 | Calatrava 2



Rapid Fire ACB

Moderators: **Gordon Plant** (*United Kingdom*), **Heli Skottman** (*Finland*)

- 439 S.005 Predictive factors of final visual outcome in patients with Leber hereditary optic neuropathy treated with lenadogene nolparvovec gene therapy
Piero Barboni¹, **Nancy Newman**², **Valérie Biousse**², **Patrick Yu-Wai-Man**³, **Valerio CARELLI**¹, **Catherine Vignal-Clermont**⁴, **Constant Josse**⁴, **Magali Taiel**⁴, **José-Alain Sahel**⁴, **Robert Sergott**² (¹*Italy*, ²*USA*, ³*United Kingdom*, ⁴*France*)
- 455 S.006 Endothelial cell heterogeneity in arteriolar annuli: implications in retinal blood flow regulation
David Ramos González, **Mariana López-Luppo**, **Patricia Jaramillo**, **Ana Carretero**, **Victor Nacher**, **Marc Navarro**, **Jesús Ruberte** (*Spain*)
- 485 S.007 MCP-1 signaling in optic nerve head astrocytes during glaucoma development
Noah Embry, **Yang Liu** (*USA*)
- 515 S.008 Cryopreservation of corneal endothelial cells in vitro, ex vivo, and on a tissue engineered endothelial graft
Tomy Sagnial, **Melis Coban**, **Inès Aouimeur**, **Louise Coulomb**, **Gain Philippe**, **Zhiguo He** (*France*)
- 659 S.009 Do estrogens receptor agonists have a neuroprotective effect on mouse RGC after optic nerve axotomy?
Kristy T. Rodríguez-Ramírez, **Caridad Galindo-Romero**, **Manuel Vidal-Sanz**, **Marta Agudo-Barriuso** (*Spain*)
- 683 S.010 Adipose-derived mesenchymal stem cells (AdMSCs) and retinal pigment epithelial cells (RPE-1) interactions in stress environments via tunneling nanotubes
Merve Gozel, **Karya Senkoğlu**, **Cem Kesim**, **Murat Hasanreisioğlu** (*Turkey*)
- 692 S.011 Clinical and morphological parallels in the assessment of the lamina cribrosa of sclera as a risk factor and potential target in promotion for survival of optic nerve axons
Yuliya Huseva (*Belarus*)
- 708 S.012 Integrating single-cell and spatial transcriptomics delineates spatial gene expression patterns and molecular signatures of various tissues in mouse eyes
Shuai Ouyang (*China*)
- 751 S.013 Generation of an isogenic control from an induced pluripotent stem cell line of a patient with dominant optic atrophy harbouring the genetic variant c.1024 A>G (p.K342E) in the OPA1 gene
Raquel González Jabardo, **Marta García López**, **Natalia Robles Anda**, **Lydia Jimenez Vicente**, **Helena Dorado Monreal**, **Pablo Rueda de Arriba**, **Maria Esther Gallardo** (*Spain*)
- 762 S.014 Optic nerve damage model: a preliminary study to determine injury duration and degree of gliosis
Humeyra Nur Kaleli, **Cem Kesim**, **Murat Hasanreisioğlu** (*Turkey*)
- 781 S.015 Therapeutic potential of targeting BMP/ALK pathway in pathological retinal neovascularization
Mohamed AL-Shabrawey, **Maria Ghishan**, **Nandini Koneru**, **Sonali Sharma**, **Mohamed Moustafa** (*USA*)
- 791 S.016 Comparison of synchrotron-based FTIR spectra in lens epithelial- and idiopathic epiretinal membrane- cells
Natasha Josifovska¹, **Tanja Ducic**², **Sofija Andjelic**³, **Goran Petrovski**^{1,4} (¹*Norway*, ²*Spain*, ³*Slovenia*, ⁴*Croatia*)

09:30-10:45 | Gaudí 1

SIS NSPH-38 - Inherited optic neuropathies - The controversies

Inherited optic neuropathies are genetically and phenotypically heterogeneous. The two main subtypes are Leber hereditary optic neuropathy (LHON) and autosomal dominant optic atrophy (DOA). The disease mechanisms driving the preferential loss of retinal ganglion cells in LHON and DOA are gradually being uncovered, providing important insight into pathological pathways amenable to therapeutic intervention. The latest ocular imaging platforms now provide unparalleled anatomical details of the optic nerve head and retina, which could prove useful as diagnostic and prognostic biomarkers. Over the past decade translational LHON research has led the way with gene therapy emerging as a promising treatment option for affected individuals.

Organizer: **Marcela Votruba** (*United Kingdom*)

Co-Organizer: **Alfredo Sadun** (*USA*)

09:30 Why have we failed to fully explain incomplete penetrance in LHON?
Valerio Carelli (*Italy*)

09:46 Are retinal vascular changes relevant in inherited optic neuropathies?
Enrico Borrelli (*Italy*)

10:02 Multiomics – what can they teach us?
Guy Lenaers (*France*)

10:18 Gene therapy – can we do better?
Patrick Yu-Wai-Man (*United Kingdom*)

10:34 Discussion

09:30-10:45 | Gaudí 2

SIS IM-57 - SIS SEIOC: from the bedside to the bench: challenging cases in uveitis

This SIS is dedicated to unraveling the complexities surrounding challenging and enigmatic cases in uveitis. Uveitis poses diagnostic and therapeutic challenges that often push the boundaries of current understanding. This special interest event aims to foster a collaborative environment where clinicians, researchers, and experts can collectively tackle intricate cases that not only perplex in the clinic but also contribute to advancing our knowledge of uveitis pathophysiology.

Organizer: **Ester Carreño Salas** (*Spain*)

Co-Organizer: **Julio José González-López** (*Spain*)

09:30 Challenging case I
Julio José González-López (*Spain*)

09:51 Challenging case II
Claudia Fabiani (*Italy*)

10:12 Challenging case III
Ester Carreño Salas (*Spain*)

10:33 Discussion

09:30-10:45 | Gaudí 3



LC-20 - Cataract development and management

Cataracts are one of the most common causes of visual impairment and are due to a loss of transparency of the crystalline lens. They usually occur naturally due to ageing, however, other reasons can also lead to them, such as congenital cataracts, certain diseases, medication, ocular trauma or even excessive UV exposure. Whatever their origin, cataracts must be treated, currently, the definitive treatment is still surgery. It is generally highly effective and carries few risks. The operation involves aspirating the content of the opacified crystalline lens and replacing it with an intraocular lens. However, it is not free from complications. Currently, the most common complication is posterior capsule opacification (PCO), limiting the long-term postoperative visual outcome of millions of patients. PCO is a consequence of the wound-healing response of residual lens epithelial cells residing in the capsular bag post cataract surgery, leading to light scatter and a deterioration of vision. Therefore, despite the success of current treatments of both cataracts and PCO, it is still of great importance to better understand how they develop and determine the best approaches to manage or prevent them.

Organizer: **Justin Christopher D'Antin** (*Spain*)

Co-Organizer: **Rafael I. Barraquer** (*Spain*)

- 09:30 Optical correction of cataracts by using wavefront shaping
Pablo Artal (*Spain*)
- 09:46 Study and management of pediatric cataracts
Alejandro Alcaide Costa (*Spain*)
- 10:02 Pediatric cataract and posterior capsular opacification: surgical options
Rafael I. Barraquer (*Spain*)
- 10:18 IOL material and PCO risk
Andrzej Grzybowski (*Poland*)
- 10:34 Discussion

10:45-11:15 | Exhibition Area Ground Floor - Coffee break

11:15-12:00 | Auditorium 1



EVER Lecture delivered by Past President

Introduced by: **Andrzej Grzybowski** (*Poland*)



Aniridia associated keratopathy – molecular and clinical mechanisms leading to keratopathy development
Nora Szentmary (*Germany*)

Congenital aniridia is a rare, panocular disease with PAX6 haploinsufficiency in 90% of the cases. In addition to PAX6, other factors appear to play a role in aniridia associated keratopathy (AAK) development. FOXC1, DSG1, FOSL2 and FABP5 are genes that are crucial for eye development, differentiation of limbal stem cells and for the regulation of lipid metabolism in epithelial cells. Recent data also indicate the importance of microRNA 204-5p and microRNA 138-5p in AAK. The Lagali AAK classification well describes the progressive nature of AAK, from a mild peripheral to a central corneal vascularization with corneal pannus formation. Ocular surface inflammation, as much as previous ocular surgery seem to have a role in AAK progression. Nevertheless, the corneal endothelium might possess slightly better quantitative reserves in congenital aniridia, than in healthy subjects and corneal endothelial deposition seems to be independent from the developmental abnormalities but may be related to up to date undescribed endothelial inflammatory or metabolic changes.

12:05-13:20 | Auditorium 2



COS-23 - Analysis of human tears for clinical applications - experience and perspectives

Dry Eye Disease (DED) is an extremely common condition, affecting millions of people worldwide, and one of the most frequent conditions that ophthalmologists encounter in their clinical practice. DED symptoms appear unspecific and include eye burning, foreign body sensation, blurred vision and photophobia, which are associated with visual disturbances and lubrication problems, potentially evolving to severe corneal problems. A symptom-based algorithm for heterogeneous symptoms of DED has been attempted to guide clinical decision tailored to individual patients. However, subjective evaluation might be related to a great variety of confounding factors, including personal feelings, mood, and pain threshold. An objective tool to stratify patients in DED aetiology and severity represents an unmet medical need, and tears certainly represent a source to be explored and strengthened. The present SIS gathers researchers expert in tear analysis, either in basic science and in clinical settings, and clinicians expert in DED. The aim of this SIS is to evidence what we know on the content of human tears as a potential source for biomarkers, and the need to validate these biomarkers as surrogate endpoints to be employed in clinical trials and in clinical guidance for patients' management.

Organizer: **Piera Versura** (*Italy*)Co-Organizer: **Amalia Enriquez de Salamanca** (*Spain*)

- 12:05 The need for standardization in methodologies for tear fluid biomarkers
Marlies Gijs (*Netherlands*)
- 12:18 Clinical role of biomarkers in different triggers of ocular surface system failure
Antonio Di Zazzo (*Italy*), **Alessandra Micera** (*Italy*)
- 12:31 Tear biomarkers in daily practice - where are we?
Elisabeth Messmer (*Germany*)
- 12:44 Can tear analysis drive a clinical decision? – a real-world experience
Piera Versura (*Italy*)
- 12:57 Tear biomarkers in dry eye disease: evaluation endpoints in clinical trials
Amalia Enriquez De Salamanca (*Spain*)
- 13:10 Discussion

12:05-13:20 | Calatrava 1



Rapid Fire G

Moderators: **Ariadna Diaz-Tahoces** (*Spain*), **Miriam Kolko** (*Denmark*)

- 453 S.068 A low dose bimatoprost 0.01% & timolol 0.1% eye gel compared to bimatoprost 0.03% & timolol 0.5% eye drops: a phase III randomized study
Ingeborg Stalmans¹, M. Francesca Cordeiro² (¹*Belgium*, ²*United Kingdom*)
- 183 S.069 Modulation of post-surgery fibrosis in glaucoma filtration surgery by targeting retinoic acid signaling
Xiaomeng Wang, Tina Wong, Rajakrishna Anjali, Seok Ting Lim (*Singapore*)
- 226 S.070 Artificial intelligence-powered glaucoma screening: demographic and clinical comparison between screening attendees and non-attendees
Vasco Lobo¹, Afonso Lima-Cabrita¹, Bernardo Monteiro¹, Rafael Whitfield¹, Sofia Theriaga¹, Rodrigo Marques¹, Matilde Ourique¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans³, Luís Abegão-Pinto¹ (¹*Portugal*, ²*Spain*, ³*Belgium*)
- 233 S.071 Preoperative fluorometholone in glaucoma surgery: 1 year clinical and anatomical outcomes with in vivo confocal microscopy (IVCM)
Davide Tomaselli, Gianluca Monsellato, Gaia Li Calzi, Francesca Fantaguzzi, Umberto Lizzio, Matteo Sacchi, Paolo Nucci (*Italy*)
- 305 S.072 Soft matter 3D printed drug-loaded subconjunctival inserts for post-surgical anti-inflammatory drug delivery
Adrián Alambiaga-Caravaca, Lucia Bernat-Just, Esther Nginyu Luembe, Alan Hibbitts (*Ireland*)
- 500 S.073 Towards visual field reliability with machine learning
Damon Wong¹, Jacqueline Chua¹, Jost Jonas², Leopold Schmetterer¹ (¹*Singapore*, ²*Germany*)
- 525 S.074 Correlation between dyslipidaemia and glaucoma risk: insights from a population-based glaucoma screening (NCT 05875090)
Rafael Whitfield¹, Afonso Lima-Cabrita¹, Vasco Lobo¹, Bernardo Monteiro¹, Rodrigo Marques¹, Matilde Ourique¹, Inês Leal¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans Stalmans³, Luís Abegão-Pinto¹ (¹*Portugal*, ²*Spain*, ³*Belgium*)
- 629 S.075 Correlation of biomarkers of oxidative stress and inflammation in tears and aqueous humor of primary open-angle glaucoma patients
Javier Benitez-Del-Castillo Sanchez, Maria Dolores Pinazo Duran, Sara Mora Sáez, David Peña Ruiz, Vicente Zanon-Moreno, Juan Francisco Ramos-Lopez, David Galarreta-Mira (*Spain*)
- 636 S.076 Differential profile of miRNAs in aqueous humour: a new potential epigenetic mechanism for pseudoexfoliation glaucoma
Carolina Garcia Villanueva¹, Irene Andrés-Blasco¹, A. Martucci², J.F. Ramos Lopez¹, Vicente Zanon Moreno¹, M. Gonzalez Montero¹, C. Nucci², Maria Dolores Pinazo Durán¹, Julian Garcia Feijoo¹ (¹*Spain*, ²*Italy*)
- 674 S.077 The RhoA/Rho-Kinase (ROCK) and oxidative stress cell signaling pathways, as feasible pathogenic effectors of fibroproliferation in glaucoma surgery
Rafael Gimenez-Gómez, Juan Francisco Ramos-Lopez, Carolina Garcia-Villanueva, David Galarreta-Mira, Sara Mora Sáez, Irene Andrés-Blasco, Jose Enrique O'Connor, Maria Dolores Pinazo Duran (*Spain*)
- 688 S.078 Identification of diagnostic and prognostic biomarkers in dry eye disease in primary open-angle glaucoma: a cross-sectional case-control study
Sara Mora Sáez, Irene Andrés-Blasco, Marta Cerdà-Ibáñez, Cristina Peris-Martínez, Maria Dolores Pinazo Durán (*Spain*)
- 769 S.079 Does semaglutide provide neuroprotection in models of glaucoma?
Zaynab Mouhammad¹, Blanca Aldana¹, Pete Williams², James Tribble², Anne Rombaut², Mariana Yolotzin Garcia Bermudez¹, Rupali Vohra¹, Miriam Kolko¹ (¹*Denmark*, ²*Sweden*)

12:05-13:20 | Calatrava 2

RF

Rapid Fire EOVS

Moderators: **Paulo Fernandes** (*Portugal*), **Franziska G. Rauscher** (*Germany*)

- 191 M.104 Neurovascular coupling response: a follow-up study
João Jordão, Sérgio Rodrigues, Joana Domingues, Pedro Serranho, Pedro Guimarães, Rui Bernardes (*Portugal*)
- 291 M.105 Is there a common factor for vision?
Michael Herzog¹, Simona Garobbio¹, Maximilian Pfau², Hendrik Scholl² (*¹Switzerland, ²Austria*)
- 440 M.106 Objective measurement of accommodation in patients with an accommodating intraocular lens compared to phakic, presbyopic, and pseudophakic eyes
Timo Eppig¹, Manuel Seer¹, Violetta Müller¹, Saskia Schütz¹, Michiel Rombach², Willem Van Lawick² (*¹Germany, ²Netherlands*)
- 501 M.107 Orthokeratology and myopia control: a comprehensive meta-analysis of axial growth in children and adolescents
António Queirós, Inês Mota-Silva, Ana Filipa Pereira-da-Mota (*Portugal*)
- 503 M.108 Efficacy of orthokeratology on peripheral refraction in youth: a comprehensive meta-analysis
António Queirós, Inês Silva-Pinheiro, Paulo Fernandes (*Portugal*)
- 551 M.109 Adaptive optics fundus images: automatic vs manual vessel segmentation
Rui Bernardes, João Jordão, Sérgio Rodrigues, Joana Domingues, Pedro Serranho, Pedro Guimarães (*Portugal*)
- 580 M.110 Normal, age-related differences in cone- and rod-enhanced rapid flicker thresholds
Aiman Hafeez, Alison Binns, Irene Ctori, John Barbur (*United Kingdom*)
- 599 M.111 Retinal image quality with myopia control lenses, in the synthetic accommodative wavefront model
Maria Mechó García, Paulo Fernandes, Miguel Ángel Faria-Ribeiro (*Portugal*)
- 670 M.112 Closed-perfusion transretinal ERG (tERG) on mouse and human retinas
Sama Saeid¹, Marja Pitkänen¹, Emma Ilonen¹, Zia L'Ecuyer², Jukka Niskanen¹, Heikki Tenhu¹, Frans Vinberg², Ari Koskelainen¹ (*¹Finland, ²USA*)
- 727 M.113 Evaluation and evolution of an algorithm-based subjective refraction in children
Daniel Francois¹, Wee Sing Ong², Andrew Kwok-Cheung Lam³, Kenneth Ka-king Liu³, Adele Longo¹ (*¹France, ²Singapore, ³Hong Kong*)
- 759 M.114 Silver bismuth sulfide quantum dot-based bioelectronics for light-mediated neuronal stimulation
Humeyra Nur Kaleli, Ridvan Balamur, Tarık Safa Kaya, Asım Önal, Çiğdem Pehlivan, Afsun Sahin, Sedat Nizamoğlu, Murat Hasanreisöğlü (*Turkey*)
- 838 M.115 A new light-adaptive lens improves contrast sensitivity when transitioning from bright to dark environments
Raul Duarte-Toledo¹, Juan Mompean¹, Alba Paniagua-Diaz¹, Nacer Lakhchaf², Emmanuel Kobia-Acquah², Pablo Artal¹, Coralie Barrau² (*¹Spain, ²Ireland*)

12:05-13:20 | Gaudí 1

C NSPH-43 - Inherited optic neuropathies - Pearls from the experts

Inherited optic neuropathies are genetically and phenotypically heterogeneous. The two main subtypes are Leber hereditary optic neuropathy (LHON) and autosomal dominant optic atrophy (DOA). The disease mechanisms driving the preferential loss of retinal ganglion cells in LHON and DOA are gradually being uncovered, providing important insight into pathological pathways amenable to therapeutic intervention. The latest ocular imaging platforms now provide unparalleled anatomical details of the optic nerve head and retina, which could prove useful as diagnostic and prognostic biomarkers. Over the past decade translational LHON research has led the way with gene therapy emerging as a promising treatment option for affected individuals.

Organizer: **Patrick Yu-Wai-Man** (*United Kingdom*)

Co-Organizer: **Nancy Newman** (*USA*)

- 12:05 Inherited optic neuropathies – what you need to know
Chiara La Morgia (*Italy*)
- 12:21 OCT as a diagnostic/prognostic tool in clinical practice
Piero Barboni (*Italy*)
- 12:37 The debate – when and how should I use idebenone for LHON?
Thomas Klopstock (*Germany*)
- 12:53 The debate – when and how should I use idebenone for LHON?
Marcela Votruba (*United Kingdom*)
- 13:09 Discussion

12:05-13:20 | Gaudí 2

SIS YOS

12:05-13:20 | Gaudí 3

SIS EOVS-32 - Neurovascular coupling

Neurovascular coupling (NVC) is a fundamental mechanism by which an increase in energy demands of the brain or the retina is supplied through increased blood flow to the activated region. It plays a fundamental role in a wide variety of disorders, as dysfunction of the neurovascular unit has been implicated in conditions such as diabetes and neurodegenerative diseases like Alzheimer's disease. The complex nature of mechanisms is yet to be fully understood. In this special interest symposium, we will debate findings in the human retina and brain, in the mouse's brain, the use of advanced techniques, and data supporting the existence of undocumented NVC mechanisms in humans, although known to exist in several species, including non-human primates.

Organizer: **Rui Bernardes** (*Portugal*)

Co-Organizer: **Miguel Castelo-Branco** (*Portugal*)

- 12:05 Neurovascular coupling in brain disorders
Miguel Castelo-Branco (*Portugal*)
- 12:21 Neurovascular coupling as measured by retinal vessel analysis
Rebekka Heitmar (*United Kingdom*)
- 12:37 Neurovascular coupling: why is nitric oxide a suitable key mediator and how can dysfunction be repaired
João Laranjinha (*Portugal*)
- 12:53 Neurovascular coupling: does a cross-talk mechanism between human retinas exist?
Rui Bernardes (*Portugal*)
- 13:09 Discussion

13:20-14:20 | Lunch break

13:20 - 14:20 | Calatrava 1

CIS Industry Sponsored Symposium
(not EACCME accredited - see page 85)

14:20-15:05 | Auditorium 1

KN de Laey EVER Keynote Lecture



Introduced by: Lyubomyr Lytvynchuk

New insights in the regulation of ocular angiogenesis by VEGF and other mediators: therapeutic implications
Napoleone Ferrara (USA)

15:10-16:10 | Poster Area Second Floor

POS Poster Session 1

16:10-16:40 | Exhibition Area Ground Floor - Coffee break

16:40-17:55 | Auditorium 1**EOVS-41 - Visual electrophysiology: the basics and beyond**

Whilst significant advances have been made in ophthalmic imaging, such techniques yield information mainly relating to anatomical structure. Visual electrophysiology, in contrast, permits direct, objective and quantitative functional evaluation of the retina and visual pathway. In this course, expert scientists and clinicians will cover the basics of the relevant electrophysiological tests and discuss insights relating to genetic and acquired diseases of the retina and visual pathway. The speakers each have decades of experience in clinical and/or scientific applications of visual electrophysiology. The standard tests specified by the International Society for the Clinical Electrophysiology of Vision (ISCEV) will be introduced, as well as extended protocols and future directions. The course will be of interest to those already making use of such techniques, seeking an update, and to those who are keen to consider adopting these methods to answer pertinent clinical and scientific questions relating to human vision.

Organizer: **Omar Mahroo** (*United Kingdom*)

Co-Organizer: **Anthony G. Robson** (*United Kingdom*)

- 16:40 Introduction to the range of ISCEV tests; Standards for full-field ERG, pattern ERG and multifocal ERGs
Anthony G. Robson (*United Kingdom*)
- 16:53 Visual evoked potentials
Magella Neveu (*United Kingdom*)
- 17:06 Considerations in paediatric electrophysiology
Dorothy Thompson (*United Kingdom*)
- 17:19 ISCEV extended protocols
Anthony G. Robson (*United Kingdom*)
- 17:32 Electronegative ERGs and future directions
Omar Mahroo (*United Kingdom*)
- 17:45 Discussion

16:40-17:55 | Auditorium 2**IM-81 - Retinal microglia and inflammation**

Microglia, the resident immune cells of the central nervous system, have emerged as pivotal players in maintaining retinal homeostasis and responding to pathological stimuli. This symposium aims to provide a comprehensive overview of the functions of retinal microglia and their involvement in inflammatory responses. We will discuss the dynamics of retinal microglia in extra ocular inflammation, such as arthritis and in case of intraocular inflammation.

Organizer: **Ester Carreño Salas** (*Spain*)

Co-Organizer: **Colin Chu** (*United Kingdom*)

- 16:40 Retinal microglia and extra-ocular inflammation
Marcelino Avilés-Trigueros (*Spain*)
- 17:01 Retinal microglia and intraocular inflammation in animal models
Colin Chu (*United Kingdom*)
- 17:22 Retinal microglia and intraocular inflammation in human
Ester Carreño Salas (*Spain*)
- 17:43 Discussion

16:40-17:55 | Calatrava 1

 **SIS ACB-86 - The role of mitochondria in eye diseases**

Mitochondria are critical players in the functionality of cells. In addition to their critical role in the energy production, mitochondria have other beneficial roles, such as the provision of reactive oxygen species (ROS) for cell signaling. On the other hand, for example excessive ROS production, dysfunctionality or the breakage of mitochondrial structure can have detrimental consequences that compromise the homeostasis and predispose to the development of diseases. In this SIS, we will discuss about the role of mitochondria in eye diseases and consider them as a therapy target.

Organizer: **Anu Kauppinen** (*Finland*)

Co-Organizer: **Maria Hytti** (*Finland*)

16:40 The association of mitochondria with inflammasome signaling in RPE cells
Anu Kauppinen (*Finland*)

16:56 The impact of complement factor H Y402H polymorphism on the mitochondria
Deborah Ferrington (*USA*)

17:12 Mitochondrial rejuvenation as a multipurpose therapy in eye disease
Jose M. Romero (*United Kingdom*)

17:28 Transfer of mitochondria in RPE cells - proof of concept of mitotherapy
Maria Hytti (*Finland*)

17:44 Discussion

16:40-17:55 | Calatrava 2

RF

Rapid Fire IM / PO

Moderators: **Jan-Willem Beenakker** (*Netherlands*), **Jarmila Heissigerova** (*Czech Republic*)

- 109 S.085 Orbital abscesses in children: an update on microbiology trends and antibiotic selection
Luai Kawar, Haytham Kubba (*United Kingdom*)
- 534 S.086 Use of biologics other than adalimumab in non-infectious pediatric uveitis
Rafael Whitfield, Sofia Mano, Filipa Ramos, Raquel Campanilho Marques, Inês Leal (*Portugal*)
- 676 S.087 Probiotic bacteria reduce damages of pretreated corneal epithelial cells due to pathogen infections
Andreana Marino, Sarah Scuderi, Lucia Cambria, Antonia Nostro, Emanuela Esposito, Irene Paterniti (*Italy*)
- 718 S.088 Single-cell transcriptomics analysis reveals immune cells heterogeneity of Vogt-Koyanagi-Harada (VKH) disease
Shuai Ouyang (*China*)
- 819 S.089 Evaluation of the conjunctival bacterial flora in the New Zealand white rabbit
Raquel Maroto Cejudo, Denisse Michelle Espinosa Encalada, Oscar Esparcia Rodriguez, Mónica Gómez- Juarez Sango, Fernando Andrés Pretel, Carlos Cava Valenciano (*Spain*)
- 871 S.090 Prognostic impact and correlation with disease activity of three-dimensional OCT biomarkers in Vogt-Koyanagi-Harada patients
Afonso Lima-Cabrita¹, Diogo Fróis Vieira¹, João Lourenço Fernandes¹, João Salbany¹, David Sousa^{1,2}, João Sanches¹, Carlos Marques-Neves¹, Ines Leal¹ (*¹Portugal, ²Australia*)
- 477 T.040 Efficacy and safety of intralesional bleomycin as a treatment in eyelid hydrocystomas
Martin Arzola, Jorge Cárdenas-Belaunzarán, Ariel Ceriotta Garcia (*Mexico*)
- 483 T.041 Evaluating brolocizumab in neovascular AMD: clinical outcomes from a tertiary care eye hospital
Inés López-Cuenca¹, Lorenzo Fabozzi², Saad Younis³, Sagnik Sen³, Filomena Palmieri³ (*¹Spain, ²USA, ³United Kingdom*)
- 538 T.042 Contribution of lymphatic-like vessels to severe neovascularization following stent-assisted coiling of an unruptured carotid artery aneurysm
Ani Korhonen, Erika Hagan Brown, Tommi Parkkinen, Sirpa Loukovaara (*Finland*)
- 624 T.043 Modeling senescence in ARPE19 cells to investigate the role of small extracellular vesicles in age-related macular degeneration
Rosa Fernandes, Diana Correia, Beatriz Martins, João Malva, Henrique Girão (*Portugal*)

16:40-17:55 | Gaudí 1



G-14 - Why gonioscopy remains essential in the time of AS-OCT

Beside the examination of optic nerve head and retinal nerve fibre bundles, gonioscopy is the most important examinations we have to perform when performing structure analysis. The differentiation of angle closure, angle closure suspect and open angle is essential not only for the correct diagnosis, but as well to draw the best therapeutic consequences out of these findings. In addition to grading systems that help us to classify the types of glaucoma, we can find pathological changes like abnormal vessels, inflammatory induced changes, pigmentations, clefts etc. that help us to make the right diagnosis and therapy. Nowadays AS-OCT is a big help and makes it a lot easier, but there are still essential deficits, that don't allow to replace gonioscopy by this new examination. In the presentation we will show, what we can see in normal and pathological eyes and which findings can be seen in AS-OCT and which ones cannot be seen.

Organizer: **Anton Hommer** (*Austria*)

Co-Organizer: **Doreen Schmidl** (*Austria*)

- 16:40 Normal findings
Theresa Lindner (*Austria*)
- 17:01 Abnormal findings
Anton Hommer (*Austria*)
- 17:22 Comparison AS OCT and others vs gonioscopy
Daniel Scorsetti (*Argentina*)
- 17:43 Discussion

16:40-17:55 | Gaudí 2



COS-64 - Infectious keratitis - How to diagnose and treat?

Microbial keratitis can be caused by bacterial, herpetic, fungal and Acanthamoeba infections. In addition to slit-lamp examination imaging techniques, in vivo confocal microscopy, PCR, in vitro culture, scraping and histological analysis may be performed for the proper diagnosis. With early diagnosis and appropriate conservative management, the majority of cases can be successfully treated. However, in addition to conservative treatment, keratoplasty, amniotic membrane transplantation or cross-linking may be necessary.

