



23rd EVER Congress



Preliminary Programme

Valencia
13-15 October
2022



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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

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
MBG	=	Molecular Biology / Genetics / Epidemiology
NSPH	=	Neuro-ophthalmology/Strabismology / Paediatric Ophthalmology / History of Ophthalmology
PBP	=	Physiology / Biochemistry / Pharmacology
PO	=	Pathology / Oncology
RV	=	Retina / Vitreous Section programme secretaries



Thursday, 13 October 2022

Thursday
13 October 2022

08:30-08:45 | Auditorium

PS Welcome by the EVER President 2022

Manuel Vidal-Sanz (*Spain*)

08:45-09:10 | Auditorium

PS EVERActa Lecture

Introduced by Kay Kaarniranta (*Finland*)

Eye drops for retinal disease
Einar Stefansson (*Iceland*)



Using topical application to deliver drugs to the posterior segment of the eye remains a challenge. Posterior segment diseases are currently treated by intravitreal injection or implant. Eye drop formulations based on γ -cyclodextrin (γ CD)-based nanoparticle aggregates were developed and deliver therapeutic concentrations of drugs (dorzolamide and dexamethasone) to both anterior and posterior segments of the eye in animal models and clinical studies. An early study in humans showed dorzolamide/ γ CD eye drops could achieve comparable intraocular pressure decreases to commercial dorzolamide eye drops, but with less frequent application. Pilot studies with dexamethasone/ γ CD eye drops showed clinical effect in a range of human conditions, including diabetic macular oedema, cystoid macular oedema and vitritis secondary to uveitis, inflammation after cataract surgery and postoperative treatment in trabeculectomy. A multicenter, double-masked, parallel-group, randomized, Phase 2 study was performed to evaluate topical dexamethasone ophthalmic suspension in diabetic macular edema (DME). 144 patients aged 18-85 years with DME of <3 years duration, ETDRS central subfield thickness $\geq 310 \mu\text{m}$ by SD-OCT, and ETDRS letter score ≤ 73 and ≥ 24 in the study eye were randomized 2:1 to OCS-01 or matching vehicle, 1 drop 3 times/day for 12 weeks. Efficacy was evaluated as change from baseline to Week 12 of ETDRS letter score and central macular thickness (CMT). Mean CMT showed a greater decrease from baseline with OCS-01 (N = 99) than vehicle (N = 45) at Week 12 (-53.6 vs -16.8 μm , $p = 0.0115$). Mean change in ETDRS letter score from baseline to Week 12 met the p was +2.6 letters with topical OCS-01 and 1 letter with vehicle ($p = 0.125$). In a post-hoc analysis, there was a greater difference in patients with baseline BCVA ≤ 65 letters, the OCS-01 group improved 3.8 letters compared with 0.9 letters with vehicle. OCS-01 was well-tolerated, and increased intraocular pressure was the most common adverse event. Cyclodextrin nanoparticle eye drops deliver drugs to the retina in therapeutically relevant concentrations and promise a non-invasive alternative in drug treatment of retinal diseases.

09:15-09:40 | Auditorium

PS EVER Lecture delivered by the Past President

Introduced by Kai Kaarniranta (*Finland*)

Keratoconus: past, present and future
Rafael I. Barraquer (*Spain*)



Although corneal ectasias had been observed since antiquity and keratoconus eventually became a major indication for keratoplasty in the XX century, only after the introduction of corneal topography it was realized that its actual frequency (of a certain degree of) was much higher than previously suspected. Today keratoconus is recognized as a one of the major corneal degenerative diseases, with both familial (genetic) and environmental influences. It is one of the leading causes of corneal visual deficit, affecting significant portions of the population in multiple regions of the world. In the last decades we have witnessed a revolution in this field, with increasingly sensitive and specific methods for its detection, as well as a wide spectrum of conservative management options -from corneal collagen crosslinking and topography-guided laser corneal ablation to intracorneal ring segment implants and phakic intraocular lenses. While this has resulted in a reduction of the eyes requiring a corneal transplant, these have also become safer and more selective with the development of deep anterior lamellar keratoplasty techniques. This presentation will review the evolution of the keratoconus and other corneal ectasia, from the concept to the recent progresses and what can be expected in the future regarding their diagnosis and management.