Organizer: **Laszlo Modis** (*Hungary*)

Co-Organizer: **Berthold Seitz** (*Germany*)

- 16:40 Herpetic keratitis
Berthold Seitz (*Germany*)
- 16:56 Bacterial keratitis
Laszlo Modis (*Hungary*)
- 17:12 Acanthamoeba keratitis
Nora Szentmary (*Germany*)
- 17:28 Mycotic keratitis
Loay Daas (*Germany*)
- 17:44 Discussion

16:40-17:55 | Gaudí 3



LC-46 - Basics in ocular biometry and intraocular lens power calculation

Starting with ultrasound measurement of the eye in the 70ties of the last century, many attempts have been made to improve ocular biometry. Optical biometry was one of the cornerstones in modern cataract surgery, which was a mandatory requirement for all premium lenses. Today, all distances of the eye and the curvature of the corneal front surface could be measured with a high precision, and some of the biometers also offer tomography to assess corneal back surface curvature. First lens power calculation formula was presented in 1967 by Fyodorov, but a systematic pre-cataract biometry with individual lens power calculation started 20 years later with empirical and vergence based formulae such as SRK(2), SRKT, Hoffer-Q, Holladay, and Haigis. Today, most of the modern lens power prediction concepts are undisclosed and available online or integrated in optical biometers. In this course we will give an overview on different biometry modalities and basic lens power calculation concepts and we will discuss the pros and cons critically.

Organizer: **Achim Langenbacher** (*Germany*)

Co-Organizer: **Oliver Stachs** (*Germany*)

- 16:40 Ultrasound and optical biometry before cataract surgery
Oliver Stachs (*Germany*)

- 16:56 Basics in lens power calculation – from the empirical concept to formula-based calculation and raytracing
Achim Langenbacher (*Germany*)

- 17:12 Performance analysis of IOLs
Karsten Sperlich (*Germany*)

- 17:28 Formula constants and optimizations
Achim Langenbacher (*Germany*)

- 17:44 Discussion

17:55-18:40 | Auditorium 1



General Assembly

18:40-19:10 |

Welcome Reception

08:30-09:15 | Auditorium 1



Soubrane EVER Keynote Lecture

Introduced by: **Jan-Willem Beenakker** (*Netherlands*)

Towards personalized medicine in uveal melanoma
Jens Kiilgaard (*Denmark*)



The melanocyte in the human uvea undergoes in rare cases malignant transformation and becomes one of the deadliest types of melanomas in humans. The incidence varies between 3 and 12 per million people and the highest incidence is found in Denmark. The uveal melanoma differs in many aspects from the melanoma in the skin, but the lack of UV induced mutations and failure of immunotherapies seems to be the most prominent. The genetic alterations in uveal melanoma have provided new tools in the management of this patient group. We can today stratify the patients according to metastatic risk into a high-risk group and a low-risk group. This allows for better use of resources in the follow-up program for these patients. The mapping of the mutations involved in the tumor formation have also opened for specialized treatments and better inclusion criteria for randomized studies. The mutational burden in uveal melanoma is very low, which makes uveal melanoma an excellent model to investigate the evolution of the tumor and investigate the mechanisms of metastatic disease progression.

Monday
4 November 2024

09:20-10:35 | Auditorium 1



MBGE-34 - The cellular and molecular mechanisms of eye development

This SIS will cover studies of the cellular and molecular mechanisms governing formation of all major ocular tissues and will link these studies to congenital retinal, lens and anterior segment abnormalities. Formation of the eye field and transition into the 3D optic vesicles is a complex morphogenetic process critical for our understanding of eye development. These studies are driven by dissecting the critical roles of specific DNA-binding transcription factors such as Pax6 and regulation of their activities by extracellular signaling in specific compartments of the eye. New technologies such as scRNA-seq and scATAC-seq provide new insights into all stages of eye development. Computational biology and bioinformatics now play critical roles in data analysis and in training of new generations of scientists. Critical gaps and novel research opportunities in our understanding of gene function during normal and abnormal eye development will be also highlighted. State-of-art methods to define developmental trajectories of individual cells and chromatin landscape dynamics will be covered. Multiple model systems will be presented, including human, mouse, chicken and zebrafish studies. Collectively, these five proposed presentations will add novel insights into understanding of eye development, regenerative potential of multiple ocular tissues, and rational design of therapies to correct genetic abnormalities within the eye.

Organizer: **Ales Cvekl** (*USA*)

Co-Organizer: **Zbynek Kozmik** (*Czech Republic*)

09:20 Species-specific mechanisms of vertebrate eye formation
Paola Bovolenta (*Spain*)

09:33 Regulation of optic cup morphogenesis in mouse
Sabine Fuhrmann (*USA*)

09:46 Pax6 and mammalian eye development
Ales Cvekl (*USA*)

09:59 Integrated approach to uncover regulatory networks in eye development and disease
Salil Lachke (*USA*)

10:12 Decoding the transcriptional network regulating periocular neural crest cells morphogenesis, specification and function
Carlo Iomini (*USA*)

10:25 Discussion

09:20-10:35 | Auditorium 2



COS-75 - Progress on rare ocular surface disorders - towards new treatments

Many rare diseases of the ocular surface have inflammation, chronic wound healing, angiogenesis, neurotrophic deficit and/or limbal stem cell insufficiency as characteristic features. Targeting these factors with new and more effective drugs and therapies addresses an unmet need in ophthalmology. In this SIS, we highlight the latest translational research in bringing the next generation of therapeutics into use for tackling the pathologic ocular surface in multiple rare diseases.

Organizer: **Neil Lagali** (*Sweden*)

Co-Organizer: **Thomas Ritter** (*Ireland*)

- 09:20 Involvement of the Neurokinin 1 receptor pathway in aniridia: evidence from pre-clinical models
Silvia Palombella (*Italy*)
- 09:33 Update on CXL-induced lymphangioregression to promote high-risk corneal graft survival
Johanna Weidemann (*Switzerland*)
- 09:46 MSC-derived extracellular vesicles and biomaterials for effective drug delivery at the ocular surface
Syedmohammad Moosavizadeh (*Ireland*)
- 09:59 MSC-EV mechanisms in corneal wound healing and inflammation
Yedizza Rautavaara (*Sweden*)
- 10:12 Cellular insights and new therapeutic approaches for limbal stem cell deficiency
Neil Lagali (*Sweden*)
- 10:25 Discussion

09:20-10:35 | Calatrava 1

RF

Rapid Fire LC

Moderators: **Irini Chatziralli** (*Greece*), **Giulio Ferrari** (*Italy*)

- 149 M.126 Virtual reality meets cataract surgery: unleashing innovative leap motion's potential in wet lab training
Bharat Gurnani, Kirandeep Kaur (*India*)
- 160 M.127 Actual lens position of three intraocular lenses in highly myopic eyes: an ultrasound biomicroscopy-based study
Jiao Qi, Xiangjia Zhu, Jiaqi Meng (*China*)
- 161 M.128 Preclinical evaluation on the biocompatibility and biosafety of a new foldable brown-diaphragm intraocular lens: an in vitro and in vivo study
Keke Zhang, Shaohua Zhang, Wenwen He, Yi Lu, Xiangjia Zhu (*China*)
- 174 M.129 The effect of peri- and preoperative anxiety on cardio-vascular parameters and intraocular pressure of patients awaiting cataract surgery
Galina Dimitrova, Ana Gjorgjiovska, Antonela Ljubic, Sofija Milanovska Jordanovska (*Macedonia*)
- 395 M.130 Employing deep learning for prediction of the refractive error after cataract surgery
Lennart Hartmann, Freisenich Tim, Wolf Armin, Wertheimer Christian (*Germany*)
- 606 M.131 The importance of adequate preparation of the ocular surface before biometry in reducing refractive errors in patients undergoing cataract surgery
Katarzyna Biela, Mateusz Winiarczyk, Jerzy Mackiewicz (*Poland*)
- 633 M.132 Carlevalle intraocular lens refractive predictability: a retrospective analysis
Bruno Guerreiro Dias, Diogo Bernardo Matos, Carlos Marques-Neves, Mun Yueh Faria, Nuno Pinto Ferreira (*Portugal*)
- 658 M.133 Clinical impact of intraocular lens tilt and decentration on visual outcome in patients undergoing cataract surgery
Laura Moreno Rodríguez¹, Lourdes Salgueiro Tielas¹, Azahara Sánchez-Lozano¹, Luis García-Onrubia¹, Gonzalo Velarde-Rodríguez¹, Miguel Ángel Faria-Ribeiro², Nicolás Alejandre-Alba¹ (¹*Spain*, ²*Portugal*)
- 706 M.134 The use of the Smart Eye Camera device for cataract screening in the endocrine and ophthalmology clinics in a general hospital in Jordan
Mohammed Khalil¹, Luai Abu-Ismaïl¹, Mohammed Abu Imran¹, Rohan Khemlani², Shintaro Nakayama², Hiroki Nishimura², Eisuke Shimizu² (¹*Jordan*, ²*Japan*)
- 839 M.135 Quantifying epithelial cell viability on whole porcine lenses using triple Hoechst-Ethidium-Calcein-AM staining in a chemical toxicity model
Sylvain Poinard, Louise Coulomb, Gabriel Chapelon, Oliver Dorado Cortez, Justin Thomas, Zhiguo He, Chantal Perrache, Alice Ganeau, Fabien Forest, Frederic Mascarelli, Philippe Gain, Gilles Thuret (*France*)
- 842 M.136 To what extent cataract surgery changes perceptual functions?
Simona Garobbio, Ursula Hall, Hanna Zuche, Michael Herzog (*Switzerland*)
- 854 M.137 Congenital aniridia: experience of 26 years in the department of pediatric ophthalmology of Casablanca, Morocco
Ghizlane Daghoul, Sara Ettouri, Chahir Rokaya, Ali Rami, Loubna El Maaloum, Bouchra Allali, Asmaa El Kettani (*Morocco*)

09:20-10:35 | Calatrava 2

FP

Free Paper Session 2

Moderators: **Lajos Csincsik** (*United Kingdom*), **Jose M. Romero** (*United Kingdom*)

- 563 From Leigh Syndrome to isolated optic neuropathy: a new piece to the mitochondrial complex I genetic puzzle
Leonardo Caporali¹, Claudio Fiorini¹, Neringa Jurkute², Alessandra Torraco¹, Patrick Yu-Wai-Man², Valerio Carelli¹, Rosalba Carrozzo¹, Gavin Arno² (¹Italy, ²United Kingdom)
- 369 Defocus incorporated multiple segments lenses and 0.025% atropine for myopia control in European children: 12-month results of a randomized controlled trial
Noemi Guemes Villahoz¹, Paula Talavero-Gonzalez¹, Rafael Bella-Gala¹, Paloma Porrás-Angel¹, Elena Hernández-García¹, Beatriz Martín-García¹, Alicia Ruiz-Pomeda¹, C Nunila Gomez-De-Liano¹, Rakhee Shah², Julian Garcia Feijoo¹, Rosario Gomez-De-Liano¹ (¹Spain, ²Netherlands)
- 269 Efficacy and safety of lenadogene nolparvovec gene therapy for leber hereditary optic neuropathy in the real-life setting
Patrick Yu-Wai-Man¹, Catherine Vignal-Clermont², Valerio Carelli³, Chiara La Morgia³, Mark Moster⁴, Robert Sergott⁴, Sean Donahue⁴, Hélène Dollfus², Thomas Klopstock⁵, Claudia Priglinger⁵, Rabih Hage², Vasily Smirnov², Catherine Cochard², Marie-Benedicte Rougier², Emilie Tournaire-Marques², Pierre Lebranchu², Caroline Froment², Frederic Pollet-Villard², Marie-Alice Laville², Claudia Prospero-Ponce⁴, Scott D. Walter⁴, Francis Munier⁶, Pauline Zoppe⁷, Magali Taiel², José-Alain Sahel² (¹United Kingdom, ²France, ³Italy, ⁴USA, ⁵Germany, ⁶Switzerland, ⁷Belgium)
- 271 Meta-analysis of treatment outcomes for patients with m.11778G>A MT-ND4 leber hereditary optic neuropathy
Nancy Newman¹, Valérie Biousse¹, Patrick Yu-Wai-Man², Valerio Carelli³, Catherine Vignal-Clermont⁴, François Montestruc⁴, Magali Taiel⁴, José-Alain Sahel⁴ (¹USA, ²United Kingdom, ³Italy, ⁴France)
- 108 Changes in visual acuity categories in a historical population of patients with Leber hereditary optic neuropathy from Case Record Survey-2 (CRS-2)
Thomas Klopstock¹, Bart Leroy², Patrick Yu-Wai-Man³, Judith Van Everdingen⁴, Maciej Krawczynski⁵, Costanza Lamperti⁶, Valerio Carelli⁶, Xavier Llòria⁶ (¹Germany, ²Belgium, ³United Kingdom, ⁴Netherlands, ⁵Poland, ⁶Italy)
- 116 Visual acuity outcomes by sex in a historical population of patients with Leber hereditary optic neuropathy from Case Record Survey-2 (CRS-2)
Marcela Votruba¹, Bart Leroy², Patrick Yu-Wai-Man¹, Judith Van Everdingen³, Maciej Krawczynski⁴, Costanza Lamperti⁵, Valerio Carelli⁵, Xavier Llòria⁵, Thomas Klopstock⁶ (¹United Kingdom, ²Belgium, ³Netherlands, ⁴Poland, ⁵Italy, ⁶Germany)

09:20-10:35 | Gaudí 1

SIS EOVS-82 - Advances in occupational vision requirements

Occupational environments often involve visually demanding tasks that require rapid and accurate processing of visual signals to avert potential disasters in safety-critical situations. An array of visual attributes, including fine detail resolution in varying light conditions, glare tolerance, colour perception, and interpreting visual symbols, significantly influence performance. These attributes are all important and are essential in some occupations. The normal practice is for regulatory authorities to specify minimum vision requirements that can involve depth perception, visual acuity, functional contrast sensitivity, colour vision, mesopic vision, etc. To do so effectively without compromising safety and to ensuring fairness, three important conditions must be fulfilled: thorough examination of critical visual tasks, setting inclusive standards, and employing accurate tests. The same tests can then be used to enforce the evidence-based, pass / fail limits derived in this way and imposed by regulatory authorities. These tests not only ensure equal performance but also identify congenital deficiencies and early diseases, such as reduced colour discrimination or retinal disorders like diabetes. Further ophthalmic / ophthalmological assessments are needed in such cases. This SIS brings together ophthalmologists, authorised medical examiners, health and safety regulatory authorities and vision scientists.

Organizer: **Marisa Rodriguez-Carmona** (*United Kingdom*)

Co-Organizer: **John Barbur** (*United Kingdom*)

- 09:20 Vision science informing visual display symbology
Amanda Douglass (*Australia*)
- 09:33 Colour assessment protocols - recent advances and potential pitfalls in the search for evermore personalised assessment
Benjamin Evans (*United Kingdom*)
- 09:46 Spatial vision following corneal refractive surgery - comparison with multifocal intraocular lenses
Ayşe Özpınar (*Turkey*)
- 09:59 Laser dazzling of pilots
Frank Jakobs (*Germany*)
- 10:12 Underground drivers
Rafaela Garrido-Mercado (*Spain*)
- 10:25 Discussion

09:20-10:35 | Gaudí 2

SIS G-84 - T as tricks and tips to improve the daily glaucoma management

It is well known that glaucoma is a multifactorial disease with many influencing factors. Looking from the patient's side, it might be the knowledge of the disease and disease outcome, his interest in participating in the therapy and therefore also the patient's adherence to a proposed therapy. Adherence is one of the major issues in glaucoma management, because it is well known that despite all our efforts, non-adherence is still very high among treated glaucoma patients. Other factors influencing the course of the disease are patient-specific changes, for example intolerance to medication, the lack of effect of certain therapies and local changes such as ocular surface disease. Important is the interaction from the doctor's side: we need to keep the patient informed about all the problems encountered in the glaucoma management. Often it helps to repeat and discuss our management ideas with the patient – as in a "perpetuum mobile". In this SIS we will discuss how the treating doctor can improve daily glaucoma management und ameliorate the life of our patients.

Organizer: **Frances Meier-Gibbons** (*Switzerland*)

Co-Organizer: **Miriam Kolko** (*Denmark*)

- 09:20 Tips for finding good generics
Miriam Kolko (*Denmark*)
- 09:36 Tips for improving adherence
Frances Meier-Gibbons (*Switzerland*)
- 09:52 Tips to improve quality of life of glaucoma patients
Barbara Cvenkel (*Slovenia*)
- 10:08 Tips to improve ocular surface problems in patients using glaucoma medication
Karin Øyo-Szerenyi (*Switzerland*)
- 10:24 Discussion

09:20-10:35 | Gaudí 3



LC-47 - Advanced lens power calculation

Today, the implantation number of premium lenses for is systematically increasing. Aspherical lens designs are used which reduce or eliminate the overall spherical aberration of the eye after cataract surgery. Toric lenses are selected for a permanent correction of corneal astigmatism. Lots of efforts have been made to recover some depth of field after cataract surgery, and competing concepts are discussed in the literature including monovision or blended vision, pinhole optics, or refractive & diffractive optics which extend the longitudinal focus. Eyes with uncommon biometric measures (especially very long and short eyes) or with a history of corneal surgery such as laser refractive surgery or lamellar/penetrating keratoplasty are challenges for lens power calculation. In this course we will address the patient selection and preparation, as well as calculation and postoperative monitoring of eyes after toric lens implantation, the special situation of calculating intraocular lenses after (refractive) corneal surgery, give some assistance in the selection of proper calculation schemes for eyes with uncommon biometric measures, and provide some clinical considerations on planning depth of field extensions.

Organizer: **Achim Langenbacher** (*Germany*)

Co-Organizer: **Hakan Kaymak** (*Germany*)

09:20 Calculation of toric lenses and clinical aspects of toric lens implantation

Timo Eppig (*Germany*)

09:36 Lens power calculation after corneal refractive surgery

Jascha Wendelstein (*Switzerland*)

09:52 Lens power calculation in long and short eyes - which formula is the best?

Jascha Wendelstein (*Switzerland*)

10:08 Concepts of recovering depth of field after cataract surgery

Hakan Kaymak (*Germany*)

10:24 Discussion

10:35-11:05 | Exhibition Area Ground Floor - Coffee break

11:05-12:05 | Poster Area Second Floor



Poster Session 2

12:10-12:55 | Auditorium 1

PS European Ophthalmic Heritage Lecture

Introduced by: Kai Kaarniranta (*Finland*)

100 years of Acta Ophthalmologica: recipe for success
Andrzej Grzybowski (*Poland*)



In 2023 Acta Ophthalmologica journal celebrated its 100th anniversary. This reminds its long history and shows how it became one of the leading journals in Ophthalmology. The journal was founded by Konrad Lundsgaard in 1923 as Acta Ophthalmologica Scandinavica with the goal was to present the clinical and experimental achievements of the ophthalmological communities of the Nordic countries. Later, with increasing interest from scientific communities in other countries, it has become one of the most visible ophthalmology journals in the world and changed its into more international present name. Acta Ophthalmologica publishes a wide variety of high-quality ophthalmological papers. Here the activities of Acta Ophthalmologica over the past 100 years are presented.

13:00-14:00 | Auditorium 2

CIS Industry Sponsored Lunch Symposium (not EACCME accredited - see page 86)

13:00-14:00 | Calatrava 1

CIS Industry Sponsored Lunch Symposium (not EACCME accredited - see page 87)

14:00-15:15 | Auditorium 1

SIS PBP-70 - Past, present and future of retinal ganglion cells: structure and functionality

The retinal ganglion cells constitute the only element for outputting information from the retina to other nervous centers. Since their description, in the different classes of vertebrates, more than a hundred years ago, until the present moment, many works have managed to structurally and functionally characterize the different types of these cells. To date, we have knowledge of the function performed by a limited number of these cells, while the role of other ganglion cells with a characteristic morphology is unknown. Furthermore, recently, some previously unknown aspects of these cells have been published. The proposed symposium aims to highlight classic, present and future structural and functional aspects of retinal ganglion cells.

Organizer: Pedro De La Villa (*Spain*)

Co-Organizer: Manuel Vidal-Sanz (*Spain*)

- 14:00 Classical classification of retinal ganglion cells
Pedro De La Villa (*Spain*)
- 14:16 The well known alpha retinal ganglion cell
Marcelino Avilés-Trigueros (*Spain*)
- 14:32 The intrinsically photosensitive retinal ganglion cells
Gema Esquiva (*Spain*)
- 14:48 How retinal ganglion cell axons can filter high spike frequencies
Andrew T. Ishida (*USA*)
- 15:04 Discussion

14:00-15:15 | Auditorium 2

SIS

COS-87 - Translational medicine in cornea and ocular surface

This Special Interest Symposium aims to provide an overview of the latest treatment approaches for the management and visual rehabilitation in keratoconus. Experts in the field will present the indications, clinical outcomes and complication management for combined treatments including crosslinking, corneal ring segments and phakic IOLs, highlighting dos and don'ts. Moreover, esteemed corneal surgeons will elaborate on different types of keratoplasty for keratoconus, emphasizing on tips and tricks for the youngest colleagues. Overall, the talks of this SIS will allow the audience to gain useful insight into the complex algorithm of keratoconus management, facilitating stage-related decision-making in treatment plan with focus on recent advances.

Organizer: **Giulio Ferrari** (*Italy*)
Co-Organizer: **Zisis Gkatzioufas** (*Switzerland*)

- 14:00 Induced pluripotent stem cells for regeneration of corneal endothelium
Zisis Gkatzioufas (*Switzerland*)
- 14:13 Topical HGF for corneal tissue regeneration and reversal of
Sunil Chauhan (*USA*)
- 14:26 Ocular graft versus host disease
Giuseppe Giannaccare (*Italy*)
- 14:39 Age related ocular surface failure
Antonio Di Zazzo (*Italy*)
- 14:52 Keratoconus from corneal degeneration to systemic disease: implications for treatment
Giulio Ferrari (*Italy*)
- 15:05 Discussion

14:00-15:15 | Calatrava 1

SIS

ACB-67 - Progress on therapies for limbal stem cell deficiency

In addition to exploring potential surgical interventions for Limbal Stem Cell Deficiency (LSCD), delving into the intricate molecular mechanisms associated with LSCD-related diseases and identifying potential therapeutic targets holds the promise of unveiling novel treatment avenues. Our symposium aims to comprehensively examine human and mouse limbal epithelial cells, encompassing the differentiation of Human Pluripotent Stem Cell-Derived Corneal Limbal Stem Cells and the analysis of gene regulatory networks.

Organizer: **Nora Szentmary** (*Germany*)
Co-Organizer: **Heli Skottman** (*Finland*)

- 14:00 Potential therapeutic targets in human limbal epithelial cells in congenital aniridia
Tanja Stachon
- 14:16 Insights into new therapies for aniridia associated keratopathy in a novel mouse model
Seyedehdina Javidjam (*Sweden*)
- 14:32 Exploring heterogeneity in differentiating human pluripotent stem cell-derived corneal limbal stem cells: insights and potential solutions using single-cell RNA sequencing
Meri Vattulainen (*Sweden*)
- 14:48 Deciphering differentiation of human induced pluripotent stem cell-derived corneal stem cells by gene regulatory networks analysis
Dulce Lima Cunha (*Netherlands*)
- 15:04 Discussion

14:00-15:15 | Calatrava 2

SIS EOVS-45 - Ocular transparency and loss: characterization and correction

Vision as well as retinal imagery is dependent upon the transparency of intervening ocular media, most notably the cornea and crystalline lens (anterior segment) that deteriorates with age. Extreme loss of such transparency, when scattering of light is further increased because of infections, pathology, trauma, or surgery, also remains a leading cause of blindness worldwide. However, means to assess ocular transparency are limited and in current ophthalmology practice usually involve a subjective and qualitatively observation of opacities by means of slit-lamp biomicroscopy. This SIS will give an overview of the development of objective means to quantify corneal, crystalline lens, and vitreous transparency. It will conclude with a discussion of ongoing works towards enabling compensation of anterior-segment transparency imperfections and loss.

Organizer: **Kristina Irsch** (France)
Co-Organizer: **Ireneusz Grulkowski** (Poland)

- 14:00 Objective assessment of corneal transparency using densitometry distribution analysis
Alejandra Consejo (Spain)
- 14:16 Objective classification of cataract opacities using artificial intelligence
Pierre Zeboulon (France)
- 14:32 Imaging and assessment of whole vitreous body
Daniel Ruminski (Poland)
- 14:48 Towards bypassing anterior-segment opacities
Kristina Irsch (France)
- 15:04 Discussion
Ireneusz Grulkowski (Poland)

14:00-15:15 | Gaudí 1

SIS MBGE-55 - Syndromic and non-syndromic myopia: insights from patients and animal models

Myopia, also called nearsightedness, is a condition in which objects in the distance are blurred. Both, genetic and environmental factors may cause this condition. Recent findings have shown that myopia is the most common ocular disorder worldwide with an increasing prevalence in the last 40 years. It is predicted that the worldwide prevalence of myopia will increase from the current 25 to 50% in the next three decades, while the prevalence already exceeds 80% in several parts of Asia. Isolated myopia is rare, which represent a non-syndromic severe myopia, which may be associated with cataract and retinal detachment that may lead to blindness. In addition, high myopia may also occur in other rare disorders, e.g. in retinal disorders like retinitis pigmentosa and congenital stationary night blindness. The aim of this symposium is to summarize the knowledge of myopia in respect to clinical aspects of myopia, the identification of candidate genes and environmental factors by genome-wide association studies and by in vivo modeling.

Organizer: **Christina Zeitz** (France)
Co-Organizer: **Baptiste Wilmet** (France)

- 14:00 High myopia or hyperopia in inherited retinal disorders
Vasily Smirnov (France)
- 14:13 Insights into myopia from electrophysiology and from rare inherited retinal diseases
Omar Mahroo (United Kingdom)
- 14:26 Strategies to identify candidate genes implicated in high myopia
Baptiste Wilmet (France)
- 14:39 Detection of the sign of defocus by the retina and its implication for myopia
Sarah Goethals (France)
- 14:52 Management and investigation of high myopia in infants and young children
Ian Flitcroft (Ireland)
- 15:05 Discussion

14:00-15:15 | Gaudí 3

SIS RV-26 - EVER-TOS Symposium - What you don't know about vitreomacular interface diseases

During the past two decades, rapid progress has been made in the field of vitreomacular interface diseases. Thanks to the development and technical improvement of optical coherence tomography, the developmental mechanisms and evolution processes in various vitreomacular disorders were investigated and understood. Different kinds of novel surgical techniques have also been proposed. However, as the research goes deeper, more questions emerge regarding the pathogenesis and best treatment options. In this EVER-TOS (Taiwan Ophthalmological Society) joint symposium, we will discuss about the recent progress in this fascinating field of vitreomacular interface diseases – from pathogenesis to treatment.

Organizer: **Yi-Ting Hsieh** (*Taiwan*)
Co-Organizer: **Chung-May Yang** (*Taiwan*)

- 14:00 What gass did not say: how many ways to create a macular hole
Yi-Ting Hsieh (*Taiwan*)
- 14:13 Really degenerative? Reconsidering the pathogenesis and natural course of lamellar macular hole
Andreas Govetto (*Italy*)
- 14:26 Beyond myopia and traction: updates in staging and management for myopic traction maculopathy
Chung-May Yang (*Taiwan*)
- 14:39 To peel, to keep or to flap? The role of internal limiting membrane in macular hole surgery
Zofia Anna Nawrocka (*Poland*)
- 14:52 Why no improvement? Poor visual recovery after surgery for epiretinal membrane
Shih-Jen Chen (*Taiwan*)
- 15:05 Discussion

Monday
4 November 2024

15:20-16:05 | Auditorium 1

KN Missoten EVER Keynote Lecture

Introduced by: **Manuel Vidal-Sanz** (*Spain*)

- 15:20 Translational experiences in ophthalmology
Maria Francesca Cordeiro (*United Kingdom*)



DARC (Detection of Apoptosing Retinal Cells) is a retinal imaging technology that has progressed from lab research to Phase 2 clinical trials. It uses ANX776 (fluorescently labelled Annexin A5) to detect stressed and apoptotic cells in the eye. The technology has undergone product optimization, GMP manufacturing, and preclinical testing, initially in models of glaucoma and optic neuropathy, and later in conditions like AMD, Alzheimer's, Parkinson's, and diabetes. Though the transition to clinical trials was slow, ANX776 has been found safe in around 400 clinical procedures around the world, with DARC showing promise in predicting disease activity in wet AMD, Geographic Atrophy, and glaucoma, aided by AI algorithms. Larger studies are needed to validate its use as an approved screening tool. This talk covers DARC's development and the challenges faced in advancing it to multiple clinical applications.

16:05-16:35 | Exhibition Area Ground Floor - Coffee break

16:35-17:50 | Auditorium 1

C NSPH-72 - Improve the impact of your eye research with storytelling

On one occasion, chemist John Dalton (1766-1844) committed an etiquette error due to his color blindness. Thinking he wore a gray robe, he met King William IV in bright red attire. Perhaps the Protestant monarch mistook the Quaker chemist for a Catholic cardinal. In the mid-18th century, doctors believed color blindness resulted from a cerebral defect, but Dalton theorized his vitreous humor had a blue tint absorbing certain wavelengths, like wearing tinted sunglasses. Did he discover the true issue? Storytelling and science get along great. Stories are coherent narrations of interconnected events using context and imagery. Also, they 'stick' because they engage our emotions. And emotions can drive change. Stories enhance the visibility, credibility, and clarity of scientific messages. In this workshop, you will see outstanding storytelling examples of science communication. Then, we will work on finding the hook, the trigger, the action, and the climax of YOUR research story. Learning how to draw the story map of your scientific research will help audiences (and grant reviewers!) connect the dots for a logical flow of your ideas. It will engage your readers. With these storytelling techniques, you will write clearer, more memorable grant proposals, papers, presentations, and press releases, improving the impact of your research.

Organizer: **Ariadna Diaz-Tahoces** (Spain)
Co-Organizer: **Victor Meseguer** (Spain)

- 16:35 Storytelling as a tool for engaging communication of eye research
Angeles Gallar (Spain)
- 16:56 Enhance the visibility, credibility, and clarity of scientific messages
Victor Meseguer (Spain)
- 17:17 Hands-on activity: your own scientific story map
Ariadna Diaz-Tahoces (Spain)
- 17:38 Discussion

16:35-17:50 | Auditorium 2

SIS COS-88 - Keratoconus management - State of the art

Translational medicine plays a crucial role in advancing the field of ophthalmology by facilitating the translation of scientific knowledge into practical applications that can ultimately improve patient outcomes and quality of life. In the cornea and ocular surface field, improved understanding of mechanisms regulating self-renewal or, on the opposite, exhaustion of stem cells, can result in improved tissue regeneration approaches. Similarly, severe ocular surface inflammation remains an area of high and unmet medical need. Therefore, a clearer insight into the pathophysiology of severe ocular surface inflammation, such as it occurs in ocular graft versus host disease, can lead the way to the development of novel, more effective treatments. Finally, hypothesis-driven research on corneal degenerations, can unveil unexpected systemic implications, and prompt to reconsider disease pathophysiology. Overall, we will review recent discoveries in basic and clinical ophthalmology that hold promise for improved understanding of key disease mechanisms, with the final aim to improve patient treatment.

Organizer: **Zisis Gkatziofias** (Switzerland)
Co-Organizer: **Nora Szentmary** (Germany)

- 16:35 Corneal crosslinking - Up to date
Farideh Doroodgar (Iran)
- 16:48 From corneal surface ablation to corneal ring segments and ICL - Combined treatments
Mohamed Elalfy (Egypt)
- 17:01 Tissue addition keratoplasty for keratoconus
- 17:14 DALK - When and how
Mohamed Goweida (Egypt)
- 17:27 Excimer- and Femto-assisted PK - still an option?
Berthold Seitz (Germany)
- 17:40 Discussion

Monday
4 November 2024

16:35-17:50 | Calatrava 1

SIS Woman in EVER

17:50-18:20

BM Business Meetings

ACB - COS - EOVS Auditorium 1

G - IM - LC Auditorium 2

MBGE Calatrava 1

NSPH Calatrava 2

PBP Gaudi 1

PO Gaudi 2

RV Gaudi 3

Monday
4 November 2024

16:35-17:50 | Calatrava 2

RF

Rapid Fire NSPH

Moderators: **Carla Rita dos Santos Costa Lança** (*United Arab Emirates*), **Chiara La Morgia** (*Italy*)

- 107 S.125 Evaluating combination therapies for myopia control: insights from a retrospective study-combining atropine %0.05 with peripheral defocus progressive addition lenses
Nilay Akagun, Emrah Altiparmak (*Turkey*)
- 117 S.126 Impact of time to idebenone initiation on visual acuity in Leber hereditary optic neuropathy: post hoc analysis of the LEROS study
Valerio Carelli¹, Patrick Yu-Wai-Man², Xavier Llòria¹, Magda Joana Silva³, Thomas Klopstock⁴ (*¹Italy, ²United Kingdom, ³Switzerland, ⁴Germany*)
- 119 S.127 Visual acuity outcomes by causative mutation in the natural history of Leber hereditary optic neuropathy: analysis of historical data from Case Record Survey-2 (CRS-2)
Patrick Yu-Wai-Man¹, Judith Van Everdingen², Bart Leroy³, Maciej Krawczynski⁴, Costanza Lamperti⁵, Valerio Carelli⁵, Xavier Llòria⁵, Thomas Klopstock⁶ (*¹United Kingdom, ²Netherlands, ³Belgium, ⁴Poland, ⁵Italy, ⁶Germany*)
- 120 S.128 Visual acuity outcomes by age at symptom onset in the natural history of Leber hereditary optic neuropathy: analysis of historical data from Case Record Survey-2 (CRS-2)
Xavier Llòria¹, Patrick Yu-Wai-Man², Judith Van Everdingen³, Bart Leroy⁴, Maciej Krawczynski⁵, Costanza Lamperti¹, Valerio Carelli¹, Thomas Klopstock⁶ (*¹Italy, ²United Kingdom, ³Netherlands, ⁴Belgium, ⁵Poland, ⁶Germany*)
- 135 S.129 Myopi-X spectacle lenses vs atropine 0.01% for myopia control: Turkish study
Nilay Akagun, Emrah Altiparmak (*Turkey*)
- 345 S.130 Peripheral defocus spectacle lenses versus single-vision spectacle lenses for myopia control: systematic review and meta-analysis
João Pedro Lima, Flávia Maria Vital, Júlia Vargas Moreira Pillar Cardoso (*Brazil*)
- 349 S.131 Impact of decreased fetal hemoglobin fraction on the development of retinopathy of prematurity
Mariza Feveireiro-Martins, Laura Aguiar, Ângela Inácio, Carlos Cardoso, Ana Carolina Santos, Filipa Teixeira, Rita Rosa, Ricardo Parreira, Pedro Barros, Susana Teixeira, Mafalda Mota, Madalena Monteiro, Mário Alfaiate, Renato Silva, Jorge Breda, Hercília Guimarães, Carlos Marques-Neves, Rui Pinto, Manuel Bicho (*Portugal*)
- 444 S.132 Vision-related quality of life of myopic children using combination treatment: atropine and defocus-incorporated multiple segment spectacle lenses
Noemi Guemes Villahoz¹, Elena Hernandez-Garcia¹, C. Nunila Gomez-De-Liano¹, Paloma Porras-Angel¹, Rafael Bella-Gala¹, Paula Talavero-Gonzalez¹, Alicia Ruiz-Pomeda¹, Beatriz Martin-Garcia¹, Rakhee Shah², Julian Garcia Feijoo¹, Rosario Gomez-De-Liano¹ (*¹Spain, ²Netherlands*)
- 539 S.133 The retinal structure and visual function in asymptomatic individuals carrying Leber hereditary optic neuropathy mutation
Johan Hedström, Martin Engvall, Pete A Williams, Maria Nilsson, Abinaya Priya Venkataraman (*Sweden*)
- 721 S.134 Curcumin nanoparticles: neuroprotection in Alzheimer's disease assessed through the eye
Ehtesham Shamsher, Benjamin Davis, Li Guo, Vy Luong, Nivedita Ravindran, Satyanarayana Somavarapu, Maria Francesca Cordeiro (*United Kingdom*)
- 736 S.135 Performance comparison of peripheral defocus spectacle lenses
Andrea Lembo, Irene Schiavetti, Massimiliano Serafino, Roberto Caputo, Paolo Nucci (*Italy*)
- 753 S.136 Archetypal analysis for visual field loss characterization of leber hereditary optic neuropathy
Catarina Coutinho, Ferdinando Zanchetta, Michele Carbonelli, Alice Galzignato, Marco Battista, Federico Fantaguzzi, Giulia Amore, Valerio Carelli, Luigi Brotto, Paolo Nucci, Lisa Checchin, Giacomo Savini, Francesco Bandello, Chiara La Morgia, Maria Lucia Cascavilla, Rita Fioresi, Piero Barboni (*Italy*)

16:35-17:50 | Gaudí 1

SIS

MBGE-56 - Recent advances in genetic paediatric eye diseases: insights from the ERN-EYE Paediatric Working Group

ERN-EYE is a European reference network dedicated to Rare Eye Diseases. ERN-EYE covers 24 out of 27 EU countries, with 52 full members and 8 affiliated partners, across the European Union to guarantee the best coverage of more than 900 Rare Eye Diseases. There are four working groups and six transversal working groups. In this session, we will describe the research performed by the members of the Paediatric Working Group. In the session, we will discuss diagnostic challenges, the importance of genetic testing, and implications for the treatment and management of bilateral childhood cataracts. We will highlight recent breakthroughs in genetic diagnostics and their clinical applications in paediatric patients with nystagmus. Further, the session will cover an examination of genetic variations in albinism through a study of the Estonian patient cohort and an in-depth look at the challenges of managing choroidal neovascularization in pediatric patients with Best disease.

Organizer: **Joni Turunen** (*Finland*)

Co-Organizer: **Susana Noval** (*Spain*)

- 16:35 European Reference Network for rare eye diseases (ERN-EYE) and paediatric working group
Susana Noval (*Spain*)
- 16:48 The hereditary periodic corneal inflammation – keratitis fugax hereditaria
Joni Turunen (*Finland*)
- 17:01 Genetic findings in paediatric patients with nystagmus
Natalia Arruti (*Spain*)
- 17:14 Genetic insights in albinism: a study of the Estonian patient cohort
Laura Muring (*Estonia*)
- 17:27 Choroidal neovascularization in Best disease: a paediatric ophthalmology challenge
Giacomo Bacci (*Italy*)
- 17:40 Discussion

16:35-17:50 | Gaudí 2

C

EOVS-44 - Basic principles of state-of-the-art ophthalmic instrumentation (Part I - Optical concepts)

This course is aimed at providing an overview of the basic optical principles of various state-of-the-art retinal-imaging systems, including scanning laser ophthalmoscopy, optical coherence tomography (OCT), as well as adaptive optics. Special emphasis is placed on OCT and the course will include a discussion of additional contrast mechanisms, including OCT-based angiography (OCT-A), along with future trends and cutting-edge developments. The goal is to illuminate for the clinician and scientist the underlying optical concepts of various devices and technological variations, even when not familiar with the particular technology employed within the instrument.

Organizer: **Kristina Irsch** (*France*)

Co-Organizer: **Rui Bernardes** (*Portugal*)

- 16:35 Scanning laser ophthalmoscopy - Basic optical principles
Kristina Irsch (*France*)
- 16:51 Optical coherence tomography - Basic optical principles
Kristina Irsch (*France*)
- 17:07 Optical coherence tomography - Additional contrast mechanisms, future trends, and cutting-edge technological developments
Kristina Irsch (*France*)
- 17:23 Adaptive optics - Basic optical principles
Kristina Irsch (*France*)
- 17:39 Discussion

16:35-17:50 | Gaudí 3



RV-27 - Update on retinal laser

The course will provide details on modern forms of application of retinal lasers, starting from classic photocoagulation, through subthreshold micropulse treatment to new photobiomodulation techniques. Indication for different forms of laser treatment will be outlined and referred to available clinical data.

Organizer: **Maciej Gawęcki** (*Poland*)

Co-Organizer: **Andrzej Grzybowski** (*Poland*)

- 16:35 History of photocoagulation and laser retinal treatment
Andrzej Grzybowski (*Poland*)
- 16:48 Classic focal laser photocoagulation in the era of intravitreal injections
Anna Swiech (*Poland*)
- 17:01 Panretinal photocoagulation of retina today
Stephen Schwartz (*USA*)
- 17:14 Subthreshold micropulse laser treatment in retinal diseases
Maciej Gawęcki (*Poland*)
- 17:27 Multiwavelength retinal photobiomodulation
Hakan Kaymak (*Germany*)
- 17:40 Discussion

08:30-09:15 | Auditorium 1

PS Special Recognition EVER Keynote Lecture

Introduced by: **Marta Agudo Barriuso** (*Spain*)

Translational research in Ophthalmology. Some examples
Jose Carlos Pator Jimeno (*Spain*)



Translational research is a bidirectional process that involves multidisciplinary integration among basic, clinical, practice, population, and policy-based research. The goal of translational research is to speed up scientific discovery into patient and community benefit. In my opinion, the most accessible research to a clinician like me is translational, and must be intimately linked to training and clinical practice. But the environment is very important and although our national health system has many benefits, research was not stimulated, at least in 1981 when I became a professor in Valladolid. For this reason, and taking advantage of a reform of the University Law (LRU), in 1994 we created the IOBA. Thirty years later, we have our own building and more than 100 people work, 40 of whom are researchers. Every five years we are evaluated by the University Quality System and in the last evaluation we obtained 88.5 points out of a total of 100. In 2003, we also took advantage of another reform of the University's Law, and created the first start-up of the University of Valladolid, which 21 years later is still alive. And it allows us, among other things, to retain talented researchers until they find their place at the university. And finally, in 2010 we stimulated the creation of a cluster dedicated to Ophthalmology and Vision Sciences called "Cluster4Eye". This cluster is currently focalized in the application of the so named Medical Device Regulation of the European Union which has been implemented affecting not only manufacturers but also sanitary personnel. As an example of applied research, I will comment on some aspects of our research on the so-called "endotamponades" in vitreoretinal surgery. Liquid perfluorocarbons and silicone oil. In 2015 we took on the challenge of finding out why hundreds of people had irreparably lost vision in one eye after successful retinal detachment surgery. We were able to find out, we were part of the international ISO standards committee modifying the standard on ocular endotamponades and making an international patent and we are now part of the European Union's expert group for ocular medical devices. Regarding silicone oil, I started working with Miguel Refejo in Boston in 1990 and we have continued to improve it continuously and produce improvements that have been incorporated into the market.

09:20-10:35 | Auditorium 1

SIS LC-25 - Major barriers in application of AI in ophthalmology

The proposed first US-Europe panel workshop at EVER will have key presentations on the need and call for increasing international collaborations for standardising methodologies and creating a global standard for application of artificial intelligence in developing medical devices in ophthalmology. The goal is to foster a shared understanding on the standardisation of diseases, ground truth generation, and AI model development in the context of health care systems in the US and Europe and what we can learn from each other. The speakers will identify key challenges, explore potential solutions, and discuss approaches for standardizing disease definitions, optimizing AI model development, and promoting future international collaborations. The program will accelerate more collaborative partnerships and shape the future of ophthalmological research, methods of diagnosis, and treatments, thus advancing patient care on a global scale

Organizer: **Andrzej Grzybowski** (*Poland*)
Co-Organizer: **John Prakash** (*USA*)

- 09:20 International collaboration in advancing standardization of methodology for AI in ophthalmology and the global role of National Eye Institute
John Prakash (*USA*)
- 09:33 Development of resources for training machine learning systems for the eye
Salil Lacke (*USA*)
- 09:46 Major barriers in developing standards for AI in ophthalmology
Kerry Goetz (*USA*)
- 09:59 National and regional regulations on AI in Europe
Andrzej Grzybowski (*Poland*)
- 10:12 Defining AI applications in clinical routine
Leopold Schmetterer (*Austria*)
- 10:25 Discussion

09:20-10:35 | Auditorium 2

**EOVS-31 - Basic principles of state-of-the-art ophthalmic instrumentation.
Part II - Machine learning aspects and applications**

This course aims to provide an overview of the basic principles of machine learning and its retina and brain applications, including support vector machines and neuronal networks by means of OCT data. Special emphasis is placed on their fundamental principles and differences and common pitfalls. The goal is to illuminate the underlying concepts and differences for clinicians and scientists, even when unfamiliar with the field.

Organizer: **Rui Bernardes** (*Portugal*)

Co-Organizer: **Miguel Castelo-Branco** (*Portugal*)

- 09:20 Machine Learning - Basic principles
Rui Bernardes (*Portugal*)
- 09:41 Machine learning applied to brain imaging data
Miguel Castelo-Branco (*Portugal*)
- 10:02 Machine learning applied to OCT data from human and mouse models of disease
Rui Bernardes (*Portugal*)
- 10:23 Discussion

09:20-10:35 | Calatrava 1

RF

Rapid Fire PBP

Moderators: **Pedro De La Villa** (*Spain*), **Patricia Fernandez-Robredo** (*Spain*)

- 216 T.020 Biodistribution of alpha-lipoic acid in beta- cyclodextrins: analyzing ex vivo delivery to the posterior segment of the eye
Phuong Linh Ta, Lucia Bernat Just, Adrián Alambiaga-Caravaca, Vicente Rodilla Alarma, Alicia López Castellano, Francisco Bosch Morell (*Spain*)
- 244 T.021 Retinal oxygen extraction during systemic hypoxia assessed with Laser-Speckle Flowgraphy and retinal oximetry
Viktoria Pai¹, Theresa Lindner¹, Patrick Janku¹, Leopold Schmetterer^{1,2,3}, Doreen Schmidl¹, Gerhard Garhöfer¹ (¹*Austria*, ²*Singapore*, ³*Switzerland*)
- 332 T.022 Comparative neuroprotective effects of xenogenic and allogeneic bone marrow-derived mesenchymal stromal cells in a murine model of sepsis
Jhoana Abigail Guarnizo Campoverde, Kristy Tatiana Rodríguez Ramírez, David García Bernal, Fernando Lucas-Ruiz, Manuel Vidal-Sanz, Marta Agudo-Barriuso (*Spain*)
- 339 T.023 Investigating the temporal variability of the tear fluid proteome for biomarker discovery
Erika Ponzini, Carlo Santambrogio, Rita Grandori, Silvia Tavazzi (*Italy*)
- 370 T.024 Retinal ischemia: therapeutic effects and mechanisms of paeoniflorin
Winsdor Wen-Jin Chao¹, Howard Wen-Haur Chao^{1,2}, Hsiao-Ming Chao³ (¹*United Kingdom*, ²*Canada*, ³*Taiwan*)
- 408 T.025 Morpho-functional alterations and miRNome dysregulation in the retina of a mouse model of Alzheimer's disease: paving the way for new strategies of gene therapy
Lorenzo Guidotti, Rosario Amato, Martina Lucchesi, Ugo Borello, Maurizio Cammalleri, Massimo Dal Monte (*Italy*)
- 410 T.026 Early detection of biochemical changes in tear fluid induced by contact lens wear using Raman spectroscopy
Silvia Tavazzi, Fabio Pezzoli, Erika Ponzini, Alessandro Duse (*Italy*)
- 527 T.028 Actin-related proteomic changes in age-related, diabetic and post-vitrectomy cataract
Christina Karakosta, Martina Samiotaki, George Parayotou, Dimitrios Papaconstantinou, Marilita Moschos (*Greece*)
- 731 T.029 Upregulation of rod ribbon synapse components implies homeostatic presynaptic scaling in early-stage retinitis pigmentosa
Elias Roihuvuo¹, Marcin Tabaka², Ahmed Montaser¹, Elliot Choi³, Krzysztof Palczewski³, Frans Vinberg³, Henri Leinonen¹ (¹*Finland*, ²*Poland*, ³*USA*)
- 860 T.030 Thermographic analysis of patients with lacrimal tract obstruction
Natalha Carvalho, Roberto Machado, Renata de Lara Campos Coelho, Ana Pombo Hilariao, Guilherme Gomes, Alexandre Aldred, Ivana Romero-Kusabara (*Brazil*)
- 867 T.031 Thermographic analysis of patients with active thyroid eye disease undergoing pulse therapy with methylprednisolone
Renata de Lara Campos Coelho, Natalha Carvalho, Roberto Machado, Ana Pombo Hilariao, Alexandre Aldred, Guilherme Gomes, Ivana Romero-Kusabara (*Brazil*)

Tuesday
5 November 2024

09:20-10:35 | Calatrava 2

RF

Rapid Fire RV

Moderators: **Caroline Manicam** (*Germany*), **Maria Paz Villegas Perez** (*Spain*)

- 164 T.120 A novel artificial intelligence-based classification of highly myopic eyes based on visual function and fundus features
Jiaqi Meng¹, **Yunxiao Song²**, **Wenwen He¹**, **Zhong-Lin Lu¹**, **Yuxi Chen¹**, **Ling Wei¹**, **Keke Zhang¹**, **Jiao Qi¹**, **Yu Du¹**, **Yi Lu¹**, **Xiangjia Zhu¹** (*¹China, ²USA*)
- 218 T.121 Regulation of the stress response of Müller cells after retinal detachment by amniotic membrane secretome in vitro
Anna Hillenmayer, **Wertheimer Christian**, **Sterz Thomas**, **Dammak Azza**, **Wolf Armin** (*Germany*)
- 330 T.122 Evaluation of macular ganglion cell layer-inner plexiform layer (GCL-IPL) thickness in patients treated with ozurdex: a retrospective study from a Swiss cohort of patients
Angelica Rizzato, **Asan Kochkorov**, **Robert Katamay**, **Hatz Katja** (*Switzerland*)
- 363 T.123 Long-term results of unilateral or bilateral injection of lenadogene nolparvovec gene therapy for Leber hereditary optic neuropathy
Valérie Biousse¹, **Patrick Yu-Wai-Man²**, **Nancy Newman¹**, **Prem Subramanian¹**, **Mark Moster¹**, **An-Guor Wang³**, **Sean Donahue¹**, **Bart Leroy⁴**, **Valerio Carelli⁵**, **Catherine Vignal-Clermont⁶**, **Alfredo Sadun¹**, **Robert Sergott¹**, **Gema Rebolleda Fernández⁷**, **Bart Chwalisz¹**, **Rudrani Banik¹**, **Magali Taiel⁶**, **José-Alain Sahel⁶** (*¹USA, ²United Kingdom, ³Taiwan, ⁴Belgium, ⁵Italy, ⁶France, ⁷Spain*)
- 445 T.124 Is intravitreal Faricimab an effective treatment for diabetic macular oedema not-responsive to aflibercept? An audit of treated patients at The Princess Alexandra Eye Pavilion
Cameron Lowe, **Meghomala Das** (*United Kingdom*)
- 532 T.125 Metabolomics reveals pathophysiological mechanisms of proliferative diabetic retinopathy progression
Jannika Mansikkaviita, **Ani Korhonen**, **Johan Finell**, **Sirpa Loukovaara**, **Anni Nieminen** (*Finland*)
- 600 T.126 Comparative retinal study by OCT in Alzheimer's disease: insights from the APP NL-F/NL-F model
Lidia Sanchez-Puebla¹, **Inés López-Cuenca¹**, **Alberto Arias Vázquez¹**, **Elena Salobar-Garcia¹**, **José A. Matamoros¹**, **María Pilar Rojas Lozano¹**, **José A. Fernández-Albarral¹**, **Lorena Elvira-Hurtado¹**, **Ana Isabel Ramirez¹**, **Juan Jose Salazar¹**, **Takaomi Saido²**, **Takashi Saito²**, **Carmen Nieto-Vaquero¹**, **María Isabel Cuartero¹**, **María Ángeles Moro¹**, **Rosa De Hoz¹**, **Jose Manuel Ramirez¹** (*¹Spain, ²Japan*)
- 716 T.127 Association between atherosclerotic cardiovascular disease risk and diabetic retinopathy in patients with type 2 diabetes mellitus
Chrysa Agapitou, **Stamatios Lampsas**, **Alexia Risi-Koziona**, **Fotis Kyratzidis**, **Konstantinos Pappelis**, **Panagiotis Theodossiadis**, **Irini Chatziralli** (*Greece*)
- 764 T.128 Pilot outcomes of algorithmic decision support software for intravitreal treatment intervals
Rosina Zakri, **Nigel Davies** (*United Kingdom*)
- 814 T.129 Transferrin is a drug candidate for the treatment of geographic atrophy (GA)/dry age-related macular degeneration (AMD)
Thierry Bordet, **Jenny Youale**, **Karine Bigot**, **Thara Jaworski**, **Cécile Lebon**, **Anaïs Françon**, **Kimberley Delaunay**, **Romain Bénard**, **Thaïs De Bastard**, **Naël Kaddour**, **Francine Behar-Cohen**, **Emilie Picard** (*France*)
- 840 T.130 Optical coherence tomography findings in persistent hyaloid artery: a prospective study
Fatma Sakji, **Safa Ben Aoun**, **Rym Maamouri**, **Molka Ferchichi**, **Ines Fendouli**, **Monia Cheour** (*Tunisia*)
- 875 T.131 Comparing membrane peeling techniques in lamellar macular hole surgery: a systematic review and meta-analysis
Anas Abu-Dieh, **Yosra Er-Reguyeg**, **Elyazid Rhalem**, **Eunice You**, **Mélanie Hébert**, **Ali Dirani** (*Canada*)

09:20-10:35 | Gaudí 1

SIS

NSPH-73 - Eye morphology re-defined. New discoveries in ocular structures - 2024 update

In recent years, there have been several new discoveries in ocular structures. After famous Dua layer discovery, the cornea revealed more secrets. The posterior peripheral cornea is a unique region of the cornea that is characterized by the presence of a pre-endothelial layer between the endothelium and the Descemet's membrane. The pre-endothelial layer is thought to play a role in the maintenance of the cornea's transparency. In the neuronal aspect of the eye, a novel model incorporating gap junctions specifically in the optic nerve head yields a vantage point that can lead to a deeper understanding of not only normal optic nerve function but also of the pathophysiology of optic nerve diseases. The newly described retinal interneurons, named Campana cells that relay visual signals from photoreceptors to the retinal ganglion cells, significantly differ from bipolar and amacrine cells in many morphological, physiological, and molecular features.

Organizer: **Adrian Smedowski** (*Poland*)

Co-Organizer: **Patrick Yu-Wai-Man** (*United Kingdom*)

- 09:20 Electrical synapses in the optic nerve head - a novel model of gap junctions' involvement in optic nerve function
Adrian Smedowski (*Poland*)
- 09:41 A unique pre-endothelial layer at the posterior peripheral cornea
Saeed Akhtar (*Saudi Arabia*)
- 10:02 An uncommon neuronal class conveys visual signals from rods and cones to retinal ganglion cells
Ning Tian (*USA*)
- 10:23 Discussion

09:20-10:35 | Gaudí 2

FP

Free Paper Session 3

Moderators: **Shih-Jen Chen** (*Taiwan*), **Maria Jesus Rodrigo** (*Spain*)

- 376 Systems pharmacology demonstrates broad-spectrum efficacy in animal models of retinopathies
Henri Leinonen¹, **Katri Vainionpää**¹, **Ahmed Montaser**¹, **Umair Seemab**¹, **Jianye Zhang**², **Laurence Occelli**², **Alexander Kolesnikov**², **Vladimir Kefalov**², **Philip Kiser**², **Marcin Tabaka**³, **Simon Petersen-Jones**², **Krzysztof Palczewski**² (¹*Finland*, ²*USA*, ³*Poland*)
- 461 Conditioned media from dental pulp stem cells to counteract the age-related macular degeneration
Darin Zerti, **Giulia Carozza**, **Fanny Pulcini**, **Loreto Lancia**, **Vincenzo Mattei**, **Simona Delle Monache**, **Rita Maccarone** (*Italy*)
- 268 Extracellular vesicles from retinal pigment epithelium: key players in the outer blood-retinal barrier disruption and choroidal neovascularization in age-related macular degeneration
Beatriz Martins, **Teresa Rodrigues**, **Raquel Boia**, **José Ramalho**, **António Francisco Ambrósio**, **Henrique Girão**, **Rosa Fernandes** (*Portugal*)
- 691 OCT- angiography evaluation of the autonomic influence on the retinal microvasculature in the peripapillary region of optic nerve head
Carlos Marques-Neves¹, **Beatriz Nunes**¹, **Isabel Rocha**¹, **Michele Rosa**¹, **Mariana Santos**¹, **Afonso Lima-Cabrita**¹, **David Sousa**^{1,2} (¹*Portugal*, ²*Australia*)
- 180 Myopia macular atrophy in the two-continent population-based study
Songhomitra Panda-Jonas¹, **Bikbov Mukharram**², **Gyulli M**², **Yaxing Wang**³, **Jie Xu**³, **Rahul Jonas**¹, **Jost Jonas**¹ (¹*Germany*, ²*Russia*, ³*China*)
- 607 Gene editing in iPSCs derived from patients affected by inherited retinal dystrophies exhibits rescue of the disease-associated phenotype
Laura Siles, **Sheila Ruiz-Nogales**, **Pilar Méndez-Vendrell**, **Esther Pomares** (*Spain*)

09:20-10:35 | Gaudí 3



RV-50 - Vitrectomy in the management of macular oedema

Macular oedema (MO) is the leading cause of vision loss in most retinal diseases. The pathology behind MO is multifactorial. Initial management targets the elimination of predisposing factors and involves topical or systemic medical treatment. Advances in imaging technology such as optical coherence tomography (OCT) and OCT angiography (OCT-A) are tremendously useful tools that provide important information regarding the anatomical integrity of the retina, its vascular damage, or the existence of epiretinal tissue that adds a tractional component. Pars plana vitrectomy (PPV) is a viable option in the management of MO, particularly in cases resistant to conventional medical treatment. In previous studies of patients suffering from retinal vascular diseases, the tractional component is underestimated, and medical treatment alone fails to provide anatomical and functional improvement. Another category of patients who may benefit from vitrectomy are those suffering from MO due to uveitis. It has been shown that vitrectomy as an adjuvant treatment may limit the use for systemic drugs. With new technology, vitrectomy has become a much safer surgical procedure. However it remains unclear whether vitrectomy should be considered earlier rather than to be left as the last resort in cases of refractory macular oedema

Organizer: **Tina Xirou** (Greece)

Co-Organizer: **Odysseas Georgiadis** (Greece)

- 09:20 Macular oedema due to branch retinal vein occlusion timing for vitrectomy
Ilias Gkizis (Greece)
- 09:36 Macular oedema following ophthalmic surgery. is it a place for vitrectomy?
Tina Xirou (Greece)
- 09:52 Early vitrectomy for diabetic macular edema
Odysseas Georgiadis (Greece)
- 10:08 Vitrectomy for the management of macular oedema in uveitis patient
Evgenia Kontou (Greece)
- 10:24 Discussion

10:35-11:05 | Exhibition Area Ground Floor - Coffee break

11:05-12:05 | Poster Area Second Floor

POS

Poster Session 3

12:05-12:50 | Auditorium 1

PS

Ophthalmic Research Lecture

Introduced by **Maria Francesca Cordeiro** (*United Kingdom*)The future of ocular imaging: functional OCT versus deep learning
Leopold Schmetterer (*Singapore*)

The future of ocular imaging lies at the intersection of two powerful technologies: Functional Optical Coherence Tomography (OCT) and Deep Learning. Functional OCT represents a leap forward in imaging technology by integrating traditional OCT with functional measurements like blood flow, tissue stiffness, tissue birefringence, oxygen metabolism and optoretinography. This comprehensive may offers deeper insights into ocular health and disease progression than conventional structural OCT. By capturing both structural and functional information, Functional OCT may our ability to detect and monitor conditions such as myopia, glaucoma, diabetic retinopathy, and age-related macular degeneration. Deep Learning, on the other hand, is a subset of artificial intelligence, analyzing the vast amounts of data generated by ocular imaging modalities. Through sophisticated algorithms, Deep Learning can identify intricate patterns and features in images that may elude human interpretation. This capability not only enhances diagnostic accuracy but also aids in automating image analysis, improving efficiency, and reducing the burden on healthcare professionals. The synergy between Functional OCT and Deep Learning holds immense promise for the future of ocular imaging. By integrating these technologies, we can achieve a comprehensive understanding of ocular physiology and pathology while enhancing diagnostic accuracy and efficiency. This convergence may lead to the development of advanced systems capable of real-time analysis and interpretation, facilitating point-of-care diagnostics and remote monitoring. However, realizing this potential requires addressing various challenges, including data privacy concerns, standardization of imaging protocols, and regulatory approval. Collaborative efforts between researchers, clinicians, and industry stakeholders are essential to overcoming these hurdles and harnessing the full benefits of Functional OCT and Deep Learning in ophthalmic practice.