09:45-11:00 | Auditorium



G-59 - Updates on neuroprotective approaches in glaucoma (EGS SIG)

This SIS has been specially designed by the EGS Neuroprotection SIG. Neurodegeneration in glaucoma remains incompletely understood and a spectrum of possible mechanisms to explain retinal ganglion cell loss have been proposed, including genetic determinants, metabolic/bioenergetic failure, exposure to reactive oxygen species, defective axon transport, chronic intermittent ischemia, and excitotoxicity. Preclinical studies continue to advance our understanding of these underlying pathogenic contributors in glaucoma. Although, such preclinical studies are important to ultimately pave the way to the development of improved neuroprotective strategies in patients, more obstacles exist in the long journey from bench to bedside. In this course, participants will gain an overview of promising neuroprotective strategies and methods to document their efficacy and implementation.

Organizer: **Francesca Cordeiro** (*United Kingdom*)

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

- 09:45 Can we measure neuroprotection yet in glaucoma?
Eduardo Normando (*United Kingdom*)
- 10:03 New strategies that can be neuroprotective
Barbara Cvenkel (*Slovenia*)
- 10:21 Development of neuroprotective agents - possible endpoints and regulatory considerations
Gerhard Garhöfer (*Austria*)
- 10:39 Sigma-1 receptor activation as a new option for the treatment of glaucoma in preclinical models
Andrea Fekete (*Hungary*)

09:45-11:00 | Calatrava 1



BBP-213 - Contribution of experimental models to study glaucoma Joint Meeting EVER - RETibrain (Spain)

Glaucoma, one of the leading causes of blindness worldwide, represents a group of chronic neurodegenerative diseases of multifactorial origin. Extensive research is being conducted to better understand, prevent and treat the progressive degeneration of retinal ganglion cells and their axons, and the associated inflammatory response. However, the pathophysiology of glaucoma is not fully understood, and experimental models are needed to further investigate its aetiology, characterisation and treatment. This Special Interest Symposium (SIS) aims to provide an overview of the contribution of different experimental models that mimic glaucomatous pathology to improve our pathobiological knowledge at the molecular, cellular and functional levels of the key protagonists that play an important role in the progression of the disease. This will be achieved by describing and characterising different specific techniques to induce glaucoma in experimental models to identify potential targets for new neuroprotective therapeutic approaches.

Organizer: **Marcelino Aviles-Trigueros** (*Spain*)

Co-Organizer: **José Carlos Pastor Jimeno** (*Spain*)

- 09:45 Ex vivo model of spontaneous neuroretinal degeneration for evaluating neuroprotection
Iván Fernandez-Bueno (*Spain*)
- 10:03 Intracameral injection of cross-linking hydrogel polymer as an animal model of IOP increase
Johnny Di Pierdomenico (*Spain*)
- 10:21 An overview of functional, psychophysical and structural techniques to study murine models in vision sciences
Santiago Milla Navarro (*Spain*)
- 10:39 Contribution of intraocular pressure-dependent and pressure-independent glaucoma models to neuroprotection
Marcelino Aviles-Trigueros (*Spain*)