12:50-13:50 |

CIS Industry Sponsored Lunch Symposia
not EACCME accredited

13:50-15:05 | Auditorium 1

RF Young Investigators Award Session 1

Moderators: **Marcelino Avilés-Trigueros** (Spain), **Nora Szentmary** (Germany)

- 745 S.017 Identification of senescence markers on cultured human corneal endothelial cells
Tomy Sagnial, Zhiguo He, Travers Gauthier, Inès Aouimeur, Sandrine Ninotta, Gain Philippe, Jean-Yves Thuret, Gilles Thuret (France)
- 476 S.080 Correlation between diabetes and glaucoma risk: insights from a population-based glaucoma screening (NCT 05875090)
Bernardo Monteiro¹, Afonso Lima-Cabrita¹, Vasco Lobo¹, Rafael Whitfield¹, Rodrigo Marques¹, Matilde Ourique¹, Teresa Varandas¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans³, Luís Abegão-Pinto¹ (¹Portugal, ²Spain, ³Belgium)
- 504 S.081 Study of the variation of intraocular pressure after blood collection in patients over 60 years old
Aida Ramón-Campillo, Inmaculada Bueno-Gimeno, Javier Gené-Morales, Andrés Gené-Sampedro (Spain)
- 495 S.091 Localized acute exanthematous pustulosis, a rare reaction on eyelids
Luca Manuel Bueno Borghi, Cristina Calvo Simón, Carla Sánchez Remacha, Javier Ramos Duarte, Ana María Abad Pascual, Pablo Tejada González, Edurne de la Cámara Sahuquillo, Inma Herrero Sánchez, Miguel Castillo Fernández, Marta Suñer Martínez, Julia Aramburu Clavería, Pablo Cisneros Arias, Marta Orejudo de Rivas, Eva Josefina Nuñez Moscarda, Javier Ascaso Puyuelo (Spain)
- 685 S.137 From darkness to light: reversible bitemporal hemianopia
Alejandra Antón Guzmán de Lázaro, María Teresa Cedazo Antón, Sergio Pernas Martín, Patricia Roig Outeiriño, Eduardo Conesa Hernández, Manuel Moriche Carretero (Spain)
- 784 S.138 Modified Nishida procedure for the treatment of complete cranial nerve palsies: a case series
Miguel Santos, Rui Ferreira, Emanuel Fernandes, Filipa Teixeira, Rita Gama (Portugal)
- 334 T.032 Elevation of retinal dopamine content and metabolism in a retinitis pigmentosa mouse model
Katri Vainionpää, Ida Pavela, Aaro Jalkanen, Henri Leinonen (Finland)

Tuesday
5 November 2024

13:50-15:05 | Auditorium 2



PO-40 - The eye as a biomarker for Alzheimer's disease

A significant obstacle to the eventual deployment of disease-modifying therapies for Alzheimer's disease (AD) is the identification of those people who will stand to benefit from them. This requires low cost, minimally invasive and widely available screening and diagnostic tests that can identify AD patients before the onset of cognitive symptoms. Current methods to identify individuals with presymptomatic AD, such as PET and cerebrospinal fluid analysis, do not meet these criteria. Recently, several imaging techniques have been developed to detect retinal A β burden. However, the eye offers more potential novel biomarkers for AD, such as detection of A β in the lens and tears, and detection of retinal tau burden. Given their low cost, non-invasiveness, and potential for ease of implementation in clinical practice, these novel approaches could permit large-scale, inexpensive screening, thereby removing one of the principal bottlenecks to therapeutic advances in AD. In this SIS, we assembled an expert panel to discuss the state of our current understanding of the feasibility of eye imaging and tear sampling as a surrogate for AD. We will explore how different biomarkers can contribute to monitoring and precise phenotyping of AD.

Organizer: **Lies De Groef** (*Belgium*)

Co-Organizer: **Silvia Di Angelantonio** (*Italy*)

- 13:50 Hyperspectral imaging to detect retinal amyloid burden and diagnose AD
Lies De Groef (*Belgium*)
- 14:03 Ultra wide-field retinal imaging to understand early Alzheimer's disease
Lajos Csincsik (*United Kingdom*)
- 14:16 Molecular imaging of tau in the retina, using a novel BODIPY-based probe for selective imaging of tau tangles
Silvia Di Angelantonio (*Italy*)
- 14:29 Looking at the eye in people with Down's syndrome as a window to understanding early onset of dementia and Alzheimer's disease
Jillie-Anne Little (*United Kingdom*)
- 14:42 Tear biomarkers for Alzheimer's disease screening and diagnosis (the TearAD study)
Marlies Gijs (*Netherlands*)
- 14:55 Discussion

13:50-15:05 | Calatrava 1



MBGE-60 - Advancements in genetic testing and emerging discoveries in inherited retinal diseases

Inherited Retinal Diseases (IRDs) represent a significant global health challenge as a leading cause of blindness, with a collective incidence of 1 in 2,000 individuals. These disorders are marked by their clinical and genetic diversity, encompassing a spectrum from stationary conditions to progressive degenerations culminating in total vision loss. Despite the identification of numerous causative genes, approximately 30% of IRD cases remain genetically unexplained, underscoring the critical need for advanced research in this area. This symposium aims to shed light on the prevalence of IRDs across European cohorts, showcasing the regional impact of these conditions. Additionally, it seeks to highlight the latest advancements in genetic technologies that have the potential to uncover the unknown genetic mechanisms behind a substantial fraction of IRDs.

Organizer: **Joni Turunen** (*Finland*)

Co-Organizer: **Christina Zeitz** (*France*)

- 13:50 Genetic complexity of inherited retinal diseases in a large Italian cohort
Marianthi Karali (*Italy*)
- 14:03 Results of implementation of new genomics in Spanish national health system
Carmen Ayuso Garcia (*Spain*)
- 14:16 Short and long-read whole genome sequencing in inherited retinal diseases in Finland
Joni Turunen (*Finland*)
- 14:29 Advances in gene defect identification in France
Christina Zeitz (*France*)
- 14:42 Multi-omics for genetic testing in inherited retinal diseases
Elfride De Baere (*Belgium*)
- 14:55 Discussion

13:50-15:05 | Calatrava 2



Rapid Fire MBGE

Moderators: **Farideh Doroodgar** (*Iran*), **Joëlle Vergroesen** (*Netherlands*)

- 568 T.004 Exploratory and comprehensive description of an Italian cohort of patients affected by Leber hereditary optic neuropathy carrying the pathogenic variants m.11778G>A/MT-ND4 and m.3460G>A/MT-ND1
Martina Romagnoli, Michele Carbonelli, Giulia Amore, Claudio Fiorini, Corrado Zenesini, Pietro D'Agati, Concetta Valentina Tropeano, Maria Lucia Cascavilla, Piero Barboni, Leonardo Caporali, Valerio Carelli, Chiara La Morgia (*Italy*)
- 264 T.005 Gut microbial dysbiosis in age-related macular degeneration
Joëlle Vergroesen¹, Jeroen Vermeulen¹, Eric Thee¹, Bart Liefers¹, Caroline Klaver^{1,2} (*¹Netherlands, ²Switzerland*)
- 373 T.006 Whole genome sequencing requested directly from a multi-ethnic London adult retinal clinic
Dost Jabarkhyl, Mrunmayi Jeste, Isabelle Chow, Moin Mohamed, Omar Mahroo (*United Kingdom*)
- 407 T.007 ODDDB: An interactive database for clinical and translational research in ocular diseases
Umair Seemab, Anna Kalatanova, Saad Hassan, Ziaurrehman Tanoli, Henri Leinonen (*Finland*)
- 508 T.008 The cumulative impact of air pollution on dry eye disease: evidence from the Korea National Health and Nutrition Examination Survey (2017-2020)
Dong Weon Shin¹, Yunnies Cho¹, Tyler Rim², Kyung Yul Seo¹ (*¹South Korea, ²Singapore*)
- 167 T.009 Genome-wide association study of anterior uveitis
Fredrika Koskimäki¹, Oona Ahokas¹, FinnGen Consortium¹, Estonian Biobank Research Team², Abdelrahman Elnahas², Anu Reigo², Kadri Reis², Tõnu Esko², Priit Palta², Sanna Leinonen¹, Johannes Kettunen¹, Johanna Liinamaa¹, Minna Karjalainen¹, Ville Saarela¹ (*¹Finland, ²Estonia*)
- 597 T.010 Studies in the electroretinogram i-wave: evidence for OFF pathway origin and association with a myopia risk locus
Krishnika Vetrivel, Jit Kai Tan, Zihe Xu, Xiaofan Jiang, Shaun Leo, Taha Bhatti, Ambreen Tariq, Christopher Hammond, Pirro Hysi, Omar Mahroo (*United Kingdom*)
- 737 T.011 Genetic variations in Human opsin genetics: Understanding color vision phenotypes and defects
Olivia Lilja, Michael Backlund, Jussi Tiihonen, Harri Kangas, Kati Donner, Petri Ala-Laurila, Joni Turunen (*Finland*)
- 747 T.012 Using long-read adaptive nanopore sequencing to decipher a novel pathogenic duplication in the PRPH2 gene in patients with macular dystrophy
Michael Backlund¹, Suzie Gasparian², Pauliina Repo¹, Harri Kangas¹, Kati Donner¹, Sanna Seitsonen¹, Maarjaliis Paavo¹, Tero Kivelä¹, David Sierpina², Joni Turunen¹ (*¹Finland, ²USA*)
- 801 T.013 GPT wars: creating and detecting fake ophthalmology data sets with artificial intelligence
Andrea Taloni, Giulia Coco, Marco Pellegrini, Andrea Lucisano, Giovanna Carnovale Scalzo, Vincenzo Scordia, Giuseppe Giannaccare (*Italy*)
- 848 T.014 Prevalence of color vision anomalies among Brazilian industrial workers and the telemedicine role
Roberto Machado, Pedro Ribeiro Junior, Mauro Guimarães Filho, Ariadne Negreiros, Marco Negreiros (*Brazil*)
- 851 T.015 Epidemiology of eyelid affections in the ophthalmological emergency department of a tertiary hospital in São Paulo
Ana Pombo Hilarião, Gabriel Cassani, Eugênia Adan Langella, Niro Kasahara, Aline Pimentel de

Miranda (Brazil)

13:50-15:05 | Gaudí 1



RV-66 - Management of proliferative diabetic retinopathy and its complications: Perspectives and new insights

Organizer: **Irini Chatziralli** (Greece)

Co-Organizer: **Stamatina Kabanarou** (Greece)

- 13:50 Pathophysiology and classification of diabetic retinopathy - risk factors for proliferative diabetic retinopathy progression
Konstantinos Pappelis (Greece)
- 14:03 Panretinal photocoagulation for the treatment of proliferative diabetic retinopathy
Christina Karakosta (Greece)
- 14:16 Intravitreal anti-VEGF agents and combination treatment in proliferative diabetic retinopathy
Maciej Gawęcki (Poland)
- 14:29 When to operate in proliferative diabetic retinopathy
Jorge Ruiz-Medrano (Spain)
- 14:42 Management of neovascular glaucoma in proliferative diabetic retinopathy
Evangelia Papakonstantinou (Greece)
- 14:58 Discussion

13:50-15:05 | Gaudí 2



NSPH-79 - Axenfeld- Rieger syndrome: a rare anterior segment dysgenesis

Axenfeld-Rieger syndrome (ARS) refers to an autosomal dominant genetic condition characterized by anterior segment dysgenesis and associated systemic abnormalities. It is a rare, bilateral disease and seen in about 1/200,000 live births without any sex predilection. Its clinical manifestations are variable and may include developmental abnormalities of iris, the anterior chamber angle and trabecular meshwork. This disease is diagnosed usually during infancy or childhood; however, glaucoma mostly develops in late childhood or adulthood, Glaucoma is seen in about half of the cases. In patients with ARS there can be associated mild craniofacial dysmorphism, dental abnormalities, and redundant umbilical skin. The facial abnormalities include hypertelorism, telecanthus, maxillary hypoplasia, and a broad, flat nasal bridge. Dental abnormalities include microdontia, oligodontia, or hypodontia. In addition, patients may have hypospadias, anal stenosis, pituitary abnormalities, growth retardation, and cardiac abnormalities. Abnormalities of the pituitary gland and adjacent structures are less common, however can cause more serious findings. Growth hormone deficiency and short stature have also been described.

Organizer: **Huban Atilla** (Turkey)

Co-Organizer: **Dominique Bremond-Gignac** (France)

- 13:50 Clinical manifestations
Huban Atilla (Turkey)
- 14:11 Treatment
- 14:32 Genetics and the new developments
Dominique Bremond-Gignac (France)
- 14:53 Discussion

13:50-15:05 | Gaudí 3



IM-58 - The multiple links between uveitis, retinal inflammation and genetic

Non infectious uveitis are mediated through autoinflammatory and autoimmune mechanisms which are respectively a dysregulation of the innate and adaptive immune system. Uveitis have been described in pure autoinflammatory syndromes with clear monogenic mutations. In addition, polymorphisms in genes involved in the innate and adaptive immune system are well known to be associated with various non infectious uveitis entities. These polymorphisms render the individuals susceptible to mount an immune response against the eye. On the other hand, retinal dystrophies, due to retinal gene mutations are also associated with some form of retinal inflammation, which can even dominate the clinical presentation and masquerade as a true uveitis. These multiple links between uveitis, retinal inflammation and genetic will be discussed during this symposium.

Organizer: **François Willermain** (Belgium)

Co-Organizer: **Dorine Makhoul** (Belgium)

- 13:50 Monogenic disease associated with uveitis
Jarmila Heissigerova (Czech Republic)
- 14:06 Autoinflammatory syndromes: recent data from the International AIDA Network registries
Claudia Fabiani (Italy)
- 14:22 Genetic polymorphisms and uveitis
Stéphane Abramowicz (Belgium)
- 14:38 Genetic disease masquerading as uveitis
Ester Carreño Salas (Spain)
- 14:54 Discussion

15:05-15:35 | Exhibition Area Ground Floor - Coffee break

15:35-16:50 | Auditorium 1

RF

Young Investigators Award Session 2

Moderators: **Marcelino Avilés-Trigueros** (*Spain*), **Joni Turunen** (*Finland*)

- 114 M.093 Designing and testing anti-scarring and anti-inflammatory biomaterials for corneal implants: A promising alternative to human donors
Anas Abu-Dieh¹, Boda Om¹, Neethi Thathapudi¹, Mozghan Kiyaseh¹, Mostafa Roudbaraki¹, Marie-Claude Robert¹, Mélanie Hébert¹, Samir Jabbour^{1,2}, Mona Harissi-Dagher¹, May Griffith¹ (¹Canada, ²USA)
- 260 M.094 Gene expression profiling of oxidative and anti-oxidative genes in keratoconus patients
Shivam Sharma, Lata Singh, Seema Kashyap, Seema Sen, Namrata Sharma (*India*)
- 569 M.116 Retinal vessel flicker light responsiveness and its relation to analysis protocols, static and metabolic data in healthy subjects
Dmitri Artemiev, Margarita Todorova (*Switzerland*)
- 681 M.138 Patient demographics and surgical outcomes of dropped nucleus in cataract surgery
Pedro Martins, João Pedro Vieira Castro Cabanas, Daniel Cardoso, Filipe Sousa-Neves (*Portugal*)
- 459 T.016 Characterizing iPSC-derived organoid models from the most prevalent retinal dystrophies
Arnau Navinés-Ferrer, Paula Gaudó, Pilar Méndez-Vendrell, Sheila Ruiz-Nogales, Laura Siles, Esther Pomares (*Spain*)
- 865 T.044 Sentinel lymph node biopsy in a case of conjunctival melanoma
Nuria Rius, Olga Ciobotaru, Maria Sopena-Pinilla, Jacobo Yañez Merino, Elisa Funes, Inés Munuera, Carlos Santana, Damián García Navarro, Claudia Hernández-Barahona Monleón, Carmen Ila (*Spain*)
- 317 T.132 Progression of diabetic retinopathy during pregnancy: retrospective study from Birmingham and Solihull
Ahmad Khalifa, Joseph Sobha (*United Kingdom*)
- 832 T.133 Assessing retinal thickness and vascular structures in an Alzheimer's disease mouse model APP NL-F/NL-F
Lidia Sanchez-Puebla¹, Inés López-Cuenca¹, María González Jiménez¹, Elena Salobrar-García¹, José A. Matamoros¹, María Pilar Rojas Lozano¹, José A. Fernández-Albarral¹, Lorena Elvira-Hurtado¹, Ana Isabel Ramirez¹, Juan Jose Salazar¹, Carmen Nieto-Vaquero², María Isabel Cuartero Desviat², María Ángeles Moro², Takashi Saito², Takaomi C. Saido², Jose Manuel Ramirez¹, Rosa De Hoz¹ (¹Spain, ²Japan)

15:35-16:50 | Auditorium 2

SIS LC-77 - Myopia control: update 2024

High myopia is a major cause of visual impairment. In the last 60 years, there has been a marked increase in the prevalence of high myopia in developed countries in East and Southeast Asia, and there are signs of similar, but less dramatic increases, in North America and Europe. It is accepted that myopia results from excessive axial elongation of the eye, which appears to be environmentally driven. Options have emerged for preventing the development of myopia or slowing myopic progression. The up-date of these different approaches will be presented.

Organizer: **Andrzej Grzybowski** (*Poland*)

Co-Organizer: **Olavi Pärssinen** (*Finland*)

- 15:35 AI and myopia detection and control
Mohammad Hassan Emamian (*Iran*)
- 15:51 Myopia calculators: present and future
Carla Rita Dos Santos Costa Lança (*United Arab Emirates*)
- 16:07 Evidence of the benefits of new types of optical corrections for myopia prevention?
Olavi Pärssinen (*Finland*)
- 16:23 RLRL in myopia control - European experience
Andrzej Grzybowski (*Poland*)
- 16:39 Discussion

15:35-16:50 | Calatrava 1

C COS-69 - Good practices in initiating and advancing simulation-based education in ophthalmology

Simulation-based education (SBE) as a learning modality has received growing attention in recent years. Combined with the classic apprentice didactic model, effective simulation education enables the development of well-trained professionals, ensures patients' safety, and provides safe and up-to-date care with clinical impact. Initiating and advancing effective SBE is therefore paramount. This session aims to guide new and established simulation training centers in the launch and fostering of excellence in simulation training in ophthalmology and other surgical disciplines. Linking with our initiative in the Simulation Subcommittee of the Ophthalmology Foundation, to promulgate good practices in SBE that resulted in a recent fourfold thematic publication, we will interactively explore the rationale and learning theories underpinning SBE, highlight the importance of faculty development, review curriculum development geared to SBE, examine the specific case of cataract surgery training in Europe, and will conclude with pearls to start and maintain an effective, meaningful and enjoyable SBE learning environment.

Organizer: **Helena Prior Filipe** (*Portugal*)

Co-Organizer: **Mathys Labuschagne** (*South Africa*)

- 15:35 Why and how does simulation-based education work?
Helena Prior Filipe (*Portugal*)
- 15:48 Who will implement simulation-based education?
Ann Sofia Skou Thomsen (*Denmark*)
- 16:01 What is needed for simulation-based education?
Elias Flockerzi (*Germany*)
- 16:14 The case of/for cataract surgery training in Europe
Helena Prior Filipe (*Portugal*)
- 16:27 How can we ensure quality simulation-based education?
Mathys Labuschagne (*South Africa*)
- 16:40 Discussion

15:35-16:50 | Calatrava 2

SIS PO-62 - Minimally invasive diagnosis in uveal melanoma

With the advent of various eye saving treatments for uveal melanoma more than two decades ago, radiotherapy is the primary treatment modality for the majority of patients. As a result, less tissue is available for diagnostic testing, unless a biopsy is taken. Although the techniques of taking such a biopsy have greatly improved over time, it still remains an invasive procedure. Over the last years, different new technologies have been developed that aim at providing a minimally invasive method of classifying uveal melanoma. In this Special Interest Session, we will first provide an overview of the current state-of-the-art multimodal imaging for diagnosis in ocular oncology. From there we will present the technical innovations of liquid biopsies, a minimally invasive way of obtaining tumor cells and derived molecules. In particular we will describe novel Digital PCR assays which made this powerful technology applicable in the context of uveal melanoma. Subsequently we will discuss the latest quantitative MRI methods that allow to probe various biological parameters of the tumour, including its cellularity and vasculature, and how these relate to conventional genetic markers. We will end with an overview and discussion of how these biomarkers provide a means to detect and monitor disease progression, recurrence and treatment response.

Organizer: **Jan-Willem Beenakker** (*Netherlands*)

Co-Organizer: **Jens Kiilgaard** (*Denmark*)

- 15:35 Multimodal imaging in ocular oncology
Khanh Vu (*Netherlands*)
- 15:51 Technical innovations in liquid biopsies
Rogier Nell (*Netherlands*)
- 16:07 MR-imaging biomarkers for eye tumours
Jan-Willem Beenakker (*Netherlands*)
- 16:23 Clinical potential of new biomarkers for diagnosis, staging and follow-up
Jens Kiilgaard (*Denmark*)
- 16:39 Discussion

15:35-16:50 | Gaudí 1

SIS MBGE-61 - Advances in treatment of retinal disorders

This SIS will cover studies of advances and measurements of treatment of retinal disorders.

Organizer: **Christina Zeitz** (*France*)

Co-Organizer: **Baptiste Wilmet** (*France*)

- 15:35 Gene therapies for inherited retinal disorders
Deniz Dalkara (*France*)
- 15:51 Integration of iPSC-derived human photoreceptors into rodent models of retinal degeneration
Marius Ader (*Germany*)
- 16:07 Photoreceptor cell replacement using pluripotent stem cells: current knowledge and remaining questions
Christelle Monville (*France*)
- 16:23 Transformative approaches for clinical trials in ophthalmology: virtual reality as a metric for functional vision in inherited retinal diseases
Colas Authié (*France*)
- 16:39 Discussion

15:35-16:50 | Gaudí 2

SIS EOVS-53 - Developing eye care in the community

Many eye care consultations occur in the community. In some countries most referrals to the hospital eye service originate from community eye care clinicians. Increasingly sophisticated equipment is used in community optical practices, including OCTs, panoramic retinal imaging, perimeters, topographers, biometers, and pachymeters. The detection of ocular pathology in the community requires quality assurance and a balance between sensitivity/specificity. This SIS will explore these developments, opportunities for clinical research, and challenges around the interface between primary (community) and secondary (hospital) eye care with the following presentations.

Organizer: **Bruce Evans** (*United Kingdom*)

Co-Organizer: **Rebekka Heitmar** (*United Kingdom*)

- 15:35 Developments in instrumentation to improve the diagnosis of ocular pathology in the community
Rebekka Heitmar (*United Kingdom*)
- 15:48 Managing ocular pathology in the community & ensuring competency
Josephine Evans (*United Kingdom*)
- 16:01 Myopia control in the community
Bruce Evans (*United Kingdom*)
- 16:14 Vision research in community optical practices
Matjaz Mihelcic (*Slovenia*)
- 16:27 Improving colour vision testing in the community
Benjamin Evans (*United Kingdom*)
- 16:40 Discussion

15:35-16:50 | Gaudí 3

SIS RV-78 - Vitreoretinal surgery in difficult cases

In the everyday practice, we are dealing with various level of difficulty, while performing surgery in vitreoretinal cases. There are some cases which require high level of skills and experience in order to perform successful and effective surgery. Refractory or myopic macular holes, optic disk pit cases, PVR cases, advanced proliferative diabetic retinopathy cases, trauma cases and pediatric vitreoretinal cases, surgery in uveitic eyes, are some examples. The purpose of the SIS is a group of very experienced vitreoretinal surgeons, with high volume of cases, to provide tips and pearls in to how to perform safer surgery, with the best results, anatomically and functionally.

Organizer: **Georgios Pappas** (*Greece*)

Co-Organizer: **Sofia Androudi** (*Greece*)

- 15:35 Refractory macular holes
Georgios Pappas (*Greece*)
- 15:48 Surgery in uveitis
Sofia Androudi (*Greece*)
- 16:01 Ophthalmic trauma
Georgios Blatsios (*Germany*)
- 16:14 Ocular tumors
Miltiadis Fiorentzis (*Germany*)
- 16:27 Surgery in PVR
Theodoros Gianopoulos (*Greece*)
- 16:40 Discussion

16:55-17:25 | Auditorium 1

PS Prize Award Ceremony and Closing Remarks

17:25-18:00 |

Farewell Reception

Tuesday
5 November 2024

Poster Session 1

Moderators: **António Francisco Ambrósio** (Portugal), **Berit Byström** (Sweden), **Yuliya Huseva** (Belarus),
Alessio Martucci (Italy), **Ester Carreño Salas** (Spain), **Meri Vattulainen** (Sweden),
Damon Wong (Singapore)

15:10-16:10

POS Poster Session ACB

- 565 S.001 Secretary autophagy markers are upregulated in age-related macular degeneration
Iswariyaraja Sridevi Gurubaran, Ali Koskela, Kai Kaarniranta (Finland)
- 570 S.002 Ultrastructural analysis of retinal pigment epithelial cells in 5xFAD mouse model
Ali Koskela, Johanna Ruuth, Elisa Toropainen, Kai Kaarniranta (Finland)
- 613 S.003 Inflammation and microglia activation contribute to retinal degeneration in peripherin-2 mutant mice model
Nicolas Cuenca, Lorena Vidal-Gil, Enola Missonier, Carla Sánchez Castillo, Oksana Kutsyr, Laura Fernández-Sánchez, Henar Albertos-Arranz, Ceren Sahin, Marina Pastor-Mas, Xavier Sanchez Saez, Victoria Maneu, Pedro Lax, Natalia Martínez-Gil (Spain)
- 742 S.004 5xFAD/LC3 mice as a model to investigate autophagy mechanism in the eye
Johanna Ruuth, Elisa Toropainen, Ali Koskela, Juha Hyttinen, Heikki Tanila, Kai Kaarniranta (Finland)
- 439 *rf* S.005 Predictive factors of final visual outcome in patients with Leber hereditary optic neuropathy treated with lenadogene nolparvovec gene therapy
Piero Barboni¹, Nancy Newman², Valérie Biousse², Patrick Yu-Wai-Man³, Valerio CARELLI¹, Catherine Vignal-Clermont⁴, Constant Josse⁴, Magali Taiel⁴, José-Alain Sahel⁴, Robert Sergott² (¹Italy, ²USA, ³United Kingdom, ⁴France)
- 455 *rf* S.006 Endothelial cell heterogeneity in arteriolar annuli: implications in retinal blood flow regulation
David Ramos González, Mariana López-Luppo, Patricia Jaramillo, Ana Carretero, Victor Nacher, Marc Navarro, Jesús Ruberte (Spain)
- 485 *rf* S.007 MCP-1 signaling in optic nerve head astrocytes during glaucoma development
Noah Embry, Yang Liu (USA)
- 515 S.008 Cryopreservation of corneal endothelial cells in vitro, ex vivo, and on a tissue engineered endothelial graft
Tomy Sagnial, Melis Coban, Inès Aouimeur, Louise Coulomb, Gain Philippe, Zhiguo He (France)
- 659 *rf* S.009 Do estrogens receptor agonists have a neuroprotective effect on mouse RGC after optic nerve axotomy?
Kristy T. Rodríguez-Ramírez, Caridad Galindo-Romero, Manuel Vidal-Sanz, Marta Agudo-Barriuso (Spain)
- 683 *rf* S.010 Adipose-derived mesenchymal stem cells (AdMSCs) and retinal pigment epithelial cells (RPE-1) interactions in stress environments via tunneling nanotubes
Merve Gozel, Karya Senkoğlu, Cem Kesim, Murat Hasanreisioğlu (Turkey)
- 692 *rf* S.011 Clinical and morphological parallels in the assessment of the lamina cribrosa of sclera as a risk factor and potential target in promotion for survival of optic nerve axons
Yuliya Huseva (Belarus)

- 708 S.012 Integrating single-cell and spatial transcriptomics delineates spatial gene expression patterns and molecular signatures of various tissues in mouse eyes
rf
Shuai Ouyang (China)
- 751 S.013 Generation of an isogenic control from an induced pluripotent stem cell line of a patient with dominant optic atrophy harbouring the genetic variant c.1024 A>G (p.K342E) in the OPA1 gene
Raquel González Jabardo, Marta García López, Natalia Robles Anda, Lydia Jimenez Vicente, Helena Dorado Monreal, Pablo Rueda de Arriba, Maria Esther Gallardo (Spain)
- 762 S.014 Optic nerve damage model: a preliminary study to determine injury duration and degree of gliosis
Humeyra Nur Kaleli, Cem Kesim, Murat Hasanreisöǧlu (Turkey)
- 781 S.015 Therapeutic potential of targeting BMP/ALK pathway in pathological retinal neovascularization
Mohamed AL-Shabrawey, Maria Ghishan, Nandini Koneru, Sonali Sharma, Mohamed Moustafa (USA)
- 791 S.016 Comparison of synchrotron-based FTIR spectra in lens epithelial- and idiopathic epiretinal membrane-cells
Natasha Josifovska¹, Tanja Ducic², Sofija Andjelic³, Goran Petrovski^{1,4} (¹Norway, ²Spain, ³Slovenia, ⁴Croatia)
- 745 S.017 Identification of senescence markers on cultured human corneal endothelial cells
Tomy Sagnial, Zhiguo He, Travers Gauthier, Inès Aouimeur, Sandrine Ninotta, Gain Philippe, Jean-Yves Thuret, Gilles Thuret (France)

15:10-16:10

POS Poster Session G

- 125 S.018 Predicting intraocular pressure using neural networks: incorporating image data and patient metadata from PAPILA dataset
Fernando Ly Yang, Aikaterina Roussou, Lauren Van Lancker, Akanksha Bagchi, Chris Panos (United Kingdom)
- 126 S.019 Exploring image and metadata fusion for glaucoma detection with artificial intelligence
Fernando Ly Yang, Aikaterini Roussou, Lauren Van Lancker, Akanksha Bagchi, Chris Panos (United Kingdom)
- 127 S.020 Maximizing glaucoma detection accuracy through high confidence AI predictions: a RIM ONE database study
Fernando Ly Yang¹, Enrique Santos², Federico Saenz Frances², Luis Jañez Escalada², Aikaterini Roussou¹, Lauren Van Lancker¹, Akanksha Bagchi¹, Chris Panos¹ (¹United Kingdom, ²Spain)
- 136 S.021 Vitreous hemorrhage following I-stent implantation: a case report
Karim Nassim Haddoum^{1,2}, Meryam Smiri¹, Abdeljalil Mansouri¹, Mohamed El Sanharawi¹ (¹France, ²Algeria)
- 156 S.023 Influence of age, baseline severity and follow-up time on visual field progression in primary open angle glaucoma
Achilleas Ghinis, Jan Van Eijgen, Celine Vens, Geert Molenberghs, Ingeborg Stalmans (Belgium)
- 159 S.024 Efficacy and safety of non-penetrating surgery versus trabeculectomy in open-angle glaucoma: a systematic review and meta-analysis
Tianyu Song, Rishi Miriyala Anantharaj, Eduardo Maria Normando (United Kingdom)

- 187 S.025 Investigation on the relationship between disc hemorrhage and primary open-angle glaucoma using genome-wide association study
Je Hyun Seo (*South Korea*)
- 193 S.026 Recovery of the glaucoma service after the COVID-19 pandemic; Barnsley glaucoma audit
Rohit Sharma, Mohamed Awwad, Anne Marie Firan (*United Kingdom*)
- 211 S.027 Correlation between systemic hypertension and glaucoma risk: insights from a population-based glaucoma screening (NCT 05875090)
Bernardo Monteiro¹, Afonso Lima-Cabrita¹, Rafael Whitfield¹, Vasco Lobo¹, Rodrigo Marques¹, Matilde Ourique¹, Teresa Varandas¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans³, Luís Abegão-Pinto¹ (*¹Portugal, ²Spain, ³Belgium*)
- 217 S.028 Relationship between persistence with topical antiglaucomatous prescription and patient socioeconomic status at a tertiary university hospital in Jerez de la Frontera (Spain)
Javier Benitez-del-Castillo Sanchez, Ignacio Pereira Gonzalez, Soledad Jimenez-Carmona, Juan Antonio Cordoba-Doña, Miguel de Torres Jimenez (*Spain*)
- 243 S.029 Prescribing patterns for preservative-free glaucoma drops in United Kingdom ophthalmology clinics: a 5-year multi-centre study
Ejaz Ansari, Robert Scott (*United Kingdom*)
- 285 S.031 Optic nerve deep layer microvasculature according to different optic disc phenotypes in normal-tension glaucoma
Yunhan Lee, Min Kyung Song, Joong Won Shin, Jin Yeong Lee, Ji Wook Hong, Michael Kook (*South Korea*)
- 298 S.032 Comparative analysis of methods in detecting glaucomatous progression
Diego Fernandez-Velasco, Victor Mallen, Javier Bermudez, Andrés Biescas, Nuria Rius, Carmen Ila, Claudia Hernández-Barahona Monleón, Damián García Navarro, Carlos Santana, Inés Munuera (*Spain*)
- 318 S.033 Analysis of the influence of genotype on the response to prostaglandin analogues, prostamides, and beta-blockers in patients with ocular hypertension and glaucoma
Sara Carlota Labay Tejado, Valeria Opazo Toro, Mar Hernáez, Mercè Brunet, Elena Milla (*Spain*)
- 364 S.035 A comparison of the corneal biomechanical properties in pseudoexfoliation glaucoma, primary open angle glaucoma, and healthy subjects using Corvis Scheimpflug technology
Kyoung Ohn, Younhea Jung (*South Korea*)
- 388 S.036 Safety and efficacy of subliminal cyclophotocoagulation in the treatment of glaucoma
Priyanka Ramanathan, Subashini Kaliaperumal, Geeta Behera (*India*)
- 392 S.037 Plateau iris syndrome: a case report
Amira Mabrouk, Amine Zahaf, Houda Lajmi, Besma Ben Achour, Wassim Hmaied (*Tunisia*)
- 427 S.038 Comparison between measurements of the circumpapillary nerve fiber layer thickness and the thickness of the waist of the nerve fiber layer in the optic nerve head
Jonatan Holm, Konstancija Kisonaite, Zhaohua Yu, Chunliang Wang, Qiran Cao, Per Soderberg (*Sweden*)
- 447 S.039 Analysis of the condition of the perilimbal tissues of the eye during the surgical treatment of patients with open-angle glaucoma
Iryna Shargorodska, Olha Sas (*Ukraine*)
- 506 S.040 Molecular responses of the aging retina are sexually divergent in Ephx2^{-/-} mice
Caroline Manicam, Elahe Zare, Norbert Pfeiffer, Natarajan Perumal (*Germany*)

- 519 S.041 Pre-clinical evaluation of the HyaGuard™ sub-conjunctival insert in maintaining post-trabeculectomy intra-ocular pressure vs mmc and prednisolone drops
Adrián Alambiaga-Caravaca, Mark Lemoine, Golestan Salimbeigi, Tauseef Ahmad, Nina Pohler, Fergal O'Brien, Colm O'Brien, Alan Hibbitts (*Ireland*)
- 531 S.042 Effects and clinical features of cataract combined surgery with i stent inject in open angle glaucoma patient
Keesup Park, Ju Mi Kim, Ji ho Jun, Yong yeon Song, Jongha Lee (*South Korea*)
- 620 S.043 Structure-function relationship in moderate to advanced glaucoma
Ernesta Jašinskienė¹, Aiste Kadziauskiene¹, Rimvydas Asoklis¹, Leopold Schmetterer² (*¹Lithuania, ²Singapore*)
- 625 S.044 Dual agonism of FP and EP3 receptors by ricinoleic ac plausible therapeutic in glaucoma
Madhu Nath, Sudipto Das, Tanuj Dada, S. Senthil Kumari, Velpandian Thirumurthy (*India*)
- 649 S.045 Microshunt PreserFlo revision by anterior vitrectomy
Carlos Santana Plata¹, Damian Garcia Navarro¹, Ines Munuera Rufas¹, Elisa Funes Perez¹, Jacobo Yañez Merino¹, Maria Sopena Pinilla¹, Olga Ciubotaru Ciubotaru¹, Ana Pueyo Bestué¹, Ignacio Leonardo Pueyo Bestué², Noemi Güerri Monclus¹, Sofia Fernandez Larripa¹, Diego Fernandez Tirado¹ (*¹Spain, ²Belgium*)
- 704 S.046 Effectiveness of intravitreal antiTNF-alfa for neuroinflammation control and neuroprotection in experimental rabbit glaucoma model
Okyanus Bulut Tarlabolen, Mine Esen Baris, Emrah Soylu, Banu Yaman, Timur Kose, Suzan Guvenyilmaz (*Turkey*)
- 712 S.047 An unusual cause of retinal vein occlusion
E. Iatissam¹, Ivan Sencanic², Adil Mchachi¹, Laila Benhmidoune¹, Rayad Rachid¹, Mohamed Elbelhadji¹ (*¹Morocco, ²France*)
- 719 S.048 Consistency of OCT Hood report visual field predictions with standardized automated perimetry in glaucoma patients and glaucoma suspects in Jordan
Mohammed Khalil, Mohammad Barqawi, Ahmed Alkyam, Heba Rihani, Raed Bin Tareef, Mousa Baydoun (*Jordan*)
- 726 S.049 Implementing artificial intelligence glaucoma screening: glaucoma post study
Afonso Lima-Cabrita¹, Rafael Whitfield¹, Vasco Lobo¹, Bernardo Monteiro¹, Sofia Vistas¹, Matilde Ourique¹, Rafael Correia Barão¹, Carlos Marques-Neves¹, Veronica Santos¹, Eunice Carrapiço¹, Rodrigo Marques¹, Marta Pazos², Joana Ferreira¹, Ingeborg Stalmans³, Luis Abegão Pinto¹ (*¹Portugal, ²Spain, ³Belgium*)
- 732 S.050 How do patients relate to preservatives in eye drops and what do they know?
Arevak Saruhanian, Jens Rovelt Andreassen, Anne Toft-Petersen, Maiken Korsgaard, Miriam Kolko (*Denmark*)
- 739 S.051 Automated analysis of retinal vascular features, age, sex and disc size in a large cohort of primary open angle glaucoma patients
Jan Van Eijgen¹, Jonathan Fhima², Anat Reiner-Benaim², Lennert Beeckmans¹, Or Abramovich², Ingeborg Stalmans¹, Joachim A. Behar² (*¹Belgium, ²Israel*)
- 761 S.052 Dysfunction in amino acid synthesis pathways: potential biomarkers for early glaucoma detection
Irene Andrés-Blasco, M. Carmen Martínez Bisbal, Alex Gallego-Martínez, Elena Bendala Tufanisco, Francisco Cavas Martinez, Marina Botello Marabotto, Ramon Martinez-Mañez, Maria Dolores Pinazo Durán (*Spain*)

- 768 S.053 Exploring the interplay between self-reported glaucoma, physical shape, and exercise: findings from a danish eye and vision cohort - Project FOREVER
Astrid Sjö, Jens Rovelt, Josefine Freiberg, Anne Pernille Toft-Petersen, Miriam Kolko (Denmark)
- 780 S.054 Adherence to the MIND diet, genetic susceptibility, and glaucoma prevalence
Joëlle Vergoesen¹, Caroline Klaver^{1,2}, Wishal Ramdas¹ (¹Netherlands, ²Switzerland)
- 783 S.055 Impact of citicoline and coenzyme Q10 (COQUN Combo) on retinal ganglion cell survival in a experimental glaucoma model
José A. Matamoros, José A. Fernández-Albarral, Elena Salobrar-García, Lorena Elvira-Hurtado, Inés López-Cuenca, Lidia Sanchez-Puebla, Miguel A. Martínez-López, Sara Rubio-Casado, Rosa De Hoz, Meritxell Lopez Gallardo, Eva M. Marco, Jose Manuel Ramirez, Juan Jose Salazar, Pedro De La Villa, Ana Isabel Ramirez (Spain)
- 790 S.056 Citicoline and coenzyme Q10 (COQUN Combo) reduce inflammation in an experimental glaucoma model
José A. Matamoros, José A. Fernández-Albarral, Elena Salobrar-García, Lorena Elvira-Hurtado, Inés López-Cuenca, Lidia Sanchez-Puebla, Miguel A. Martínez-López, Sara Rubio-Casado, Rosa De Hoz, Meritxell Lopez Gallardo, Eva M. Marco, Jose Manuel Ramirez, Juan Jose Salazar, Pedro De La Villa, Ana Isabel Ramirez (Spain)
- 794 S.057 Monitoring glaucoma progression from fundus photos using a deep learning-based trend analysis
Ruben Hemelings^{1,2}, Damon Wong¹, Ingeborg Stalmans², Leopold Schmetterer¹ (¹Singapore, ²Belgium)
- 795 S.058 Improving dynamic vessel analysis: a new pipeline for localized retinal vessel response evaluation
Lennert Beeckmans¹, Jan Van Eijgen¹, Walthard Vilser¹, Konstantin Kotliar², Henner Hanssen³, Maarten De Vos¹, Ingeborg Stalmans¹ (¹Belgium, ²Germany, ³Switzerland)
- 821 S.059 Inflammation and neurodegeneration in glaucoma: isolated eye disease or a part of a systemic disorder? -Serum proteomic analysis
Mateusz Zarzecki, Michał Okruszko, Maciej Szablowski, Magdalena Michnowska-Kobylińska, Łukasz Lisowski, Magda Łapińska, Zofia Stachurska, Anna Szpakowicz, Karol Kamiński, Joanna Konopińska (Poland)
- 824 S.060 Initial evaluation of state-of-the-art deep learning models on data of Project FOREVER
Marcel Reimann, Jens Rovelt Andreasen, Anders Bjorholm Dahl, Miriam Kolko (Denmark)
- 832 S.061 Ab-externo XEN glaucoma microstent implantation in the treatment of glaucoma - a 1-year retrospective observational study
Paulina Langosz, Wojciech Maruszczuk, Krzysztof Eder, Agnieszka Mrozek, Dominik Dygas, Mateusz Porwolik, Julia Janiszewska-Salamon, Dorota Wyględowska-Promieńska, Adrian Smedowski (Poland)
- 862 S.062 Vogt triad: a classic but rare sequel of acute angle closure glaucoma
Laarif Younes, El Arari Nihal, Hamidi Salma, Soukayna Ouadghiri, Saad Benchekroun, Rim Elhachimi, Amazouzi Abdellah, Cherkaoui Lalla Oufae (Morocco)
- 863 S.063 The relationship between social deprivation and glaucoma-related Quality of Life (QOL)
Ryan Teo, Kleonikos Tsakiris (United Kingdom)
- 876 S.064 Improved early detection of glaucoma progression
Per Soderberg, Tolga Tumer, Konstancija Kisonaite, Jonatan Holm, Zhaohua Yu (Sweden)
- 877 S.065 Phacolytic glaucoma: about a case report
Laarif Younes, El Arari Nihal, Soukayna Ouadghiri, Hamidi Salma, Saad Benchekroun, Rim Elhachimi, Amazouzi Abdellah, Cherkaoui Lalla Oufae (Morocco)

- 891 S.066 A service evaluation of patient satisfaction with the current standard of glaucoma care provision at Derriford Hospital
Ryan Teo, Kleonikos Tsakiris (*United Kingdom*)
- 893 S.067 MiRNAs from tear fluid-derived extracellular vesicles to identify patients at high risk of fibrotic lesions after glaucoma surgery
Marta Sanroque-Muñoz, Sergio G. Garcia, Marta Clos-Sansalvador, Miriam Font-Morón, Jessica Botella-García, Marcella Franquesa, Jordi Loscos-Arenas, Francesc E. Borràs (*Spain*)
- 453 S.068 A low dose bimatoprost 0.01% & timolol 0.1% eye gel compared to bimatoprost 0.03% & timolol 0.5% eye drops: a phase III randomized study
rf
Ingeborg Stalmans¹, M. Francesca Cordeiro² (¹*Belgium*, ²*United Kingdom*)
- 183 S.069 Modulation of post-surgery fibrosis in glaucoma filtration surgery by targeting retinoic acid signaling
rf
Xiaomeng Wang, Tina Wong, Rajakrishna Anjali, Seok Ting Lim (*Singapore*)
- 226 S.070 Artificial intelligence-powered glaucoma screening: demographic and clinical comparison between screening attendees and non-attendees
rf
Vasco Lobo¹, Afonso Lima-Cabrita¹, Bernardo Monteiro¹, Rafael Whitfield¹, Sofia Theriaga¹, Rodrigo Marques¹, Matilde Ourique¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans³, Luís Abegão-Pinto¹ (¹*Portugal*, ²*Spain*, ³*Belgium*)
- 233 S.071 Preoperative fluorometholone in glaucoma surgery: 1 year clinical and anatomical outcomes with in vivo confocal microscopy (IVCM)
rf
Davide Tomaselli, Gianluca Monsellato, Gaia Li Calzi, Francesca Fantaguzzi, Umberto Lizzio, Matteo Sacchi, Paolo Nucci (*Italy*)
- 305 S.072 Soft matter 3D printed drug-loaded subconjunctival inserts for post-surgical anti-inflammatory drug delivery
rf
Adrián Alambiaga-Caravaca, Lucia Bernat-Just, Esther Nginyu Luembe, Alan Hibbitts (*Ireland*)
- 500 S.073 Towards visual field reliability with machine learning
rf
Damon Wong¹, Jacqueline Chua¹, Jost Jonas², Leopold Schmetterer¹ (¹*Singapore*, ²*Germany*)
- 525 S.074 Correlation between dyslipidaemia and glaucoma risk: insights from a population-based glaucoma screening (NCT 05875090)
rf
Rafael Whitfield¹, Afonso Lima-Cabrita¹, Vasco Lobo¹, Bernardo Monteiro¹, Rodrigo Marques¹, Matilde Ourique¹, Inês Leal¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans³, Luís Abegão-Pinto¹ (¹*Portugal*, ²*Spain*, ³*Belgium*)
- 629 S.075 Correlation of biomarkers of oxidative stress and inflammation in tears and aqueous humor of primary open-angle glaucoma patients
rf
Javier Benitez-Del-Castillo Sanchez, Maria Dolores Pinazo Duran, Sara Mora Sáez, David Peña Ruiz, Vicente Zanon-Moreno, Juan Francisco Ramos-Lopez, David Galarreta-Mira (*Spain*)
- 636 S.075 Differential profile of miRNAs in aqueous humour: a new potential epigenetic mechanism for pseudoexfoliation glaucoma
rf
Carolina Garcia Villanueva¹, Irene Andrés-Blasco¹, A. Martucci², J.F. Ramos Lopez¹, Vicente Zanon Moreno¹, M. Gonzalez Montero¹, C. Nucci², Maria Dolores Pinazo Durán¹, Julian Garcia Feijoo¹ (¹*Spain*, ²*Italy*)
- 674 S.077 The RhoA/Rho-Kinase (ROCK) and oxidative stress cell signaling pathways, as feasible pathogenic effectors of fibroproliferation in glaucoma surgery
rf
Rafael Gimenez-Gómez, Juan Francisco Ramos-Lopez, Carolina Garcia-Villanueva, David Galarreta-Mira, Sara Mora Sáez, Irene Andrés-Blasco, Jose Enrique O'Connor, Maria Dolores Pinazo Duran (*Spain*)

- 688 *rf* S.078 Identification of diagnostic and prognostic biomarkers in dry eye disease in primary open-angle glaucoma: a cross-sectional case-control study
Sara Mora Sáez, Irene Andrés-Blasco, Marta Cerdà-Ibáñez, Cristina Peris-Martínez, Maria Dolores Pinazo Durán (Spain)
- 769 *rf* S.079 Does semaglutide provide neuroprotection in models of glaucoma?
Zaynab Mouhammad¹, Blanca Aldana¹, Pete Williams², James Tribble², Anne Rombaut², Mariana Yolotzin Garcia Bermudez¹, Rupali Vohra¹, Miriam Kolko¹ (¹Denmark, ²Sweden)
- 476 S.080 Correlation between diabetes and glaucoma risk: insights from a population-based glaucoma screening (NCT 05875090)
Bernardo Monteiro¹, Afonso Lima-Cabrita¹, Vasco Lobo¹, Rafael Whitfield¹, Rodrigo Marques¹, Matilde Ourique¹, Teresa Varandas¹, Rafael Barão¹, Marta Pazos², Ingeborg Stalmans³, Luís Abegão-Pinto¹ (¹Portugal, ²Spain, ³Belgium)
- 504 S.081 Study of the variation of intraocular pressure after blood collection in patients over 60 years old
Aida Ramón-Campillo, Inmaculada Bueno-Gimeno, Javier Gené-Morales, Andrés Gené-Sampedro (Spain)

15:10-16:10

POS Poster Session IM

- 152 S.082 Bacterial contamination of extraocular fluid and antibiotic susceptibility during cataract surgery and vitrectomy
Seung Min Lee (South Korea)
- 311 S.083 An atypical ocular manifestation of leptospirosis in a developed country
Elvine Neo, Zhi Hong Toh, Alex Lau, Su Ling Ho (Singapore)
- 543 S.084 Clinical indicators of inflammation in contact lens wearers despite uncharged tear transforming-growth factor-B1 and interleukin 1-b levels
Eduardo Insua Pereira, Ana Paula Sampaio, Madalena Lira (Portugal)
- 109 *rf* S.085 Orbital abscesses in children: an update on microbiology trends and antibiotic selection
Luai Kwar, Haytham Kubba (United Kingdom)
- 534 *rf* S.086 Use of biologics other than adalimumab in non-infectious pediatric uveitis
Rafael Whitfield, Sofia Mano, Filipa Ramos, Raquel Campanilho Marques, Inês Leal (Portugal)
- 676 *rf* S.087 Probiotic bacteria reduce damages of pretreated corneal epithelial cells due to pathogen infections
Andreana Marino, Sarah Scuderi, Lucia Cambria, Antonia Nostro, Emanuela Esposito, Irene Paterniti (Italy)
- 718 *rf* S.088 Single-cell transcriptomics analysis reveals immune cells heterogeneity of Vogt-Koyanagi-Harada (VKH) disease
Shuai Ouyang (China)
- 819 *rf* S.089 Evaluation of the conjunctival bacterial flora in the New Zealand white rabbit
Raquel Maroto Cejudo, Denisse Michelle Espinosa Encalada, Oscar Esparcia Rodriguez, Mónica Gómez- Juarez Sango, Fernando Andrés Pretel, Carlos Cava Valenciano (Spain)

871 S.090 Prognostic impact and correlation with disease activity of three-dimensional OCT biomarkers in Vogt Koyanagi-Harada patients
rf
Afonso Lima-Cabrita¹, Diogo Fróis Vieira¹, João Lourenço Fernandes¹, João Salbany¹, David Sousa^{1,2}, João Sanches¹, Carlos Marques-Neves¹, Ines Leal¹ (¹Portugal, ²Australia)

495 S.091 Localized acute exanthematous pustulosis, a rare reaction on eyelids
Luca Manuel Bueno Borghi, Cristina Calvo Simón, Carla Sánchez Remacha, Javier Ramos Duarte, Ana María Abad Pascual, Pablo Tejada González, Edurne de la Cámara Sahuquillo, Inma Herrero Sánchez, Miguel Castillo Fernández, Marta Suñer Martínez, Julia Aramburu Clavería, Pablo Cisneros Arias, Marta Orejudo de Rivas, Eva Josefina Nuñez Moscarda, Javier Ascaso Puyuelo (Spain)

15:10-16:10

POS Poster Session NSPH

- 288 S.092 Clinical efficacy of optical coherence tomography parameters to predict the visual field outcome following pituitary adenoma surgery
Kwang Eon Han, Su-Jin Kim, Seunguk Lee, Ji-Eun Lee (South Korea)
- 300 S.093 Post thyroidectomy surprise!
Aakriti Agarwal, Taskin Khan, Vishnu Gupta, Sugourab Das (India)
- 572 S.094 Evaluation of the retinal vascular and structural changes in migraine patients treated with anti-CGRP monoclonal antibodies
Alessio Martucci¹, Marco Lombardo¹, Giacinta Buffon¹, Nicola Biagio Mercuri¹, Maria Albanese², Maria Dolores Pinazo Durán¹, Carlo Nucci¹, Francesco Aiello¹, Massimo Cesareo¹ (¹Italy, ²Spain)
- 667 S.095 Automated OCT-angiography segmentation of the optic nerve head to distinguish optic disc edema and pseudo-edema
Marco Battista¹, Jonathan Oakley², Michele Carbonelli¹, Catarina Coutinho¹, Alice Galzignato¹, Luigi Brotto¹, Giulia Amore¹, Cecilia Mularoni¹, Francesca Bosello¹, Stefano Erba¹, Paolo Nucci¹, Chiara Lenzetti¹, Caterina Gagliano¹, Matteo Capobianco¹, Laura Dell'arti¹, Valerio Carelli¹, Francesco Bandello¹, Chiara La Morgia¹, Maria Lucia Cascavilla¹, Piero Barboni¹ (¹Italy, ²USA)
- 696 S.096 Increasing myopia post-COV evidence from child vision screening age 3.5 to 5.5 years in Scotland
Bruce Evans¹, Lee Pentland¹, David Edgar¹, Rakhee Shah², Benjamin Evans¹, Miriam Conway¹ (¹United Kingdom, ²Netherlands)
- 804 S.097 Neurophthalmological assessment in ARSACS syndrome
Maria Lucia Cascavilla, Marco Battista, Luigi Brotto, Francesca Maltecca, Federico Fantaguzzi, Lorenzo Bianco, Piero Barboni, Francesco Bandello (Italy)
- 118 S.098 Matching algorithm utilised in the LEROS study of idebenone efficacy in Leber hereditary optic neuropathy
Nancy Newman¹, Xavier Llòria², Magda Joana Silva³, Patrick Yu-Wai-Man⁴, Valerio Carelli¹, Thomas Klopstock⁵ (¹USA, ²Italy, ³Switzerland, ⁴United Kingdom, ⁵Germany)
- 150 S.099 Exploring the efficacy of the S12-C photoscreener in identifying amblyogenic risk factors among children aged 6 months to 6 years in rural South India
Kirandeep Kaur, Bharat Gurnani (India)
- 151 S.100 Knowledge, attitude and practice patterns related to digital eye strain among parents of children attending online classes in the COVID-19 era - A cross sectional study
Kirandeep Kaur, Bharat Gurnani (India)

- 232 S.101 Assessment of fixation stability and ocular torsion in a patient with Ciancia syndrome: case report
Aida Ramón-Campillo, Inmaculada Bueno Gimeno, Andrés Gené Sampedro (Spain)
- 239 S.102 The face superiority test: a novel method of studying face perception
Marko Tien, Jason Barton, Andrea Albonico (Canada)
- 240 S.103 Management of vertical diplopia due to conjunctival synechiae: a case report and surgical outcome
Luca Manuel Bueno Borghi, Carla Sánchez Remacha, Cristina Calvo Simón, Julia Aramburu Clavería, Miguel Castillo Fernández, Marta Suñer Martínez, Javier Ramos Duarte, Ana María Abad Pascual, Edurne de la Cámara Sahuquillo, Inma Herrero Sánchez, Pablo Tejada González, Diana Pérez García, León Remón Garijo, Francisco Javier Ascaso Puyuelo (Spain)
- 259 S.104 What if it wasn't normal pressure glaucoma?
Amira Mabrouk, Houda Lajmi, Amine Zahaf, Wassim Hmaied (Tunisia)
- 294 S.105 Complete blindness revealing pituitary apoplexy with recovery after transsphenoidal decompression
Amira Mabrouk, Besma Ben Achour, Wassim Hmaied (Tunisia)
- 312 S.106 Pediatric emergency room visits for eye-related injuries in school and daycare: trends from 2003-2022
Mickey Nguyen, Yannis Paulus, Anna Kay (USA)
- 418 S.107 Six-month efficacy of red-light therapy and customised orthokeratology for myopia control in Spanish children
Fernando Fernandez Velazquez, María Fernández Fidalgo, Victoria Ferigo Ferrel (Spain)
- 431 S.108 High myopia: reviews of myopia control strategies and myopia complications
Rakhee Shah^{1,2}, Bruce Evans¹, Natalia Vlasak² (¹United Kingdom, ²Netherlands)
- 434 S.109 Superior oblique folding as management for paralysis of the same
Marta Suñer Martínez, Julia Aramburu Claverías, Miguel Castillo Fernández, Luca Bueno Borghi, Cristina Calvo Simón, Carla Sánchez Remacha, Ana María Abad Pascual, Javier Ramos Duarte (Spain)
- 488 S.110 Comparing performance in a general ophthalmology exam: artificial intelligence versus ophthalmologists, residents and general practitioners.
Clara Lara Aroco, Cristina García-Velarde Angulo, Sergio Pérez de Paz, Marta García Díaz, Juan Javier Castro Vargas, Helena Garreta Celemín, Javier Guzmán (Spain)
- 608 S.111 Prevalence of amblyogenic risk factors among children aged 3.5-5.5 years in Scotland who fail their vision screening
Miriam Conway¹, Lee Pentland¹, Dave Edgar¹, Rakhee Shah², Benjamin Evans¹, Bruce Evans¹ (¹United Kingdom, ²Netherlands)
- 612 S.112 Literature review: light and colour in myopia control
Bruce Evans¹, Rakhee Shah^{1,2}, Natalia Vlasak² (¹United Kingdom, ²Netherlands)
- 631 S.113 Choroidal thickness in myopic children: one-year follow-up study with 0.01% atropine eye drops
Dovilė Simonavičiūtė¹, Arvydas Gelžinis¹, Andrzej Grzybowski², Reda Žemaitienė¹ (¹Lithuania, ²Poland)
- 656 S.114 Joubert syndrome: a case report
Maria Sopeña-Pinilla¹, Olga Ciubotaru¹, Ana Pueyo Bestué¹, Ignacio Pueyo Bestué², Diego Fernandez-Velasco¹, Victor Mallen Gracia¹, Jose Javier Bermudez Cervilla¹, Andres Biescas Merino¹, Nuria Rius¹, Carmen Ila Raetz¹ (¹Spain, ²Belgium)
- 660 S.115 AI-assisted diagnosis of multiple sclerosis via optical coherence tomography
Carlos Santana Plata¹, Ines Munuera Rufas¹, Elisa Funes Perez¹, Jacobo Yañez Merino¹, María Sopeña Pinilla¹, Olga Ciubotaru Ciubotaru¹, Ana Pueyo Bestué¹, Ignacio Leonardo Pueyo Bestué², Diego Fernandez Tirado¹, Victor Mallen Gracia¹ (¹Spain, ²Belgium)