09:45-11:00 | Calatrava 2

SIS COS-46 - Keratoconus 2022 - Surgical aspects

Today, keratoconus (KC) can be diagnosed in very early stages, long before becoming clinically apparent (paracentral stromal thinning, Fleischer ring, Vogt striae). In stable KC toric IOLs may compensate for the regular part of astigmatism. Keratoplasty is not advocated for corneal hydrops but predescemetal "Muraire sutures" are applied with partial air fill of the anterior chamber after a YAG-iridotomy at the 6 o'clock position. Today, epi-off "rapid CXL" (12 mW/cm² for 10 minutes) plays a major role in stabilizing keratoconus with proven progression. Femtosecond laser assisted intracorneal ring segments (INTACS SK) appear to capture a niche in cases of (a) moderate KC, and (b) clear central cornea, and (c) contact lens intolerance. DALK is a good option only when Descemet membrane is exposed using a modified big-bubble technique, potentially offering visual acuity results of 20/25 and 20/20. Central round 8.0 or 8.5 mm excimer laser assisted PKP with double-running diagonal cross-stitch suture is still state-of-the-art in advanced keratoconus. In very severe cases of PMD or keratoglobus with excessive thinning, a central corneoscleroplasty may be necessary – if scleral contact lenses are no more tolerated.

Organizer: **Loay Daas** (*Germany*)
Co-Organizer: **Edward Wylegala** (*Poland*)

- 09:45 Recent aspects of riboflavin and UV-A corneal crosslinking for KC
Aja Reinhold (*Switzerland*)
- 10:00 Intracorneal ring segments for KC and iatrogenic keratectasia
Loay Daas (*Germany*)
- 10:15 Algorithms for decision on intrastromal ring segment implantation
Rafael I. Barraquer (*Spain*)
- 10:30 Surgical therapy of corneal hydrops
Marc Muraire (*France*)
- 10:45 Role of AS-OCT in DALK and PKP for KC
Edward Wylegala (*Poland*)

09:45-11:00 | Calatrava 3

SIS LC-203 - EVER historical session 2022

There are always new findings in the history of ophthalmology. We will cover a variety of interesting topics that may inspire you to learn more about the past achievements of the giants of our specialty. These include a study of the Polish ophthalmologist Vincenz Fukala, who advocated lens extraction in young myopes; a discussion of the famous European myth of the cyclops, which has fascinated readers for thousands of years; a new insight into how eye disease affects the works of great artists; and a review of the diagnosis and treatment of pseudophakic cystoid macular edema, including the great advances made in the past 60 years.

Organizer: **Andrzej Grzybowski** (*Poland*)
Co-Organizer: **Stephen Schwartz** (*USA*)

- 09:45 Pioneer in refractive lens surgery
Andrzej Grzybowski (*Poland*)
- 10:03 The origin of the cyclops myth
Francisco Javer Ascaso (*Spain*)
- 10:21 The influence of visual pathology on painting
Javier Mateo (*Spain*)
- 10:39 History of diagnosis and treatment of cystoid macular edema
Stephen Schwartz (*USA*)



09:45-11:00 | Gaudi 1

SIS ACB-41 - Autophagy in retinal health and diseases

Autophagy is a specific lysosomal clearance process which plays an immensely significant role in a variety of diseases. During aging and pathological processes increased oxidative stress may lead to protein misfolding, aggregation and as prolonged evoke cellular degeneration and cell death. Once autophagy is activated, damaged cellular organelles and protein aggregates are encapsulated from cytoplasm by autophagosomes, which then fuses with lysosomal vesicles and delivers the engulfed cytoplasm for degradation. In chaperone-mediated autophagy cellular chaperones assist in the uptake of specific proteins into lysosomes. Autophagy is activated e.g., during hypoxia, oxidative stress, unfolded protein response or inflammation. It contributes to intracellular quality control and housekeeping, especially in the turnover of aggregate-prone proteins, that is extremely important in postmitotic cells like neurons and RPE cells. Autophagy has a cytoprotective role in diseases associated with protein aggregates. In this SIS, world-class experts discuss the role of autophagy in retinal health and disease. Autophagy is a putative therapy target in many age-related retinal diseases.