- 671 S.116 Digital devices and the myopia epidemic in children: short- and long-term effects of use and strategies to manage ocular symptoms
Claudia Hernández-Barahona Monleón¹, Damián García Navarro¹, Carlos Santana Plata¹, Inés Munuera Rufas¹, Elisa Funes Pérez¹, Jacobo Yañez Merino¹, Maria Sopena-Pinilla¹, Olga Ciubotaru¹, Ana Pueyo Bestué¹, Ignacio Pueyo-Bestué² (¹Spain, ²Belgium)
- 678 S.117 Spontaneous haematoma in lower rectus muscle
Aranzazu Caro Ortega, Sofia Sánchez de Lara Sánchez, Gemma Ortega Prades, Francisco Calleja Casado, Amparo Lanuza García (Spain)
- 720 S.118 Retrospective analysis of refractive errors in pediatric patients in Greece
Theodora Gianni, Anna Nikolaidou, Efthymia Tsina (Greece)
- 792 S.119 Association of strabismus and congenital cataract in a 2-year-old girl
Marta Vela de la Torre, Samira Ketabi Shadvar, Jessica Palomares Fernández, Noelia Montaña Muñoz, Olga Martínez González, Jesús Pérez Fiz, Marina Pardo de Andrade Pérez, Pablo Ysart Egusquiza, Miguel Herrero González (Spain)
- 817 S.120 Anterior bilateral optic neuritis as a complication of varicella-zoster virus (VZV)
Ana Cabo, Antonio Pascual-Santiago, Fiorella Katherine Cuba-Sulluchuco, Blanca Domingo-Gordo (Spain)
- 828 S.121 Performance of the AC/A ratio in progressive ages measured by the near vision gradient method
Ana Pombo Hilariao, Carlos Ramos de Souza-Dias, Fabio Pimenta de Moraes (Brazil)
- 829 S.122 *Bartonella neuroretinitis*: case report and literature review
Ghizlane Daghoul, Sara Ettouri, Chahir Rokaya, Ali Rami, Loubna El Maaloum, Bouchra Allali, Asmaa El Kettani (Morocco)
- 843 S.123 Ophthalmologist's musculoskeletal disorders (ergonomic ophthalmology)
Sara Ettouri, Daghoul Ghizlane, Sara Ennaki, Arab Lamiaa, Loubna El Maaloum, Bouchra Allali, Asmaa El Kettani (Morocco)
- 847 S.124 Clinical and multimodal imaging findings in tilted disc syndrome
Safa Ben Aoun, Molka Ferchichi, Rym Maamouri, Ines Fendouli, Slim Selmi, Monia Cheour (Tunisia)
- 107 S.125 Evaluating combination therapies for myopia control: insights from a retrospective study-combining atropine %0.05 with peripheral defocus progressive addition lenses
rf
Nilay Akagun, Emrah Altiparmak (Turkey)
- 117 S.126 Impact of time to idebenone initiation on visual acuity in Leber hereditary optic neuropathy: post hoc analysis of the LEROS study
rf
Valerio Carelli¹, Patrick Yu-Wai-Man², Xavier Llòria¹, Magda Joana Silva³, Thomas Klopstock⁴ (¹Italy, ²United Kingdom, ³Switzerland, ⁴Germany)
- 119 S.127 Visual acuity outcomes by causative mutation in the natural history of Leber hereditary optic neuropathy: analysis of historical data from Case Record Survey-2 (CRS-2)
rf
Patrick Yu-Wai-Man¹, Judith Van Everdingen², Bart Leroy³, Maciej Krawczynski⁴, Costanza Lamperti⁵, Valerio Carelli⁵, Xavier Llòria⁵, Thomas Klopstock⁶ (¹United Kingdom, ²Netherlands, ³Belgium, ⁴Poland, ⁵Italy, ⁶Germany)
- 120 S.128 Visual acuity outcomes by age at symptom onset in the natural history of Leber hereditary optic neuropathy: analysis of historical data from Case Record Survey-2 (CRS-2)
rf
Xavier Llòria¹, Patrick Yu-Wai-Man², Judith Van Everdingen³, Bart Leroy⁴, Maciej Krawczynski⁵, Costanza Lamperti⁵, Valerio Carelli¹, Thomas Klopstock⁶ (¹Italy, ²United Kingdom, ³Netherlands, ⁴Belgium, ⁵Poland, ⁶Germany)

- 135 *rf* S.129 Myopi-X spectacle lenses vs atropine 0.01% for myopia control: Turkish study
Nilay Akagun, Emrah Altiparmak (Turkey)
- 345 *rf* S.130 Peripheral defocus spectacle lenses versus single-vision spectacle lenses for myopia control: systematic review and meta-analysis
João Pedro Lima, Flávia Maria Vital, Júlia Vargas Moreira Pillar Cardoso (Brazil)
- 349 *rf* S.131 Impact of decreased fetal hemoglobin fraction on the development of retinopathy of prematurity
Mariza Fevereiro-Martins, Laura Aguiar, Ângela Inácio, Carlos Cardoso, Ana Carolina Santos, Filipa Teixeira, Rita Rosa, Ricardo Parreira, Pedro Barros, Susana Teixeira, Mafalda Mota, Madalena Monteiro, Mário Alfaiate, Renato Silva, Jorge Breda, Hercília Guimarães, Carlos Marques-Neves, Rui Pinto, Manuel Bicho (Portugal)
- 444 *rf* S.132 Vision-related quality of life of myopic children using combination treatment: atropine and defocus incorporated multiple segment spectacle lenses
Noemi Guemes Villahoz¹, Elena Hernandez-Garcia¹, C. Nunila Gomez-De-Liano¹, Paloma Porrás-Angel¹, Rafael Bella-Gala¹, Paula Talavero-Gonzalez¹, Alicia Ruiz-Pomeda¹, Beatriz Martin-Garcia¹, Rakhee Shah², Julian Garcia Feijoo¹, Rosario Gomez-De-Liano¹ (¹Spain, ²Netherlands)
- 539 *rf* S.133 The retinal structure and visual function in asymptomatic individuals carrying Leber hereditary optic neuropathy mutation
Johan Hedström, Martin Engvall, Pete A Williams, Maria Nilsson, Abinaya Priya Venkataraman (Sweden)
- 721 *rf* S.134 Curcumin nanoparticles: neuroprotection in Alzheimer's disease assessed through the eye
Ehtesham Shamsher, Benjamin Davis, Li Guo, Vy Luong, Nivedita Ravindran, Satyanarayana Somavarapu, Maria Francesca Cordeiro (United Kingdom)
- 736 *rf* S.135 Performance comparison of peripheral defocus spectacle lenses
Andrea Lembo, Irene Schiavetti, Massimiliano Serafino, Roberto Caputo, Paolo Nucci (Italy)
- 753 *rf* S.136 Archetypal analysis for visual field loss characterization of leber hereditary optic neuropathy
Catarina Coutinho, Ferdinando Zanchetta, Michele Carbonelli, Alice Galzignato, Marco Battista, Federico Fantaguzzi, Giulia Amore, Valerio Carelli, Luigi Brotto, Paolo Nucci, Lisa Checchin, Giacomo Savini, Francesco Bandello, Chiara La Morgia, Maria Lucia Cascavilla, Rita Fioresi, Piero Barboni (Italy)
- 685 S.137 From darkness to light: reversible bitemporal hemianopia
Alejandra Antón Guzmán de Lázaro, Maria Teresa Cedazo Antón, Sergio Pernas Martín, Patricia Roig Outeiriño, Eduardo Conesa Hernández, Manuel Moriche Carretero (Spain)
- 784 S.138 Modified Nishida procedure for the treatment of complete cranial nerve palsies: a case series
Miguel Santos, Rui Ferreira, Emanuel Fernandes, Filipa Teixeira, Rita Gama (Portugal)
- 895 S.139 Comparison of blind children's gait pre/post introduction of a wearable assistive safety device
Grace Ambrose-Zaken, Ishani Bakshi, Paul Chong, Robert W. Enzenauer (USA)

Poster Session 2

Moderators: **Ariadna Diaz-Tahoces** (*Spain*), **Giulio Ferrari** (*Italy*), **Sana Niazi** (*Iran*), **Helena Prior Filipe** (*Portugal*), **Thomas Ritter** (*Ireland*)

10:45-11:30

POS **Poster Session COS**

**Monday
4 November 2024**

- 115 M.001 The effect of artificial tears on astigmatism in dry eye patients
Doaa Grew (*Libya*)
- 132 M.002 Efficacy and safety of Lipiflow in the treatment of dry eye disease due to Meibomian gland dysfunction: an updated meta-analysis of randomized controlled trials
Saleha Azeem¹, Luqman Munir¹, Mohammad Ammar ur Rahman¹, Zainab Jamil¹, Mohsin Rashid¹, Sarah Aman² (¹*Pakistan*, ²*USA*)
- 143 M.003 Topical insulin as a treatment for refractory persistent epithelial defects
Elena Arias-García, Ester Fernández López, María José Roig Revert, Cristina Peris Martinez (*Spain*)
- 166 M.004 Corneal epithelial thickness mapping precision in keratoconic eyes with two different optical coherence tomographers
Abinaya Venkataraman, Stephanie Vandemoosdijk, Branka Samolov, Alberto Dominguez-Vicent (*Sweden*)
- 186 M.005 Cosmetic keratopigmentation of anterior corneal stroma with modified micropuncture technique
Laura Goldfarb Cyrino, Giovanni Garotti, Paulo Vigga, Ruth Santo (*Brazil*)
- 200 M.006 Efficacy of topical insulin for refractory persistent corneal epithelial defects: a case series
Alessandra Mancini, Maura Mancini, Vincenzo Scorcìa, Pasquale Aragona, Andrea Taloni, Luca Bifezzi, Giuseppe Giannaccare (*Italy*)
- 203 M.007 Predictive accuracy of saggital height measurements in optimizing scleral contact lens fitting
Fernando Fernandez Velazquez, Victoria Ferigo Ferrel (*Spain*)
- 206 M.008 Normative data of corneal nerves using corneal confocal microscopy in different regions of cornea
Vankudoth Vennela¹, Maria Markoulli², Venkata Nagaraju Konda¹ (¹*India*, ²*Australia*)
- 236 M.009 Comparison of asymmetric offset versus pupil centered ablation in refractive surgery: a randomized, double-masked clinical trial
Shokoofeh Rafati, Hassan Hashemi, Mojgan Pakbin, Alireza Hashemi, Mohammadreza Aghamirsalim, Mehdi Khabazkhoob (*Iran*)
- 237 M.010 Distribution and associated factors of keratometry and corneal astigmatism in general elderly population
Payam Nabovati, Alireza Hashemi, Mohamadreza Aghamirsalim, Hassan Hashemi, Mehdi Khabazkhoob (*Iran*)
- 238 M.011 Topographic determinants of anterior chamber angle narrowing in patients with keratoconus
Payam Nabovati, Hamed Soltan-Dehghan, Abdollah Farzaneh, Mehdi Khabazkhoob (*Iran*)
- 249 M.012 Stuve-Wiedemann syndrome and cornea consequences: a rare case report
Laura Goldfarb Cyrino, Bruna Miranda, Luciana Pina (*Brazil*)

- 281 M.013 Clinical characteristics of post-refractive surgery corneal ectasia
Yengwoo Son, Hyun Sun Jeon (*South Korea*)
- 282 M.014 Effect of postoperative subconjunctival corticosteroid injections in a multimodal approach for the treatment of severe symblepharon
Dmitri Artemiev (*Switzerland*)
- 286 M.015 Identification and quantification of CD3+ and HLA-DR+ cells in pellets from low volume samples of human tears through an Automated Image-Based Cell Counter
Carmen Ciavarella, Piera Versura (*Italy*)
- 335 M.017 Investigating dexpanthenol transfer to the anterior segment from coated contact lenses and aqueous solution
Verena Santer¹, Adyl-Michaël El Guamra¹, Tohru Kawaguchi², Yogeshvar N. Kalia¹, Mouad Lamrani^{1,2} (*¹Switzerland, ²Japan*)
- 343 M.018 The influence of strain on human keratocyte redox homeostasis and behavior
Qian Zhang, Ludvig Backman, Patrik Danielson (*Sweden*)
- 350 M.020 Marginal keratitis after intravitreal injection of bevacizumab
Clara Lara Aroco, María de los Ángeles Ibáñez Ruiz, Silvia Beatriz De Miguel Martín, Rosa María Jiménez Escribano (*Spain*)
- 394 M.021 Convolutional neural networks for detection and classification of corneal pathologies on Scheimpflug imaging
Lennart Hartmann, Armin Wolf, Christian Wertheimer (*Germany*)
- 405 M.022 Anti-pseudomonal effect of nephrite-impregnated contact lenses
Jieun Lee, Sangyoon Kim (*South Korea*)
- 422 M.023 Factors associated with the speed of response to perfluorohexyloctane eye drops (SHR8058) in dry eye disease associated with meibomian gland dysfunction: a post-hoc analysis of a randomised, phase 3 trial
Hao Gu (*China*)
- 425 M.024 Perfluorohexyloctane eye drops in treating dry eye disease associated with meibomian gland dysfunction: a post-hoc analysis of responses in subgroups based on symptoms and signs
Ying Jie (*China*)
- 426 M.025 Efficacy and safety of perfluorohexyloctane eye drops in ametropic patients with dry eye disease associated with meibomian gland dysfunction: a subgroup analysis from a phase 3 clinical trial
Shaozhen Zhao (*China*)
- 433 M.026 Comparison of mice from two different vendors for dry eye disease mouse model
Rubina Thapa, Birgitta Lappeteläinen, Anni Kolehmainen, Anna Mari Koponen, Päivi Partanen, Eerik Lappalainen, Kirsti Härkönen, Oona Pakarinen, Sanni Varis, Anne Mari Haapaniemi, Piia Pietikäinen, Maria Vähätupa (*Finland*)
- 449 M.028 Perfluorohexyloctane eye drops for dry eye disease associated with meibomian gland dysfunction: a subgroup analysis by menopausal status from a phase 3 trial
Xiaoru Shi (*China*)
- 451 M.029 Identifying factors associated with Perfluorohexyloctane treatment response in dry eye disease patients with meibomian gland dysfunction: a post-hoc analysis
Lei Zhu (*China*)

- 458 M.030 Ocular pain correlates with substance P levels in tears of healthy subjects
Silvia Palombella, Giuseppe Suanno, Matteo Pederzoli, Nicolò Bartolomeo, Gianluca Tilaro, Philippe Fonteyne, De Micheli Massimo, Francesco Bandello, Giulio Ferrari (Italy)
- 460 M.031 Vitamin D supplementation modifies clinical and biological markers of keratoconus progression
Giulio Ferrari, Silvia Palombella, Nicolò Bartolomeo, Gianluca Tilaro, Matteo Pederzoli, Romina Mayra Lasagni Vitar, Philippe Fonteyne, De Micheli Massimo, Francesco Bandello (Italy)
- 465 M.032 Cluster analysis using clinical parameters in patients with neuropathic corneal pain demonstrates six differential phenotypes
Pedram Hamrah, Chloe Bogen, Stephanie Cox (USA)
- 480 M.034 Performance and safety of a new preservative-free eye drops in contact lens wearers with dry eye
Grupcheva Christina (Bulgaria)
- 486 M.035 Modified Descemet's stripping automated endothelial keratoplasty (DSAEK) after failed Visco-assisted DALK: case report
Alessandra Mancini, Andrea Lucisano, Giuseppe Giannaccare, Rocco Pietropaolo, Andrea Taloni, Adriano Carnevali, Vincenzo Scordia (Italy)
- 541 M.036 Visualizing morphological features of diseases of the corneal endothelium
Marchien Dallinga^{1,2}, J.M.A van der Krogt¹, I.J.E van der Meulen¹, C.C. Murphy², J.D. van Buul¹ (¹Netherlands, ²Ireland)
- 542 M.037 Reducing discomfort in contact lens wearers: refitting symptomatic users to kalifilcon A
Jose Miguel Sanchez Ruiz, Johnny Di Pierdomenico, Diego Garcia Ayuso (Spain)
- 556 M.038 The physiochemical properties of artificial tears and their impact on human cultured conjunctival goblet cells
Umalbaninn Alnoor, Simone Ahrensberg, Steffen Heegaard, Miriam Kolko (Denmark)
- 562 M.039 Identification of clinical protein markers correlated to the impairment of the lacrimal and meibomian glands in the progression of dry eye syndrome
Natarajan Perumal, Anna Lindner, Adina Glassmacher, Bettina Multani, Hao Lin, Caroline Manicam (Germany)
- 573 M.040 Optimizing keratoconus treatment with AI-driven lenticule matching using pentacam indices
Farideh Doroodgar, Sana Niazi, Hamidreza Nematy (Iran)
- 584 M.041 Topical sevoflurane role as antiseptic on normal conjunctival flora in a rabbit model
Denisse Michelle Espinosa Encalada, Raquel Maroto Cejudo, Óscar Esparcia Rodríguez, Mónica Gómez Juárez Sango, Fernando Andrés Pretel, Carlos Cava Valenciano (Spain)
- 592 M.042 Quantitative assessment of chitin synthase gene of demodex mite on eyelashes and correlation to symptomatology of blepharitis
Georgios Andriopoulos, Chris Kalogeropoulos, Andreas Katsanos, Vasileios Kozobolis, Chryssa Terzidou, Georgios Dalianis, Alexandra Trivli (Greece)
- 595 M.043 Tears as a repository for particulate matter PM 1.0, 2.5 and 10 in an urban environment
Emanuele Porru, Gloria Astolfi, Carmen Ciavarella, Francesco Violante, Piera Versura (Italy)
- 605 M.044 In vivo implantation of the GROSSO shape-memory implant for corneal shape and strength restoration
María Xeroudaki¹, Emiliano Lepore², Edoardo Grosso², Petros Moustardas¹, Letizia Mansutti², Laura González³, Ana Nolla Del Saz³, Neil Lagali¹ (¹Sweden, ²Italy, ³Spain)
- 609 M.045 The analysis of miR-133b and miR-122 in cord blood for eye drop preparations. The differential contribution of platelet-rich-plasma and serum
Carmen Ciavarella, Elisa Bergantin, Marina Buzzi, Piera Versura (Italy)

- 615 M.046 Co-polymer based delivery system for the treatment of ocular surface and cornea diseases
Gloria Astolfi, Giulia Guidotti, Michelina Soccio, Nadia Lotti, Erika Ponzini, Antonio Moramarco, Luigi Fontana, Piera Versura (Italy)
- 617 M.047 Tear substitutes and native tear protein interaction. A pilot study to evaluate possible chemical structural interferences
Gloria Astolfi, Erika Ponzini, Marco Orlando, Silvia Tavazzi, Piera Versura (Italy)
- 618 M.048 Ultrastructure alteration of post INTACS cornea
Saeed Akhtar, Omar Kirat, Aljohara Alkanaan, Turki Almubrad (Saudi Arabia)
- 634 M.049 Can the choice of artificial tears harm patients? A narrative review with learnings from the Nordic guidelines
Katrine Mikha, Christian Rasmussen, Simone Ahrensberg, Josefine Freiberg, Steffen Heegaard, Miriam Kolko (Denmark)
- 644 M.050 Residence time and ultrastructural effects of a new formulation of multiple-action tear substitute: preliminary results at scanning electron microscopy (SEM) examination
Mario Troisi, Salvatore Del Prete, Salvatore Troisi, Daniela Marasco, Ciro Costagliola (Italy)
- 648 M.051 Tear proteomics for the understanding of corneal biomechanical weakness in offspring of keratoconus patients
Maite López-López, Tania Alvite-Piñeiro, Yaiza Pastoriza, Isabel Lema, Uxía Regueiro (Spain)
- 655 M.053 Transmigration of neutrophils across the avascular corneal endothelium
Jeffrey van der Krogt¹, Marchien Dallinga¹, Conor Murphy², Ivanka van der Meulen¹, Jaap van Buul¹ (¹Netherlands, ²Ireland)
- 668 M.054 Management of a case of Stromal Herpetic Keratitis
Javier José Bermúdez Cervilla, Victor Mallen, Andrés Biescas, Nuria Rius, Carmen Ila, Claudia Hernández-Barahona Monleón, Damián García Navarro, Carlos Santana, Inés Munuera, Elisa Funes (Spain)
- 673 M.055 Ocular lichen planus: an unusual occurrence
Sergio Obiol Ferrando, Aranzazu Caro Ortega, Amparo Lanuza García, Sofía Sánchez de Lara Sánchez, Andrea Català Nadal, Antonio Duch-Samper, Sarra Bouchoutrouch, Diego Serrano (Spain)
- 689 M.056 Possible necrotizing scleritis and non-infectious vitritis following intravitreal injection of bevacizumab
Patricia Roig Outeiriño, Maria del Mar Esteban Ortega, Sergio Pernas Martín, Alejandra Antón Guzmán de Lázaro, Eduardo Conesa Hernández, Manuel Moriche Carretero (Spain)
- 690 M.057 Ocular bee sting with retained stinger
E. Iatissam, Mohamed Reda Bentouhami, Younes Hidan, Adil Mchachi, Laila Benhmidoune, Rayad Rachid (Morocco)
- 717 M.058 Single-cell transcriptome profiling of human corneas reveals the pathogenesis of keratoconus
Shuai Ouyang (China)
- 724 M.059 Single-cell transcriptomics analysis reveals the mechanism of Krt16+ corneal wing cells mediating dry eye development
Shuai Ouyang (China)
- 730 M.060 Ultrastructure of long fibers of the peripheral posterior cornea and immunogold localization of BIG-H3 and alpha-elastin proteins
Saeed Akhtar, Omar Kirat, Aljohara Alkanaan, Turki Almubrad (Saudi Arabia)

- 743 M.062 New deep AI-based algorithm to assess quality of primary corneal endothelial cell cultures
Corantin Maurin, Bonnet Guillaume, Gavet Yann, Aouimeur Inès, Parveau Louise, Zhiguo He, Gain Philippe, Gilles Thuret (*France*)
- 750 M.063 Building a framework for public and patient involvement in dry eye disease research. A case study
Tess Ames¹, Alison Reynolds¹, Evan Matthews¹, Dorsa Golestenah¹, Muhammad Sarfraz¹, Martina Gooney¹, Sharon Kinsella¹, Ann Logan², John Lynch¹, Peter McLoughlin¹, Orla O'Donovan¹, Niall O'Reilly, Sweta Rani¹, Helena Prior Filipe³, Laurence Fitzhenry¹ (¹*Ireland*, ²*United Kingdom*, ³*Portugal*)
- 758 M.064 Computational and experimental mechanical characterization of a novel corneal implant for the treatment of keratoconus
Graziana Maria Ragonese, Dario Carbonaro, Sara Zambon, Elena Villa, Edoardo Grosso, Moses Kakanga, Emiliano Lepore, Diego Gallo (*Italy*)
- 760 M.065 The relationship between corneal nerve density and corneal dendritic cells in patients with type 2 diabetes macular edema
Ania Cikowska Filipek¹, Neil Lagali¹, Andreas Viberg¹, Gauti Johannesson^{1,2}, Berit Byström¹ (¹*Sweden*, ²*Iceland*)
- 765 M.066 The burden of medical contraindications to corneal donation: time for review
Gilles Thuret, Oliver Dorado Cortez, Sylvain Poinard, Epinat Magali, Collange Fanny, Sandrine Ninotta, Jean Luc Perrot, Philippe Gain (*France*)
- 773 M.067 Microbial keratitis in a tertiary hospital in Ireland
Esraa Hegazy, Muhammad Yusuf bin Mohd Fauzi, Elaine Houlihan, David Gallagher, Barry Quill, William Power, Susan Knowles, Conor Murphy (*Ireland*)
- 774 M.068 Pituitary adenylate cyclase activating polypeptide counteracts high glucose-induced inflammation in corneal epithelial cells
Grazia Maugeri, Agata Grazia D'Amico, Benedetta Magri, Velia D'Agata (*Italy*)
- 778 M.069 The role of Substance P in maintaining corneal innervation and ocular surface homeostasis
Giuseppe Suanno, Philippe Fonteyne, Nicolò Bartolomeo, Massimo De Micheli, Francesco Bandello, Giulio Ferrari (*Italy*)
- 789 M.070 4 mm Descemetorhexis and anterior lens capsule graft versus Descemet Stripping Only: a preclinical study
Paul Goin, Parveau Louise, Sylvain Poinard, Dorado Cortez Oliver, Zhiguo He, Gain Philippe, Gilles Thuret (*France*)
- 806 M.071 Anterior segment optical coherence tomography assisted analysis of characteristics of graft dehiscence after Descemet membrane endothelial keratoplasty for failed penetrating keratoplasty
Mert Mestanoglu¹, Pratima Vishwakarma^{1,2}, Veronika Welge-Lüssen¹, Simona Schlereth¹, Claus Cursiefen¹, Björn Bachmann¹ (¹*Germany*, ²*India*)
- 810 M.072 Impact of residual stromal thickness on the outcomes of manual deep anterior lamellar keratoplasty
Andrea Taloni, Giuseppe Alessio, Maria Angela Romeo, Luca Bifezzi, Alessandra Mancini, Costanza Rossi, Massimiliano Borselli, Giuseppe Giannaccare, Vincenzo Scordia, Andrea Lucisano, Giovanna Carnovale Scalzo (*Italy*)
- 823 M.073 Characterization of cold thermosensitive trigeminal neurons that innervate the cornea
Ariadna Diaz-Tahoces, Fernando Aleixandre-Carrera, Enrique Velasco, M. Carmen Acosta, Juana Gallar (*Spain*)
- 826 M.074 Anti-inflammatory effects of Thealoz Duo eye drops on the ocular surface of dry eye patients
Kristian Nzogang Fomo, Natarajan Perumal, Majd Hadji, Jie Yang, Dominik Wolters, Norbert Pfeiffer, Franz Grus (*Germany*)

- 830 M.075 Revisiting Fuchs endothelial corneal dystrophy clinical classification using innovative high-resolution, far-red, reflexion free retroillumination
Gilles Thuret, Oliver Dorado-Cortez, Sylvain Poinard, Anthony Ain, Hanielle Vaitinadapoule, Marie-Caroline Trone, Thierry Lepine, Philippe Gain (France)
- 833 M.076 Understanding structural changes in keratoconus: anterior scleral and choroidal thickness analysis using swept source optical coherence tomography
Asma Hassairi, Chebil Ahmed, Oueslati Mehdi, Rim Limaiem (Tunisia)
- 844 M.077 Comparison of two commercial media for corneal organ culture and deswelling: CorneaMax/CorneaJet versus Tissue-C/carry C
Zhiguo He, Sandrine Ninotta, David Toubeau, Tomy Sagnial, Sylvain Poinard, Oliver Dorado Cortez, Paul Goin, Philippe Gain, Marc Muraine, Gilles Thuret (France)
- 850 M.078 Effect of insulin eye drops for refractory persistent corneal epithelial defects
Zsuzsanna Valyi, Lia Judice De Menezes Relvas, Maxime Makhoul, François Willermain (Belgium)
- 855 M.079 Success rate of primary cultures of corneal endothelial cells from donors over 50 years old
Zhiguo He, Inès Aouimeur, Tomy Sagnial, Parveau Louise, Chantal Perrache, Jean-Yves Thuret, Philippe Gain, Gilles Thuret (France)
- 857 M.080 Ocular findings in erythema multiforme major
Safa Ben Aoun, Molka Ferchichi, Sana Romdhani, Rym Maamouri, Ines Fendouli, Talel Badri, Monia Cheour (Tunisia)
- 112 M.081 Novel diagnostic and treatment algorithm for pythium insidiosum keratitis- redefining management guidelines
rf **Bharat Gurnani, Kirandeep Kaur (India)**
- 786 M.082 Genetically modified mesenchymal stem cells with CXCR4 and TSG-6 as future cell therapy for the ocular surface: in vitro study of the cell migration and the regenerative capacity in an inflammation model
rf **Jessica Nataly Figueroa-Haro, Esther González de la Parte, Beatriz Marceñido, Carmen García Vázquez, Sara Galindo de la Rosa, Marina López Paniagua, Margarita CALONGE, Alberto López-Miguel, Teresa Nieto Miguel, Ana de la Mata Sampedro (Spain)**
- 222 M.083 Surgical detachment of irido- and lenticulocorneal adhesions in Peters anomaly
rf **Elsa-Leea Kotola, Joni A. Turunen, Päivi Lindahl, Kari Krootila, Anna Majander (Finland)**
- 304 M.084 Extraction and quantification of human tear proteins sampled by Schirmer test strips. A validated and standardized method
rf **Emanuele Porru, Carmen Ciavarella, Rossana Comito, Gloria Astolfi, Francesco Violante, Piera Versura (Italy)**
- 470 M.085 Comparative efficacy of receptor tyrosine kinase inhibitors in a mouse model of alkali burn-induced corneal neovascularization
rf **Titas Gladkauskas, Ida Rundgren, Ileana Cristea, Eyvind Rødahl, Cecilie Bredrup (Norway)**
- 524 M.086 Development of a bioreactor to examine the response of corneal cells to fluid shear stress
rf **Matthia Bonizzi (Ireland)**
- 575 M.087 Engineering multicellular organoid for corneal niche modelling and regenerative therapies
rf **Ayesha Gulzar, Isilay Goktan, Esra Yalcin, Afsun Sahin, Seda Kizilel (Turkey)**
- 677 M.088 Efficacy and tolerability of a new riboflavin-based dye compared to double staining with fluorescein and lissamine green in the evaluation of corneal-conjunctival epithelial defects: preliminary data
rf **Mario Troisi, Ciro Caruso, Salvatore Troisi, Carlo Bellucci, Ciro Costagliola (Italy)**

- 722 M.089 Morphometric histological description of Fuchs endothelial dystrophy guttae
rf **Rahul Jonas, Antonia Howaldt, Mario Matthaei, Simona Schlereth, Björn Bachmann, Claus Cursiefen (Germany)**
- 818 M.090 Quality control in corneal eye banking: impact of preservation time on graft endothelium
rf **João Castro Cabanas, Daniel Ferreira Cardoso, Pedro Moreira Martins, Ricardo Machado Soares, Ana Clara Ribeiro, Carlos Arêde, Joaquim Sequeira (Portugal)**
- 884 M.092 In-situ printing of GelMa-based hydrogels for cornea regeneration
rf **Hamid Goodarzi, Boda Om, May Griffith, Christos Boutopoulos (Canada)**
- 114 M.093 Designing and testing anti-scarring and anti-inflammatory biomaterials for corneal implants: a promising alternative to human donors
Anas Abu-Dieh¹, Boda Om¹, Neethi Thathapudi¹, Mozghan Kiyaseh¹, Mostafa Roudbaraki¹, Marie-Claude Robert¹, Mélanie Hébert¹, Samir Jabbour^{1,2}, Mona Harissi-Dagher¹, May Griffith¹ (¹Canada, ²USA)
- 260 M.094 Gene expression profiling of oxidative and anti-oxidative genes in keratoconus patients
Shivam Sharma, Lata Singh, Seema Kashyap, Seema Sen, Namrata Sharma (India)

POS Poster Session EOVS

- 140 M.095 International standard pattern electroretinogram assessment of macular function is improved by additional large-check responses
Anne Georgiou, Magella Neveu, Antonio Calcagni, Anthony Robson (United Kingdom)
- 165 M.096 Changes in the accommodative microfluctuations with different viewing conditions and stimuli targets
Alberto Dominguez-Vicent, Paulina Selin, Abinaya Venkataraman (Sweden)
- 385 M.097 Pattern ERG (PERG) and photopic negative response (PhNR) in glaucoma suspects vs primary open angle glaucoma
Subashini Kaliaperumal, Jawahar Sathyababu, Geeta Behera, Priyanka Ramanathan (India)
- 430 M.098 Comparison of refractive parameters provided by a new open field aberrometer and the subjective refraction
Ana Belen Plaza Puche, Antonio Martínez-Abad, Mario Cantó-Cerdán, Pilar Yebana, Marina José-Martínez, Alejandra Rodriguez, Jorge Alio (Spain)
- 484 M.099 Flicker modulation sensitivity with dual-focus contact lenses for myopia control
María Puell, Alicia Ruiz-Pomeda, Cecilia Robledo-Pacheco, Laura Capdevila-Muñoz, Jesús Carballo-Álvarez (Spain)
- 654 M.100 Evaluation of neurophysiological findings by portable full-field electroretinogram in long-term type 1 diabetics without diabetic retinopathy
Marta Arias Álvarez, Maria Sopeña-Pinilla, Guisela Fernández-Espinosa, Cristina Tomas-Grasa, Elvira Orduna-Hospital, Diego Rodríguez Mena, Isabel Pinilla (Spain)
- 746 M.101 Evaluation of cone-mediated dark adaptation using a smartphone App (MOBILE_DA) in healthy subjects
Beatriz Sánchez Gavilán¹, Maria Cinta Puell Marin¹, Shrinivas Pundlik² (¹Spain, ²USA)
- 870 M.102 Correlation between multifocal electroretinogram and autofluorescence in patients with ABCA4 retinopathy
Marta Arias Álvarez, Maria Sopeña-Pinilla, Guisela Fernández-Espinosa, Inés Vicente Garza, Elvira Orduna-Hospital, Ana Boned-Murillo, M^a Dolores Díaz-Barreda, Diego Rodríguez Mena, Isabel Pinilla

(Spain)

- 880 M.103 Consequences of forced distance learning for patients with myopia
Yuliia Boieva, Pavlo Bezditko, Elena Sinichenko, Anastasia Shelenkova, Elena Honchar (Ukraine)
- 191 M.104 Neurovascular coupling response: a follow-up study
rf **João Jordão, Sérgio Rodrigues, Joana Domingues, Pedro Serranho, Pedro Guimarães, Rui Bernardes (Portugal)**
- 291 M.105 Is there a common factor for vision?
rf **Michael Herzog¹, Simona Garobbio¹, Maximilian Pfau², Hendrik Scholl² (¹Switzerland, ²Austria)**
- 440 M.106 Objective measurement of accommodation in patients with an accommodating intraocular lens compared to phakic, presbyopic, and pseudophakic eyes
rf **Timo Eppig¹, Manuel Seer¹, Violetta Müller¹, Saskia Schütz¹, Michiel Rombach², Willem Van Lawick² (¹Germany, ²Netherlands)**
- 501 M.107 Orthokeratology and myopia control: a comprehensive meta-analysis of axial growth in children and adolescents
rf **António Queirós, Inês Mota-Silva, Ana Filipa Pereira-da-Mota (Portugal)**
- 503 M.108 Efficacy of orthokeratology on peripheral refraction in youth: a comprehensive meta-analysis
rf **António Queirós, Inês Silva-Pinheiro, Paulo Fernandes (Portugal)**
- 551 M.109 Adaptive optics fundus images: automatic vs manual vessel segmentation
rf **Rui Bernardes, João Jordão, Sérgio Rodrigues, Joana Domingues, Pedro Serranho, Pedro Guimarães (Portugal)**
- 580 M.110 Normal, age-related differences in cone- and rod-enhanced rapid flicker thresholds
rf **Aiman Hafeez, Alison Binns, Irene Ctori, John Barbur (United Kingdom)**
- 599 M.111 Retinal image quality with myopia control lenses, in the synthetic accommodative wavefront model
rf **Maria Mechó García, Paulo Fernandes, Miguel Ángel Faria-Ribeiro (Portugal)**
- 670 M.112 Closed-perfusion transretinal ERG (tERG) on mouse and human retinas
rf **Sama Saeid¹, Marja Pitkänen¹, Emma Ilonen¹, Zia L'Ecuyer², Jukka Niskanen¹, Heikki Tenhu¹, Frans Vinberg², Ari Koskelainen¹ (¹Finland, ²USA)**
- 727 M.113 Evaluation and evolution of an algorithm-based subjective refraction in children
rf **Daniel Francois¹, Wee Sing Ong², Andrew Kwok-Cheung Lam³, Kenneth Ka-king Liu³, Adele Longo¹ (¹France, ²Singapore, ³Hong Kong)**
- 759 M.114 Silver bismuth sulfide quantum dot-based bioelectronics for light-mediated neuronal stimulation
rf **Humeyra Nur Kaleli, Ridvan Balamur, Tarik Safa Kaya, Asim Önal, Çiğdem Pehlivan, Afsun Sahin, Sedat Nizamoğlu, Murat Hasanreisioğlu (Turkey)**
- 838 M.115 A new light-adaptive lens improves contrast sensitivity when transitioning from bright to dark environments
rf **Raul Duarte-Toledo¹, Juan Mompean¹, Alba Paniagua-Diaz¹, Nacer Lakhchaf², Emmanuel Kobia-Acquah², Pablo Artal¹, Coralie Barrau² (¹Spain, ²Ireland)**
- 569 M.116 Retinal vessel flicker light responsiveness and its relation to analysis protocols, static and metabolic data in healthy subjects
Dmitri Artemiev, Margarita Todorova (Switzerland)
- 144 M.117 Agreement of Pentacam AXL and IOL master in determining axial length in irregular cornea

POS

Poster Session LC

Monday
4 November 2024

Abbas Ali Yekta, Mehdi Khabazkhoob, Hasan Hashemi, Niloufar Irandoust, Hadi Ostadimoghaddam, Asieh Ehsaei, Javad Heravian, Sara Sardari, Abbas Azimi Khorasani, Yeganeh Yekta (Iran)

- 145 M.118 Repeatability of Pentacam AXL in determining axial length and ocular indices in people with irregular cornea
Abbas Ali Yekta, Niloufar Irandoust, Mehdi Khabazkhoob, Hadi Ostadimoghaddam, Hasan Hashemi, Javad Heravian, Asieh Ehsaei, Yeganeh Yekta, Sara Sardari, Reihaneh Yekta (Iran)
- 379 M.120 Femtosecond laser assisted phacoemulsification plus IOL implant: toric IOL vs astigmatism keratotomy
Howard Wen-Haur Chao¹, Windsor Wen-Jin Chao^{1,2}, Hsiao-Ming Chao³ (¹United Kingdom, ²Canada, ³Taiwan)
- 409 M.121 Visual outcomes after implantation of trifocal intraocular lens pairing two complementary light distributions
Ana Belen Plaza Puche, Jorge Alió del Barrio, Pilar Yebana, Antonio Martínez-Abad, Mario Cantó-Cerdán (Spain)
- 457 M.122 Bilateral aqueous misdirection following cataract surgery: a case report
Owais Tahhan (United Kingdom)
- 646 M.123 Personalized approach for laser posterior capsulotomy in patients with open-angle glaucoma and non-proliferative diabetic retinopathy
Nino Gogichaishvili, Madina Rabadanova, Angelina Kazantseva (Russian Federation)
- 813 M.124 Effect of the spherical aberration in intraocular lenses on visual quality
Dayan Flores Cervantes, Emilio Dorrnoro Ramírez, Vanesa Gerena Arevalo, Alfredo Morales Paciencia, Inas Baoud Ould Haddi, Cristina Bonnin Arias, Vanesa Blázquez Sánchez (Spain)
- 816 M.125 Influence of lighting conditions on visual acuity with two intraocular lens designs
Inas Baoud Ould Haddi, Dayan Flores Cervantes, Emilio Dorrnoro Ramírez, Vanesa Blázquez Sánchez, Cristina Bonnin Arias (Spain)
- 149 M.126 Virtual reality meets cataract surgery: unleashing innovative leap motion's potential in wet lab training
rf **Bharat Gurnani, Kirandeep Kaur (India)**
- 160 M.127 Actual lens position of three intraocular lenses in highly myopic eyes: an ultrasound biomicroscopy-based study
rf **Jiao Qi, Xiangjia Zhu (China)**
- 161 M.128 Preclinical evaluation on the biocompatibility and biosafety of a new foldable brown-diaphragm intraocular lens: an in vitro and in vivo study
rf **Keke Zhang, Shaohua Zhang, Wenwen He, Yi Lu, Xiangjia Zhu (China)**
- 174 M.129 The effect of peri- and preoperative anxiety on cardio-vascular parameters and intraocular pressure of patients awaiting cataract surgery
rf **Galina Dimitrova, Ana Gjorgjiovska, Antonela Ljubic, Sofija Milanovska Jordanovska (Macedonia)**
- 395 M.130 Employing deep learning for prediction of the refractive error after cataract surgery
rf **Lennart Hartmann, Freisenich Tim, Wolf Armin, Wertheimer Christian (Germany)**

- 606 *rf* M.131 The importance of adequate preparation of the ocular surface before biometry in reducing refractive errors in patients undergoing cataract surgery
Katarzyna Biela, Mateusz Winiarczyk, Jerzy Mackiewicz (Poland)
- 633 *rf* M.132 Carlevalle intraocular lens refractive predictability: a retrospective analysis
Bruno Guerreiro Dias, Diogo Bernardo Matos, Carlos Marques-Neves, Mun Yueh Faria, Nuno Pinto Ferreira (Portugal)
- 658 *rf* M.133 Clinical impact of intraocular lens tilt and decentration on visual outcome in patients undergoing cataract surgery
Laura Moreno Rodríguez¹, Lourdes Salgueiro Tielas¹, Azahara Sánchez-Lozano¹, Luis García-Onrubia¹, Gonzalo Velarde-Rodríguez¹, Miguel Ángel Faria-Ribeiro², Nicolás Alejandro-Alba¹ (¹Spain, ²Portugal)
- 706 *rf* M.134 The use of the Smart Eye Camera device for cataract screening in the endocrine and ophthalmology clinics in a general hospital in Jordan
Mohammed Khalil¹, Luai Abu-Ismaïl¹, Mohammed Abu Imran¹, Rohan Khemlani², Shintaro Nakayama², Hiroki Nishimura², Eisuke Shimizu² (¹Jordan, ²Japan)
- 839 *rf* M.135 Quantifying epithelial cell viability on whole porcine lenses using triple Hoechst-Ethidium-Calcein-AM staining in a chemical toxicity model
Sylvain Poinard, Louise Coulomb, Gabriel Chapelon, Oliver Dorado Cortez, Justin Thomas, Zhiguo He, Chantal Perrache, Alice Ganeau, Fabien Forest, Frederic Mascarelli, Philippe Gain, Gilles Thuret (France)
- 842 *rf* M.136 To what extent cataract surgery changes perceptual functions?
Simona Garobbio, Ursula Hall, Hanna Zuche, Michael Herzog (Switzerland)
- 854 *rf* M.137 Congenital aniridia: experience of 26 years in the department of pediatric ophthalmology of Casablanca, Morocco
Ghizlane Daghoulj, Sara Ettouri, Chahir Rokaya, Ali Rami, Loubna El Maaloum, Bouchra Allali, Asmaa El Kettani (Morocco)
- 681 M.138 Patient demographics and surgical outcomes of dropped nucleus in cataract surgery
Pedro Martins, João Cabanas, Daniel Cardoso, Filipe Sousa-Neves (Portugal)

Poster Session 3

Moderators: **Jan-Willem Beenakker** (*Netherlands*), **Pedro De La Villa** (*Spain*), **Anu Kauppinen** (*Finland*), **Ana Isabel Ramirez** (*Spain*), **Jose Manuel Ramirez** (*Spain*), **Christina Zeitz** (*France*)

10:15-11:00

POS Poster Session MBGE

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|------------------|-------|---|
| 735 | T.001 | Ocular post-mortem analyses with histopathological and molecular assessments in leber hereditary optic neuropathy following AAV2 gene therapy
Valerio Carelli¹, Nancy Newman², Leonardo Caporali¹, Fred Ross-Cisneros², Elisa Boschetti¹, Valérie Biousse², Lindreth Dubois², Henry Liu², Philippe Ancian³, Magali Taiel³, Alfredo Sadun² (¹ Italy, ² USA, ³ France) |
| 752 | T.002 | Neurodegenerative mechanisms in diabetic retinopathy: insights from an Irs2 ^{-/-} mouse model
Alex Gallego-Martínez, Irene Andrés-Blasco, Carlos Acosta Umanzor, Francisco Jose Iborra Rodríguez, Maria Dolores Pinazo Durán, Deborah J. Burks (<i>Spain</i>) |
| 755 | T.003 | Major genes in inherited retinal dystrophies: ten years of next generation sequencing
Sheila Ruiz-Nogales, Pilar Méndez-Vendrell, Rafael Navarro, Anniken Burés, Esther Pomares (<i>Spain</i>) |
| 568
<i>rf</i> | T.004 | Exploratory and comprehensive description of an Italian cohort of patients affected by Leber hereditary optic neuropathy carrying the pathogenic variants m.11778G>A/MT-ND4 and m.3460G>A/MT-ND1
Martina Romagnoli, Michele Carbonelli, Giulia Amore, Claudio Fiorini, Corrado Zenesini, Pietro D'Agati, Concetta Valentina Tropeano, Maria Lucia Cascavilla, Piero Barboni, Leonardo Caporali, Valerio Carelli, Chiara La Morgia (<i>Italy</i>) |
| 264
<i>rf</i> | T.005 | Gut microbial dysbiosis in age-related macular degeneration
Joëlle Vergroesen¹, Jeroen Vermeulen¹, Eric Thee¹, Bart Liefers¹, Caroline Klaver^{1,2} (¹ Netherlands, ² Switzerland) |
| 373
<i>rf</i> | T.006 | Whole genome sequencing requested directly from a multi-ethnic London adult retinal clinic
Dost Jabarkhyl, Mrunmayi Jeste, Isabelle Chow, Moin Mohamed, Omar Mahroo (<i>United Kingdom</i>) |
| 407
<i>rf</i> | T.007 | ODDB: an interactive database for clinical and translational research in ocular diseases
Umair Seemab, Anna Kalatanova, Saad Hassan, Ziaurrehman Tanoli, Henri Leinonen (<i>Finland</i>) |
| 508
<i>rf</i> | T.008 | The cumulative impact of air pollution on dry eye disease: evidence from the Korea National Health and Nutrition Examination Survey (2017-2020)
Dong Weon Shin¹, Yunnice Cho¹, Tyler Rim², Kyung Yul Seo¹ (¹ South Korea, ² Singapore) |
| 167
<i>rf</i> | T.009 | Genome-wide association study of anterior uveitis
Fredrika Koskimäki¹, Oona Ahokas¹, FinnGen Consortium¹, Estonian Biobank Research Team², Abdelrahman Elnahas², Anu Reigo², Kadri Reis², Tõnu Esko², Priit Palta², Sanna Leinonen¹, Johannes Kettunen¹, Johanna Liinamaa¹, Minna Karjalainen¹, Ville Saarela¹ (¹ Finland, ² Estonia) |
| 597
<i>rf</i> | T.010 | Studies in the electroretinogram i-wave: evidence for OFF pathway origin and association with a myopia risk locus
Krishnika Vetrivel, Jit Kai Tan, Zihe Xu, Xiaofan Jiang, Shaun Leo, Taha Bhatti, Ambreen Tariq, Christopher Hammond, Pirro Hysi, Omar Mahroo (<i>United Kingdom</i>) |

Tuesday
5 November 2024

- 737 *rf* T.011 Genetic variations in human opsin genetics: understanding color vision phenotypes and defects
Olivia Lilja, Michael Backlund, Jussi Tiihonen, Harri Kangas, Kati Donner, Petri Ala-Laurila, Joni Turunen (Finland)
- 747 *rf* T.012 Using long-read adaptive nanopore sequencing to decipher a novel pathogenic duplication in the PRPH2 gene in patients with macular dystrophy
Michael Backlund¹, Suzie Gasparian², Pauliina Repo¹, Harri Kangas¹, Kati Donner¹, Sanna Seitsonen¹, Maarjaliis Paavo¹, Tero Kivelä¹, David Sierpina², Joni Turunen¹ (¹Finland, ²USA)
- 801 *rf* T.013 GPT wars: creating and detecting fake ophthalmology data sets with artificial intelligence
Andrea Taloni, Giulia Coco, Marco Pellegrini, Andrea Lucisano, Giovanna Carnovale Scalzo, Vincenzo Scoria, Giuseppe Giannaccare (Italy)
- 848 T.014 Prevalente of color vision anomalies among Brazilian industrial workers and the telemedicine role
Roberto Machado, Pedro Ribeiro Junior, Mauro Guimarães Filho, Ariadne Negreiros, Marco Negreiros (Brazil)
- 851 *rf* T.015 Epidemiology of eyelid affections in the ophthalmological emergency department of a tertiary hospital in São Paulo
Ana Pombo Hilario, Gabriel Cassani, Eugênia Adan Langella, Niro Kasahara, Aline Pimentel de Miranda (Brazil)
- 459 T.016 Characterizing iPSC-derived organoid models from the most prevalent retinal dystrophies
Arnau Navinés-Ferrer, Paula Gaudó, Pilar Méndez-Vendrell, Sheila Ruiz-Nogales, Laura Siles, Esther Pomares (Spain)

POS

Poster Session PBP

- 336 T.017 Retinal neurovascular coupling in long COVID patients
Theresa Lindner, Viktoria Pai, Patrick Janku, Liudmyla Pylypenko, Astrid Ehm, Ruth Fritsch-Stork, Gerhard Garhöfer, Doreen Schmidl (Austria)
- 498 T.018 Survey of β -blockers against retinal degeneration
Anthi-Styliani Makiou, Anna Kalatanova, Eva Maria del Amo, Henri Leinonen (Finland)
- 770 T.019 Non-invasive variables to assess acute stress in surgical personnel: a pilot study
Rubén Cabrera Beyrouti, Marina López García, Rocío Alfayate Guerra, María Eugenia Torregrosa Quesada, Jorge Francés Ferré, María Victoria González Bueno, Adolfo Aracil-Marco (Spain)
- 216 *rf* T.020 Biodistribution of alpha-lipoic acid in beta- cyclodextrins: analyzing ex vivo delivery to the posterior segment of the eye
Phuong Linh Ta, Lucia Bernat Just, Adrián Alambiaga-Caravaca, Vicente Rodilla Alarma, Alicia López Castellano, Francisco Bosch Morell (Spain)
- 244 *rf* T.021 Retinal oxygen extraction during systemic hypoxia assessed with Laser-Speckle Flowgraphy and retinal oximetry
Viktoria Pai¹, Theresa Lindner¹, Patrick Janku¹, Leopold Schmetterer^{1,2,3}, Doreen Schmidl¹, Gerhard Garhöfer¹ (¹Austria, ²Singapore, ³Switzerland)
- 332 *rf* T.022 Comparative neuroprotective effects of xenogeneic and allogeneic bone marrow-derived mesenchymal stromal cells in a murine model of sepsis
Jhoana Abigail Guarnizo Campoverde, Kristy Tatiana Rodríguez Ramírez, David García Bernal, Fernando Lucas-Ruiz, Manuel Vidal-Sanz, Marta Agudo-Barriuso (Spain)

Tuesday
5 November 2024

- 339 *rf* T.023 Investigating the temporal variability of the tear fluid proteome for biomarker discovery
Erika Ponzini, Carlo Santambrogio, Rita Grandori, Silvia Tavazzi (Italy)
- 370 *rf* T.024 Retinal ischemia: therapeutic effects and mechanisms of paeoniflorin
Winsdor Wen-Jin Chao¹, Howard Wen-Haur Chao^{1,2}, Hsiao-Ming Chao³ (¹United Kingdom, ²Canada, ³Taiwan)
- 408 *rf* T.025 Morpho-functional alterations and miRNome dysregulation in the retina of a mouse model of Alzheimer's disease: paving the way for new strategies of gene therapy
Lorenzo Guidotti, Rosario Amato, Martina Lucchesi, Ugo Borello, Maurizio Cammalleri, Massimo Dal Monte (Italy)
- 410 *rf* T.026 Early detection of biochemical changes in tear fluid induced by contact lens wear using Raman spectroscopy
Silvia Tavazzi, Fabio Pezzoli, Erika Ponzini, Alessandro Duse (Italy)
- 527 *rf* T.028 Actin-related proteomic changes in age-related, diabetic and post-vitreectomy cataract
Christina Karakosta, Martina Samiotaki, George Parayotou, Dimitrios Papaconstantinou, Marilita Moschos (Greece)
- 731 *rf* T.029 Upregulation of rod ribbon synapse components implies homeostatic presynaptic scaling in early-stage retinitis pigmentosa
Elias Roihuvuo¹, Marcin Tabaka², Ahmed Montaser¹, Elliot Choi³, Krzysztof Palczewski³, Frans Vinberg³, Henri Leinonen¹ (¹Finland, ²Poland, ³USA)
- 860 *rf* T.030 Thermographic analysis of patients with lacrimal tract obstruction
Natalha Carvalho, Roberto Machado, Renata de Lara Campos Coelho, Ana Pombo Hilariao, Guilherme Gomes, Alexandre Aldred, Ivana Romero-Kusabara (Brazil)
- 867 *rf* T.031 Thermographic analysis of patients with active thyroid eye disease undergoing pulse therapy with methylprednisolone
Renata de Lara Campos Coelho, Natalha Carvalho, Roberto Machado, Ana Pombo Hilariao, Alexandre Aldred, Guilherme Gomes, Ivana Romero-Kusabara (Brazil)
- 334 T.032 Elevation of retinal dopamine content and metabolism in a retinitis pigmentosa mouse model
Katri Vainionpää, Ida Pavela, Aaro Jalkanen, Henri Leinonen (Finland)

Tuesday
5 November 2024

POS

Poster Session PO

- 141 T.033 Iris, ciliary body and choroid metastasis from salivary duct carcinoma of parotid gland: case report
Vasco Lobo, Bernardo Monteiro, Rafael Whitfield, Cecília Alvim, Filomena Pinto (Portugal)
- 310 T.034 Isolated corneal intraepithelial neoplasia: an unheard variety
Luis Maria Carles-Cerban, Maria Noelia Moraña-Borrageiros, Andrea Alvarez-Novoa-Rodriguez-Cadarso, Roberto Alvarez-Rodriguez, Victoria De-Rojas-Silva (Spain)

- 494 T.035 "TINU-like syndrome" as a rare adverse effect of nivolumab: a clinical case
Ana Pueyo Bestué¹, Ignacio Pueyo-Bestué², Diego Fernández-Velasco¹, Victor Mallén¹, Javier Bermúdez¹, Andrés Biescas¹, Núria Rius¹, Carmen Ila¹, Claudia Hernández-Barahona¹, Damian García-Navarro¹ (¹Spain, ²Belgium)
- 614 T.036 Case report of cancer-associated retinopathy in a patient with neuroendocrine carcinoma of the esophagus
Claudia Hernández-Barahona Monleón, Carmen Ila Ruez, Damián García Navarro, Carlos Santana Plata, Inés Munuera Rufas, Elisa Funes Pérez, Jacobo Yañez Merino, Maria Sopeña-Pinilla, Olga Ciubotaru, Nieves Pardiñas Barón, Ana Pueyo Bestué (Spain)
- 653 T.037 Early incidental discovery of choroidal melanoma in a young predisposed patient
Salma Hamidi, El Arari Nihal, Laarif Younes, Ouadghiri Soukayna, Saad Benchekroun, Rim Elhachimi, Amazouzi Abdellah, Cherkaoui Lalla Oufae (Morocco)
- 693 T.038 Bilateral levator palpebrae superioris involvement by MALT lymphoma
Aranzazu Caro Ortega, Sergio Obiol Ferrando, Diego Serrano Fernando, Elena Gracia Rovira, Amparo Lanuza García (Spain)
- 872 T.039 Hedgehog pathway inhibitors in eyelid tumors
Elisa Funes¹, Jacobo Yañez Merino¹, Maria Sopeña-Pinilla¹, Olga Ciobotaru¹, Ana Pueyo Bestué¹, Ignacio Pueyo-Bestué², Diego Fernandez-Velasco¹, Victor Mallen¹, Javier Bermudez¹, Andrés Biescas¹ (¹Spain, ²Belgium)
- 477 T.040 Efficacy and safety of intralesional bleomycin as a treatment in eyelid hydrocystomas
rf **Martin Arzola, Jorge Cárdenas-Belaunzarán, Ariel Ceriotto Garcia** (Mexico)
- 483 T.041 Evaluating brolocizumab in neovascular AMD: clinical outcomes from a tertiary care eye hospital
rf **Inés López-Cuena¹, Lorenzo Fabozzi², Saad Younis³, Sagnik Sen³, Filomena Palmieri³** (¹Spain, ²USA, ³United Kingdom)
- 538 T.042 Contribution of lymphatic-like vessels to severe neovascularization following stent-assisted coiling of an unruptured carotid artery aneurysm
rf **Ani Korhonen, Erika Hagan Brown, Tommi Parkkinen, Sirpa Loukovaara** (Finland)
- 624 T.043 Modeling senescence in ARPE19 cells to investigate the role of small extracellular vesicles in age-related macular degeneration
rf **Rosa Fernandes, Diana Correia, Beatriz Martins, João Malva, Henrique Girão** (Portugal)
- 865 T.044 Sentinel lymph node biopsy in a case of conjunctival melanoma
Nuria Rius, Olga Ciobotaru, Maria Sopeña-Pinilla, Jacobo Yañez Merino, Elisa Funes, Inés Munuera, Carlos Santana, Damián García Navarro, Claudia Hernández-Barahona Monleón, Carmen Ila (Spain)

POS Poster Session RV

- 103 T.045 Retrospective review of the annual endophthalmitis rates following intravitreal injections at Royal Bournemouth Hospital OVER an eight-year period from 01/02/2016 until 31/01/2024
Georgios Tsokolas, Charalambos Tossounis, Owen Anderson, Non Matthews (United Kingdom)
- 131 T.046 Submacular hemorrhage displacement with subretinal rtPA and air injection
Daniela Rego-Lorca, Jaume Crespí-Vilimelis, Irene Loscos-Giménez, Alicia López-de-Eguileta, Jesús Díaz-Cascajosa, José Ignacio Vela-Segarra (Spain)

- 178 T.047 Myopia-related risks and benefits in the two-continent population-based studies project
Songhomitra Panda-Jonas¹, Bikbov Mukharram², Gyulli M², Yaxing Wang³, Jie Xu³, Vinay Nangia⁴, Prabhat Nangia⁴, Jost Jonas¹ (¹Germany, ²Russia, ³China, ⁴India)
- 204 T.049 Exploring retinal layer alterations in mild cognitive impairment: a pilot OCT study
Lorena Elvira-Hurtado, Elena Salobrar-Garcia, Inés López-Cuenca, José A. Matamoros, José A. Fernández-Albarral, Lidia Sanchez-Puebla, Mario Salas-Carrillo, Pedro Gil, Rosa De Hoz, Juan Jose Salazar, Ana Isabel Ramirez, Jose Manuel Ramirez (Spain)
- 234 T.050 Association of ABO and Rh blood groups with retinal structural indices
Shokoofeh Rafati, Effat Shanbezadeh, Behnoosh Vasaghi-Gharamaleki, Payam Nabovati, Leili Koochakzadeh, Mehdi Khabazkhoob (Iran)
- 255 T.051 Clinical presentation and response to idebenone treatment in a 60-year old female carrier of Leber hereditary optic neuropathy
Stamatina Kabanarou, Nikolaos Bitzanakis, Chrysoula Sgourou, Christina Garnavou-Xirou, Petros Fragkiskos, Tina Xirou (Greece)
- 263 T.052 Texture analysis of optical coherence tomography retinal images: its potential use for the early diagnosis of diabetic retinopathy
António Francisco Ambrósio, Sara Oliveira, Pedro Guimarães, Elisa Julião Campos, Rosa Fernandes, Pedro Serranho, Paulo Matafome, Rui Bernardes (Portugal)
- 277 T.053 Medium-term post-COVID outcomes in patients with neovascular age-related macular degeneration
Sanela Sanja Burgić, Milka Mavija, Bojana Markić, Saša Smoljanović Skočić (Bosnia and Herzegovina)
- 278 T.054 Drug-induced choroidal effusion: cases review
Diego Fernandez-Velasco¹, Ignacio Pueyo-Bestué², Victor Mallen¹, Javier Bermudez¹, Andrés Biescas¹, Nuria Rius¹, Carmen Ila¹, Claudia Hernández-Barahona Monleón¹, Damián García Navarro¹, Carlos Santana¹ (¹Spain, ²Belgium)
- 279 T.055 SS-OCT and SS-OCT A findings in nascent type 3 neovascularization complicating age-related macular degeneration
Fatma Sakji, Safa Ben Aoun, Rym Maamouri, Ines Fendouli, Selmi Slim, Monia Cheour (Tunisia)
- 314 T.056 Severe sight impairment due to optic disc drusen: a case series
Ahmad Khalifa, Joseph Sobha (United Kingdom)
- 340 T.057 AMD: analysis, evaluation, evolution and prognosis of AMD atrophy complication: study with OCT and automatic OCT segmentation
Corinne Gonzalez (France)
- 341 T.058 High myopia and atrophy complication: multimodal study and prospects
Corinne Gonzalez (France)
- 346 T.060 Pigment dispersion syndrome - A unique presentation with extensive retina pigment depositio
Pedro Martins, João Castro Cabanas, Miguel Bilhoto, Sofia Fonseca (Portugal)
- 355 T.061 Cytomegalovirus retinitis in a patient with human immunodeficiency virus: a clinical case study
Ana Pueyo Bestué¹, Olga Ciubotaru¹, Ignacio Pueyo-Bestué², Diego Fernández-Velasco¹, Victor Mallén¹, Javier Bermúdez¹, Andrés Biescas¹, Núria Rius¹, Carmen Ila¹, Claudia Hernández-Barahona¹ (¹Spain, ²Belgium)
- 372 T.062 Intravitreal injection leads to an increased density of vitreous fibrils and macrophage invasion
Patricia Jaramillo, Judit Pampalona, Ana Carretero, Eduard Cunilleras, Jesús Ruberte (Spain)