Organizer: **Kai Kaarniranta** (*Finland*)

- 09:45 Activation of mTOR signaling in the RPE cells induces alterations in melanogenesis by suppressing autophagy
Debasish Sinha (*USA*)
- 10:10 A comparative map of macroautophagy and mitophagy in retinal cells
Patricia Boya (*Spain*)
- 10:35 Autophagy in age-related macular degeneration
Kai Kaarniranta (*Finland*)

09:45-11:00 | Gaudi 2

C EOVS-48 - Basic principles of state-of-the-art ophthalmic instrumentation

This course is aimed at providing an overview of the basic principles of various state-of-the-art retinal-imaging systems such as scanning laser ophthalmoscopy, optical coherence tomography, as well as adaptive optics, and discusses how such imaging can even serve as a window into brain mechanisms. The goal is to illuminate for the clinician and scientist the underlying optical concepts and principles of various devices, even when not familiar with the particular technology employed within the instrument, and to demonstrate its potential with applications beyond those of retinal disease diagnosis and follow-up.

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

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

- 09:45 Scanning laser ophthalmoscopy - Basic optical principles
Kristina Irsch (*France*)
- 10:00 Optical coherence tomography - Basic optical principles
Kristina Irsch (*France*)
- 10:15 Optical coherence tomography - Machine learning
Rui Bernardes (*Portugal*)
- 10:30 Adaptive optics - Basic optical principles
Kristina Irsch (*France*)
- 10:45 Retinal imaging - A window into brain mechanisms
Miguel Castelo-Branco (*Portugal*)



09:45-11:00 | Gaudi 3

JM RV-212 - New approaches in retinal and corneal diseases (SCO) Joint Meeting EVER - Societat Catalana de Oftalmologia (Spain)

We present a symposium of expert researchers who will deal with different current issues based on different lines of research.

Organizer: Societat Catalana de Oftalmologia (Spain)
Co-Organizer: **Ricardo Casaroli** (Spain)

- 09:45 I-VISION project. A new step in artificial vision
Josè Antonio Garrido (Spain)
- 10:03 Cell therapy for corneal regeneration: current status and future perspectives
Ricardo Casaroli (Spain)
- 10:21 Development of a new vitreous tamponade for the treatment of rhegmatogenous retinal detachment
Xavier Valldeperas (Spain)
- 10:39 VCN-01 from the preclinic to a phase I trial for refractory retinoblastoma patients
Jaume Catala (Spain)

11:00-11:30 | Break

11:30-12:45 | Auditorium

SIS G-71 - Glaucoma management across Europe: what we can learn from each other

European Glaucoma Society Guidelines play a pivotal role in harmonising the approach to glaucoma in European countries. However national and local guidelines are sometimes not fully in agreement. Furthermore, no recognised information on standard, real-life glaucoma practice across Europe is accessible. This SIS aims to present the similarities and disparities among different European countries and to foster a debate on how to further implement a pan European consensus.

Organizer: **Eduardo Normando** (United Kingdom)
Co-Organizer: **Antoine Rousseau** (France)

- 11:30 The English approach
Karl Mercieca (Germany)
- 11:45 The French approach
Antoine Rousseau (France)
- 12:00 The Italian approach
Annibale Del Re (Italy)
- 12:15 The German approach
Verena Prokosch (Germany)
- 12:30 Panel discussion
Eduardo Normando (United Kingdom)



11:30-12:45 | Calatrava 1

SIS PBP-216 - The ageing retina: the traces of time

The retina, as part of the central nervous system, is widely studied from morphological, functional and molecular perspectives in the presence of pathologies or traumas in order to find new lines of protective therapies. However, the retina is not immobile over time, it has been characterized as a dynamic tissue that evolves over the years, making aging retinas the focus of severe ocular pathologies that affect a large number of the elderly population, such as age-related macular degeneration or glaucoma. Therefore, it is a challenge for researchers to study the changes that the retina undergoes over time in order to understand the pathways of degeneration followed by this type of pathology and to prevent them in the future. In this SIS we will see the evolution and the most relevant changes recently described in the retina of several animals widely used in experimental model studies such as the rat, the mouse or the fish. In addition, we will also see the evolution of the wild-type mouse retina using non-invasive optical coherence tomography eye imaging, as well as the comparison of the microglial response in aged versus young mouse retinas after induction of ocular hypertension.