- 390 T.063 Non-clinical safety of PST-611, non-viral vectorized human transferrin, for the treatment of geographic atrophy (GA)
Karine Bigot, Romain Bénard, Pauline Gondouin, Marie Piazza, Elise Orhan, Elodie Touchard, Thierry Bordet, Francine Behar-Cohen (*France*)
- 402 T.064 Retinal vein occlusion in young adults: the crucial role of underlying cause investigation
Cristina Calvo Simón, Carla Sánchez Remacha, Luca Manuel Bueno Borghi, Miguel Castillo Fernández, Julia Aramburu Clavería, Marta Suñer Martínez, Eva Josefina Nuñez Moscarda, Marta Orejudo de Rivas, Pablo Cisneros Arias, Ana María Abad Pascual, Javier Ramos Duarte, Edurne de la Cámara Sahuquillo, Inmaculada Herrero Sánchez, Pablo Tejada González, Francisco Javier Ascaso Puyuelo (*Spain*)
- 404 T.066 Comparison of intravitreal PBS injection timepoints in the mouse oxygen-induced retinopathy model
Birgitta Lappeteläinen, Niina Jääskeläinen, Anni Tenhunen, Xavier Ekolle, Olga Vergun, Anne Mari Haapaniemi, Anni Kolehmainen, Anna Mari Koponen, Päivi Partanen, Maria Vähätupa (*Finland*)
- 436 T.067 Human iPSC-derived RPE cells implantation into minipig eye - six weeks follow-up study
Taras Ardan¹, Slaven Erceg², Anna Brýmová¹, Hana Studenovska¹, Brigitte Mueller³, Knut Stieger³, Goran Petrovski^{4,5}, Lyubomyr Lytvynchuk³, Zbyněk Straňák¹, Miroslav Veith¹, Štefan Juhás¹, Jana Juhasová¹, Yaroslav Nemes¹, Zdeňka Ellederová¹, Jan Motlik¹ (¹*Czech Republic*, ²*Spain*, ³*Germany*, ⁴*Croatia*, ⁵*Norway*)
- 442 T.068 Atypical response to hydroxychloroquine: beyond bull's eye maculopathy
María Carla Balmaseda Álvarez, Carmen Cabedo Claramonte (*Spain*)
- 471 T.069 Retinal capillary density in metabolic syndrome and its association with main risk factors of cardiovascular disease
Ieva Simkiene¹, Kornelijus Gasiunas¹, Gabriele Tarutyte¹, Rimvydas Asoklis¹, Jolita Badariene¹, Leopold Schmetterer² (¹*Lithuania*, ²*Singapore*)
- 472 T.070 Anatomical and functional results of injectable plasma rich in growth factors as a treatment for poor prognosis macular holes
Marta Caminal, Jaume Crespí, Albert Saladrigas, Santiago Conversa, Maria Cobo, Daniela Rego, Carlos Oribio Quinto, José Ignacio Vela Segarra, Jesus Diaz Cascajosa (*Spain*)
- 478 T.072 Short-term clinical effects of intravitreal faricimab injection for exudative age-related macular degeneration
Eunyu Yoon, Jung Yup Kim, Ju Heon Lee, Soo Hye Chae, Hee Sung Yoon (*South Korea*)
- 481 T.073 Seeing the light: hyperspectral retinal imaging as a surrogate marker for early stage Alzheimer's disease
Michiel Ghesquiere, Eirini Christinaki, Jan Van Eijgen, Mathieu Vandenbulcke, Rik Vandenberghe, Maarten De Vos, Ingeborg Stalmans (*Belgium*)
- 487 T.074 LCHAD chorioretinopathy case series long-time follow up
Magdalena Hubert, Maciej Gawęcki (*Poland*)
- 489 T.075 Vogt-Koyanagi-Harada (VKH) like syndrome in a patient treated with pembrolizumab for metastatic colorectal cancer
Evgenia Kontou, George Smoustopoulos, Georgia Karamatzianni, George Bontzos, Kallirroi Konstantopoulou, Stamatina Kabanarou, Tina Xirou (*Greece*)

- 492 T.076 Imitation game: ocular tuberculosis camouflaged as acute retinal necrosis
Xin Yee Chong, Chia Chee Chew, Yih Chian Yew, Fazliana Ismail (*Malaysia*)
- 493 T.077 Dexmedetomidine as a therapeutic approach for retinal degeneration
Anna Kalatanova, Henri Leinonen (*Finland*)
- 502 T.078 Correlations between OCT-angiography and MAIA microperimetry in patients who have suffered a rhegmatogenous retinal detachment
M^a Dolores Díaz-Barreda, Isabel Bartolome, Elvira Orduna Hospital, Ana Boned-Murillo, Guisela Fernández-Espinosa, María Sopeña-Pinilla, Isabel Pinilla (*Spain*)
- 511 T.079 Serum RNA profile reflects fluid status and atrophic retinal changes in neovascular age-related macular degeneration
Hanna Heloterä¹, Joanna Kostanek¹, Mikko Liukkonen¹, Leea Siintamo¹, Cezary Watala², Janusz Blasiak², Kai Kaarniranta¹ (*¹Finland, ²Poland*)
- 530 T.080 Clinical outcomes of silicon oil tamponade in patients with chronic exudative retinal detachments in effective with conservative treatment
Joonyoung Ha, SooYeon Han, Yunsik Yang (*South Korea*)
- 553 T.081 Patient specific differences in retinitis pigmentosa in vitro model
Dunja Lukovic, Belén Garcia-Bohórquez, Gema Garcia Garcia, María Esther Gallardo, Carmen Ayuso, José María Millán (*Spain*)
- 555 T.082 Tracking macular sensitivity and inner retinal thickness in long-term type 1 diabetes: a five year prospective examination in patients without diabetic retinopathy
Guisela Fernández-Espinosa, Elvira Orduna-Hospital, María Sopeña-Pinilla, Marta Arias-Álvarez, Ana Boned-Murillo, María Dolores Díaz-Barreda, María Arcas-Carbonell, Ana Sánchez-Cano, Isabel Pinilla (*Spain*)
- 559 T.083 Longitudinal changes in the inner retina in long-term evolution type 1 diabetic patients without diabetic retinopathy evaluated by optical coherence tomography
Guisela Fernández-Espinosa, Alba Martínez-López, Elvira Orduna-Hospital, María Sopeña-Pinilla, Ana Boned-Murillo, Marta Arias-Álvarez, María Dolores Díaz-Barreda, Ana Sánchez-Cano, Isabel Pinilla (*Spain*)
- 577 T.084 Restoring vision in acute retinal necrosis: a case report
Alejandra Antón Guzmán de Lázaro, Carmen Isabel García Lozano, Sergio Pernas Martín, Patricia Roig Outeiriño, Eduardo Conesa Hernández, Manuel Moriche Carretero (*Spain*)
- 591 T.085 Assessment of silica as an intravitreal drug delivery vehicle in a preclinical in vivo tolerability study
Sophie Winter, Frederic Dargelas, Lasse Leino, Ville Pollari, Marcus Reay, Tatu Assmuth, Linda Wirman, Elisa Toropainen, Kai Kaarniranta (*Finland*)
- 626 T.086 Lipoic acid' impact on retinitis pigmentosa: partial protection of photoreceptors and Müller cells
Inmaculada Almansa, Rosa López-Pedrajas, Javier Valero, Antolin Cantó, Javier Martínez-González, Vicente Hernández-Rabaza, Teresa Olivar, María Miranda Sanz (*Spain*)
- 641 T.087 Clinical patter of uveitis masquerade syndrome: a fifteen-year retrospective case series
Nour Kammoun, Nesrine Abroug, Nabi Wijdene, Bel Hadj Eahma, Jelliti Bechir, Moncef Khairallah (*Tunisia*)
- 652 T.088 A case of choroidal neovascularization in punctate inner choroidopathy
María Sopeña-Pinilla¹, Jacobo Yañez Merino¹, Olga Ciubotaru¹, Ana Pueyo Bestué¹, Ignacio Pueyo Bestué², Diego Fernandez-Velasco¹, Víctor Mallen Gracia¹, Jose Javier Bermudez Cervilla¹, Andres Biescas Merino¹, Nuria Rius¹, Nieves Pardiñas Baron¹ (*¹Spain, ²Belgium*)

- 657 T.089 Human versus artificial intelligence: validation of a deep learning model for retinal layer and fluid segmentation in optical coherence tomography images from patients with age-related macular degeneration
Joana Santos-Oliveira, Mariana Miranda, Ana Maria Mendonça, Vânia Sousa, Tânia Melo, Ângela Carneiro (Portugal)
- 684 T.090 Up to 10-month outcomes of Faricimab in treating treatment-refractory wet age-related macular degeneration
Nicole Tay, Wiktoria Milczynska, Alexandros Kogiantis (United Kingdom)
- 686 T.091 Assessing the retina with pupillometry and silent substitution
Giovanni Gibertoni¹, Anton Hromov², Filippo Piffaretti², Martial Geiser² (¹Italy, ²Switzerland)
- 701 T.092 Impacts of delayed surgical intervention on postoperative visual acuity in patients with rhegmatogenous retinal detachment
Mohammed Armanazi¹, Abdul Masri², Albert Hu¹, Moness Masri¹ (¹Canada, ²USA)
- 702 T.093 Fundus autofluorescence patterns in retinitis pigmentosa
Esra Sahli, Huban Atilla (Turkey)
- 707 T.094 Hyperbaric oxygen therapy for branch retinal artery occlusion: a case series
Mateusz Zarzecki, Izabela Zawadzka, Blanka Mitera, Marzena Wojewodzka-Zelezniakowicz, Joanna Konopińska (Poland)
- 709 T.095 Macular and optic nerve microvascular changes in patients with type 1 diabetes mellitus
Irini Chatziralli, Alexia Risi-Koziona, Chrysa Agapitou, Stamatios Lampsas, Fotis Kyratzidis, Konstantinos Pappelis, Panagiotis Theodossiadis (Greece)
- 713 T.096 Asteroid hyalosis in patients with macular telangiectasia type 2
Mojca Urbancic, Darja Dobovsek Divjak, Ajda Kuncic, Petra Hudler, Natasa Debeljak (Slovenia)
- 714 T.097 Diagnosis of birdshot chorioretinopathy without typical funduscopy spots
Elisa Funes¹, Inés Munuera¹, Jacobo Yañez Merino¹, Maria Sopeña-Pinilla¹, Olga Ciobotaru¹, Ana Pueyo Bestué¹, Ignacio Pueyo-Bestué², Diego Fernandez-Velasco¹, Victor Mallen¹, Javier Bermudez¹ (¹Spain, ²Belgium)
- 729 T.098 Regarding a case, can hypertrophy of the retinal pigment epithelium be the first sign of familial adenomatous polyposis?
Ariadna Garreta Rafecas (Spain)
- 734 T.099 Retinal imaging biomarkers in assessing treatment response when switching from aflibercept to faricimab in resistant neovascular age-related macular degeneration cases
Stamatina Kabanarou, Nikolaos Bitzanakis, Chrysoula Sgourou, Ilias Gkizis, Petros Fragkiskos, Tina Xirou (Greece)
- 754 T.101 Study of complement system C3 protein expression in glial cells during retinal neurodegeneration
Laura Fernández-Sánchez, Mateo Ruiz-Conca, Marta Estalrich, Estela Tebar, Lucia Tornero, Oksana Kutsyr, Nicolas Cuenca, Pedro Lax, Victoria Maneu (Spain)
- 776 T.102 Central serous chorioretinopathy and uveitis: report of two cases
Amal Ben Othmen, Mejda Bouladi (Tunisia)

- 779 T.103 Clinical spectrum of retinal dystrophy caused by pathogenic variants in the CERKL gene
Maarjaliis Paavo, Eeva-Marja Sankila, Sanna Seitsonen, Anna Majander, Julia Krootila, Joni Turunen
(Finland)
- 788 T.104 Aged-related changes in connexins-based mediated intercellular channels in retina
Alicia Domenech-Bendaña, Alejandro Ponce-Mora, Antonella Locascio, Nicolle Salazar, Lucía Gimeno Mallench, Eloy Bejarano *(Spain)*
- 793 T.105 Identification of epigenetic modifications in tears for the early diagnosis and prognosis in diabetic retinopathy and macular oedema
Víctor Alegre Ituarte¹, Irene Andrés-Blasco¹, Alex Gallego-Martínez¹, Ricardo Casaroli¹, Javier Cruz Espinosa¹, Fernando Arevalo², Gianni Virgili³, Maria Dolores Pinazo Durán¹ *(¹Spain, ²USA, ³Italy)*
- 802 T.106 The polarity effect of direct current stimulation on the vascular regulation of the inner retina
Stefanie Freitag¹, Dietmar Link¹, Sascha Klee^{1,2} *(¹Germany, ²Austria)*
- 803 T.107 Treatment of polypoidal choroidal vasculopathy in the real world and its underlying mechanisms
Howard Wen-Haur Chao¹, Hsiao-Ming Chao² *(¹United Kingdom, ²Taiwan)*
- 805 T.108 Pseudoxanthoma elasticum: a case study of three family members
Candela Congost Laguna, Romana García Gil, Anselmo Feliciano Sánchez, Blanca Casado Peláez, Sergio Inat Moreno *(Spain)*
- 807 T.109 Vascular density and metamorphopsia after successful repair of rhegmatogenous retinal detachment. Comparison between macula-on and macula-off eyes
Tina Xirou, Georgios Smoustopoulos, Evgenia Kontou, Christina Garnavou-Xirou, Ilias Gkizis, George Bontzos *(Greece)*
- 809 T.110 Dynamic retinal vessel analysis with flicker light stimulation: higher stimulation frequencies lead to higher vascular responses
Dietmar Link¹, Stefanie Freitag¹, Sascha Klee^{1,2} *(¹Germany, ²Austria)*
- 825 T.111 Delayed onset macular hemorrhage following previous intraocular tuberculosis
Ana Cabo, Javier Garcia-Bardera, Patricia Robles Amor, Clara Fernández-Sáez, Sara Garcia Caride
(Spain)
- 827 T.112 Advanced glycation end products association with diabetic retinopathy severity
Aiste Varoniukaite, Rasa Verkauskiene, Diana Simoniene, Deimante Paskeviciene, Vilma Balciuniene
(Lithuania)
- 835 T.113 Acute visual field loss as first presentation of cancer associated retinopathy
Sergio Inat Moreno, Cristobal Andres Neira Fonseca, Candela Congost Laguna, Blanca Casado Peláez, Romana García Gil, Patricia Udaondo Mirete *(Spain)*
- 837 T.114 Late onset Stargardt disease in a 46 year old patient
Salma Hamidi, El Arari Nihal, Ouadghiri Soukayna, Laarif Younes, Rim Elhachimi, Saad Benchekroun, Amazouzi Abdellah, Cherkaoui Lalla Oufae *(Morocco)*
- 861 T.115 Diagnosis of a case of ocular reactivation in a patient with lymphoplasmacytic lymphoma
Noelia Montaña Muñoz, Gabriel Liaño Diez de Ulzurrun, Samira Ketabi Shadvar, Silvia Virseda Moreno, Marta Vela de la Torre, Jesús Pérez Fiz, Marina Pardo de Andrade Pérez, Miguel Herrero González, Olga Martínez González *(Spain)*

- 868 T.116 Symptom management in melanoma associated retinopathy following intravitreal dexamethasone
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- 873 T.117 Phenocopies of ABCA4 retinopathy: implications for diagnosis and management
Saoud Al-khuzaei, Jing Yu, Morag Shanks, Penny Clouston, Peter Issa, Robert MacLaren, Stephanie Halford, Samantha De Silva, Susan Downes (*United Kingdom*)
- 874 T.118 Assessment of ophthalmology residents' perspectives on the utilization of artificial intelligence in contemporary practices
Ines Fendouli, Safa Ben Aoun, Rim Maamouri, Fatma Sakji, Selmi Slim, Monia Cheour Amri (*Tunisia*)
- 885 T.119 Macular thicknesses of the outer retinal and choroid layers measured by automatic segmentation with artificial intelligence in non-pathological high myopia
David Blanco Darriba, Juan Cedrun-Sanchez, Monica Narvaez Peña, Maria Jimenez Santos, Juan Donate López, María Puell (*Spain*)
- 164 T.120 A novel artificial intelligence-based classification of highly myopic eyes based on visual function and fundus features
rf
Jiaqi Meng¹, Yunxiao Song², Wenwen He¹, Zhong-Lin Lu¹, Yuxi Chen¹, Ling Wei¹, Keke Zhang¹, Jiao Qi¹, Yu Du¹, Yi Lu¹, Xiangjia Zhu¹ (*¹China, ²USA*)
- 218 T.121 Regulation of the stress response of Müller cells after retinal detachment by amniotic membrane secretome in vitro
rf
Anna Hillenmayer, Wertheimer Christian, Sterz Thomas, Dammak Azza, Wolf Armin (*Germany*)
- 330 T.122 Evaluation of macular ganglion cell layer-inner plexiform layer (GCL-IPL) thickness in patients treated with ozurdex: a retrospective study from a Swiss cohort of patients
rf
Angelica Rizzato, Asan Kochkorov, Robert Katamay, Hatz Katja (*Switzerland*)
- 363 T.123 Long-term results of unilateral or bilateral injection of lenadogene nolparvovec gene therapy for Leber hereditary optic neuropathy
rf
Valérie Biousse¹, Patrick Yu-Wai-Man², Nancy Newman¹, Prem Subramanian¹, Mark Moster¹, An-Guor Wang³, Sean Donahue¹, Bart Leroy⁴, Valerio Carelli⁵, Catherine Vignal-Clermont⁶, Alfredo Sadun¹, Robert Sergott¹, Gema Rebolleda Fernández⁷, Bart Chwalisz¹, Rudrani Banik¹, Magali Taiel⁶, José-Alain Sahel⁶ (*¹USA, ²United Kingdom, ³Taiwan, ⁴Belgium, ⁵Italy, ⁶France, ⁷Spain*)
- 445 T.124 Is intravitreal Faricimab an effective treatment for diabetic macular oedema not-responsive to aflibercept? An audit of treated patients at The Princess Alexandra Eye Pavilion
rf
Cameron Lowe, Meghomala Das (*United Kingdom*)
- 532 T.125 Metabolomics reveals pathophysiological mechanisms of proliferative diabetic retinopathy progression
rf
Jannika Mansikkaviita, Ani Korhonen, Johan Finell, Sirpa Loukovaara, Anni Nieminen (*Finland*)
- 600 T.126 Comparative retinal study by OCT in Alzheimer's disease: insights from the APP NL-F/NL-F model
rf
Lidia Sanchez-Puebla¹, Inés López-Cuenca¹, Alberto Arias Vázquez¹, Elena Salobar-García¹, José A. Matamoros¹, María Pilar Rojas Lozano¹, José A. Fernández-Albarral¹, Lorena Elvira-Hurtado¹, Ana Isabel Ramirez¹, Juan Jose Salazar¹, Takaomi Saido², Takashi Saito², Carmen Nieto-Vaquero¹, María Isabel Cuartero¹, María Ángeles Moro¹, Rosa De Hoz¹, Jose Manuel Ramirez¹ (*¹Spain, ²Japan*)
- 716 T.127 Association between atherosclerotic cardiovascular disease risk and diabetic retinopathy in patients with type 2 diabetes mellitus
rf
Chrysa Agapitou, Stamatios Lampsas, Alexia Risi-Koziona, Fotis Kyrtzidis, Konstantinos Pappelis, Panagiotis Theodossiadis, Irini Chatziralli (*Greece*)

- 764 *rf* T.128 Pilot outcomes of algorithmic decision support software for intravitreal treatment intervals
Rosina Zakri, Nigel Davies (*United Kingdom*)
- 814 *rf* T.129 Transferrin is a drug candidate for the treatment of geographic atrophy (GA)/dry age-related macular degeneration (AMD)
Thierry Bordet, Jenny Youale, Karine Bigot, Thara Jaworski, Cécile Lebon, Anaïs Françon, Kimberley Delaunay, Romain Bénard, Thaïs De Bastard, Naël Kaddour, Francine Behar-Cohen, Emilie Picard (*France*)
- 840 *rf* T.130 Optical coherence tomography findings in persistent hyaloid artery: a prospective study
Fatma Sakji, Safa Ben Aoun, Rym Maamouri, Molka Ferchichi, Ines Fendouli, Monia Cheour (*Tunisia*)
- 875 *rf* T.131 Comparing membrane peeling techniques in lamellar macular hole surgery: a systematic review and meta-analysis
Anas Abu-Dieh, Yosra Er-Reguyeg, Elyazid Rhalem, Eunice You, Mélanie Hébert, Ali Dirani (*Canada*)
- 317 T.132 Progression of diabetic retinopathy during pregnancy: retrospective study from Birmingham and Solihull
Ahmad Khalifa (*United Kingdom*)
- 382 T.133 Assessing retinal thickness and vascular structures in an Alzheimer's disease mouse model APP NL-F/NL-F
Lidia Sanchez-Puebla¹, Inés López-Cuenca¹, María González Jiménez¹, Elena Salobrar-García¹, José A. Matamoros¹, María Pilar Rojas Lozano¹, José A. Fernández-Albarral¹, Lorena Elvira-Hurtado¹, Ana Isabel Ramirez¹, Juan Jose Salazar¹, Carmen Nieto-Vaquero², María Isabel Cuartero Desviat², María Ángeles Moro², Takashi Saito², Takaomi C. Saïdo², Jose Manuel Ramirez¹, Rosa De Hoz¹ (¹*Spain*, ²*Japan*)

13:20 - 14:20 | Calatrava 1



Sunday
3 November 2024

CIS Industry Sponsored Symposium

Novelty in dry eye management

Moderator: **Christina Grupcheva** (*Bulgaria*)

Complement-mediated Inflammation in Dry Eye
Frederic Chiambaretta (*France*)

Management of para inflammation & inflammation in dry eye
Piera Versura (*Italy*)

New generation of eye drops for dry eye
Christina Grupcheva (*Bulgaria*)

13:00 - 14:00 | Auditorium 2

 **Industry Sponsored Symposium**

 **Chiesi**
global rare diseases 

Optimising the management of patients with LHON

Welcome and introduction
Alfredo Sadun (USA)

How should we manage LHON today?
Lorena Castillo (Spain)

Interactive Q&A

How may we manage LHON tomorrow?

- The nuances of treating LHON with idebenone
Valerio Carelli (Italy)

- Further improving outcomes for patients with LHON
Patrick Yu-Wai-Man (United Kingdom)

Interactive Q&A

Closing remarks
Alfredo Sadun (USA)

Monday
4 November 2024



27th

EVER CONGRESS

3 - 5 November 2024
Valencia

13:00 - 14:00 | Calatrava 1



CIS Industry Sponsored Symposium

The myopia mandate

Moderator: **Andrzej Grzybowski** (*Poland*)

Welcome

Seeing clearly: dispelling prevalent misconceptions about childhood myopia
Andrzej Grzybowski (*Poland*)

Myopia control: whose responsibility is it anyway?
Dominique Bremond-Gignac (*France*) and **Hakan Kaymak** (*Germany*)

Panel discussion

Closing remarks
Andrzej Grzybowski (*Poland*)

Monday
4 November 2024

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Optimising the Management of Patients with LHON

A Chiesi sponsored industry symposium

27th EVER Congress

Monday 4th November 2024 | 13:00 – 14:00

Room, Auditorium 2 | Palacio de Congresos, Valencia



Alfredo Sadun (Chair)
Doheny Eye Center, University
of California, Los Angeles, USA



Valerio Carelli
Università di Bologna, Italy



Lorena Castillo
Hospital de la Santa
Creu i Sant Pau, Spain



Patrick Yu-Wai-Man
Moorfields Eye Hospital and
University of Cambridge, UK

Time	Session	Speakers
5'	Welcome and introduction	A Sadun
15'	How should we manage LHON today? <i>Interactive Q&A</i>	L Castillo
35'	How may we manage LHON tomorrow? The nuances of treatment strategies in LHON Further improving outcomes for patients with LHON <i>Interactive Q&A</i>	V Carelli P Yu-Wai-Man
5'	Closing remarks	A Sadun

THE MYOPIA MANDATE

A LUNCHTIME SANTEN SYMPOSIUM ON CHILDHOOD MYOPIA



The Myopia Mandate:
A Santen symposium
on childhood myopia



CALATRAVA 1



**Monday, 4th
November 2024**



**Lunchtime symposium,
13:00–14:00**

Join us, together with **Professors Andrzej Grzybowski, Dominique Bremond-Gignac and Hakan Kaymak**, to dispel common myths about myopia and explore the roles and responsibilities of the multidisciplinary team in the treatment and management of childhood myopia.



Prof. Andrzej Grzybowski
University of Warmia and
Mazury, Poland



Prof. Dominique Bremond-Gignac
Hôpital Necker-Enfants Malades, France



Prof. Hakan Kaymak
Breyer, Kaymak & Klabe
Augenchirurgie, Germany

This promises to be an engaging and informative session with ample opportunity for interactivity, and time for you to get your questions answered by our expert panel.

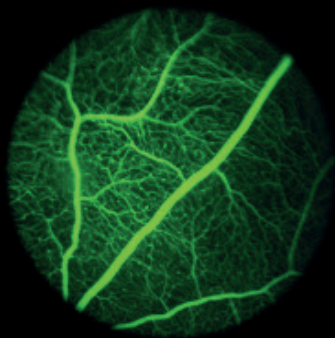
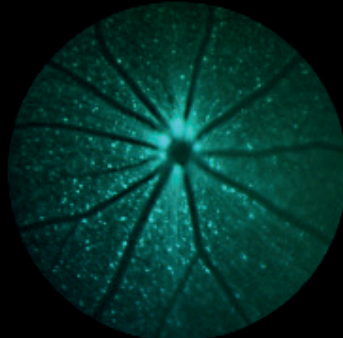
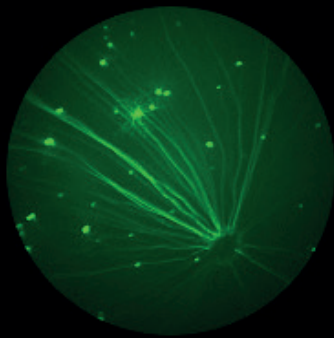


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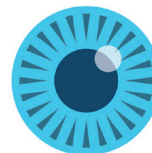
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PASIÓN POR LA OFTALMOLOGÍA



BVI

Pioneering Genomics to Save Sight




- **Company creation: 2016, spin-off from the Paris Vision Institute**
- **Lead program currently in Phase I/II in Rod-Cone Dystrophies;**
- **Headquartered in Paris, France and Philadelphia**
- **Investors: Advent, BPI France, Fondation Voir et Entendre, Jeito Capital, Intellia, RD Fund, UPMCE, Ysios Capital, 4BIO Capital**

SparingVision is a clinical-stage genomic medicine company transforming the treatment of retinal disease.

SparingVision is a global ophthalmology leader bringing new hope to millions affected by retinal diseases, for which there are currently no viable treatments. The Company has assembled a suite of cutting-edge technologies from gene therapy to CRISPR, enabling it to deploy the right technology to the right disease and ensure the delivery of breakthrough treatments to millions of patients.

Both of its lead investigational programs go beyond single gene correction therapies to deliver new gene-agnostic treatments for retinitis pigmentosa (RP), a group of inherited retinal diseases which are the leading cause of blindness globally. The Company also has a strategic collaboration with Intellia Therapeutics (NASDAQ:NTLA) to develop novel genome editing-based treatments for ocular disease utilizing CRISPR-Cas9 technology.

SparingVision's pipeline

Effect/MOA	Delivery	Transgenes	Lead indication	Preclinical			Phase I/II
				Discovery	Research	IND-enabling	
Vision preservation Gene Therapy	AAV	RdCVF/L	RP (stage 2 and 3)	✓	✓	✓
			Geographic Atrophy	✓		
Vision restoration Gene Therapy	AAV	GIRK	RP (stage 3 and 4)	✓	✓	...	
Vision restoration & preservation Gene Therapy	AAV	RdCVF + RdCVFL + GIRK	RP	✓		
 Gene editing CRISPR	AAV or LNP	Target 1	Selected Undisclosed	✓		
 Gene editing CRISPR	AAV or LNP	Target 2	Selected Undisclosed	✓			
 Gene editing CRISPR	AAV or LNP	Target 3	To be selected	▶			



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