Organizer: **Francisco Javier Valiente-Soriano** (*Spain*)

Co-Organizer: **Caridad Galindo-Romero** (*Spain*)

- 11:30 The fast-aging killifish: a unique vertebrate model to identify molecular targets for neuroreparative strategies in the aged retina
Lieve Moons (*Belgium*)
- 11:48 The ageing retina of wild-type and mouse model of Alzheimer's disease
Rui Bernardes (*Portugal*)
- 12:06 Is the retinal senescent due to neuronal disfunction or neuronal death?
Francisco Nadal-Nicolas (*USA*)
- 12:24 Retinal microglia and ageing: changes in the healthy and experimental glaucoma mouse model
José A. Fernández-Albarral (*Spain*)

11:30-12:45 | Calatrava 3

SIS COS-24 - Novel insights into corneal neovascularization and transplant immunology

In this session, novel findings in the fields of corneal neovascularization, inflammation, and transplant immunology will be discussed. The speakers will present recent studies on the regulation of corneal blood and lymphatic vessels, nerves, and immune cells - as well as novel therapeutic approaches and molecular targets to treat corneal neovascular diseases, inflammation, or transplant rejection.

Organizer: **Felix Bock** (*Germany*)

Co-Organizer: **Giulio Ferrari** (*Italy*)

- 11:30 Insights into corneal re-vascularization and vascular remodeling in the eye
Neil Lagali (*Sweden*)
- 11:45 Nerves, vessels and inflammation at the ocular surface
Giulio Ferrari (*Italy*)
- 12:00 Interaction of immune cells and lymphatic vessels in corneal transplantation
Felix Bock (*Germany*)
- 12:15 Corneal edema resorption after injury is regulated by the Transcription Factor NFAT5
Karina Hadrian (*Germany*)
- 12:30 Mesenchymal stromal cell therapy to modulate corneal allograft rejection: from bench to bedside
Thomas Ritter (*Ireland*)



11:30-12:45 | Gaudi 1

SIS EOVS-56 - Colour vision changes in patients with diseases of the retina

Advances in colour assessment and in particular, the development of sensitive and specific tests for measuring changes in Red / Green (RG) and Yellow / Blue (YB) colour vision and the establishment of reliable, normal-age limits of chromatic sensitivity have transformed the effectiveness of colour assessment in the clinic. Improved understanding of the mechanisms involved in the processing of chromatic signals has also benefitted the usefulness of colour vision assessment, particularly in relation to clinical applications. YB and RG thresholds have been shown to exceed the expected age-matched upper threshold limits in the large majority of patients with age-related macular degeneration, glaucoma, diabetes mellitus, and a range of other degenerative diseases of the retina. Colour assessment is rapidly becoming a useful clinical tool for detection of the earliest signs of retinal disease and for monitoring the efficacy of various treatments. Systemic diseases, such as diabetes have also been shown to affect chromatic sensitivity and to precede clinical diagnosis. Results from several studies employing different colour assessment techniques will be presented and compared. Statistical outcomes of the most common colour assessment techniques and protocols that are often employed in the clinic will also be discussed.

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

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

- 11:30 Loss of colour vision in patients at risk of developing diabetes
Marisa Rodriguez-Carmona (*United Kingdom*)
- 11:48 Colour vision changes in patient with pressure differences across the lamina cribrosa
John Barbur (*United Kingdom*)
- 12:06 Colour vision impairments in ophthalmological and neurological disorders
Miguel Castelo-Branco (*Portugal*)
- 12:24 Changes in visual function associated with hydroxychloroquine retinal toxicity
Nigel Davies (*United Kingdom*)

11:30-12:45 | Gaudi 2

SIS LC-107 - Artificial Intelligence in ophthalmology. Update 2022

Deep learning (DL), a recently described as the state-of-art machine learning technique, has shown promising diagnostic performance in image recognition, speech recognition and natural language processing. It is widely adopted in many domains, including social media, tele-communication, cybersecurity and medicine. For medical imaging analysis, it has, again, achieved robust results in various medical specialities, such as Ophthalmology, radiology, and dermatology. The major areas of DL use in Ophthalmology include diabetic retinopathy screening, and glaucoma and age-related macular degeneration (AMD) detection. The SIS will present the basics of artificial intelligence (AI) as well as recent advances of artificial intelligence in these areas. Moreover, potential challenges in AI application in the clinical settings will be discussed.

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

Co-Organizer: **Leopold Schmetterer** (*Singapore*)

- 11:30 Basics of Artificial Intelligence
Damon Wong (*Singapore*)
- 11:45 Artificial intelligence for diabetic retinopathy screening
Andrzej Grzybowski (*Poland*)
- 12:00 Revolutionizing retinal imaging using "Intelligent" smartphones
Divya Rao (*Canada*)
- 12:15 AI-based software for cardiovascular disease assessment
Louis Arnould (*France*)
- 12:30 Potential challenges in AI application in the clinical setting
Leopold Schmetterer (*Singapore*)



11:30-12:45 | Gaudi 3



NSPH-225 - Value of the retina in the diagnosis of neurodegenerative diseases Joint Meeting EVER - Sociedad de Investigacion en Retina y Vision (Spain)

In recent decades, the importance of ophthalmological examination in neurodegenerative diseases (ND) is considered fundamental. The retina is an extension of the CNS and, therefore, it is not surprising that after retinal examination, both functional and structural, can give us information on the alterations existing in patients with CNS degeneration. With the development of new in vivo imaging techniques, the data obtained can be quantified and can be related to the histopathological changes described in different ND such as AD, Parkinson's, ALS, multiple sclerosis. They are also important in the detection of early functional and structural changes in asymptomatic subjects who have risk factors, such as a family history of AD or being carriers of at least one ApoE ε4 gene that makes them susceptible to develop the disease in the future. In this course we intend to show the knowledge achieved in the study of the retina in vivo in the aforementioned ND. It is also intended to assess the stage of the disease, which will be very useful in the pharmacological control of the patient, due to the ease with which the test can be performed and its low cost compared to other available techniques.

Organizer: **Jose Manuel Ramirez** (Spain)

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

- 11:30 Value of the retina in the diagnosis of Alzheimer's disease
Elena Salobar-Garcia (Spain)
- 11:45 Binocular, accommodative and oculomotor alterations in multiple sclerosis
David P. Pinero (Spain)
- 12:00 Amyotrophic lateral sclerosis, a neurodegenerative motor neuron disease with retinal involvement
María Pilar Rojas Lozano (Spain)
- 12:15 Inner retina and melanopsin retinal ganglion cells in Parkinson's disease
Chiara La Morgia (Italy)
- 12:30 Asymptomatic subjects at high genetic risk of developing Alzheimer's disease: an OCT study
Inés López-Cuenca (Spain)

12:45-13:10 | Auditorium



EVER Keynote Lecture

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

Brain mechanism of sight recovery
Brigitte Röder (Germany)



Patients who were born with total bilateral cataracts and who were treated late in life show permanent deficits in visual acuity and other basic visual functions. Some higher visual functions are more (face identity processing, coherent motion processing) and other higher order visual functions (biological motion processing, visual exploration) are less impaired than expected from the visual acuity loss. Moreover, the integration of the late available visual input with the intact sensory inputs (hearing, touch) seems to be partially altered. The present talk will focus on new behavioral, electrophysiological and both functional and structural brainimaging results aiming to uncover the neural mechanisms of sight recovery in patients who had suffered from an extended period of blindness before they underwent cataract removal surgery.

13:15-14:30 | CALATRAVA 2



Industry Sponsored Symposium not EACCME accredited (see page 98)



14:45-16:00 | Auditorium

JM **PBP-222 - The retina, a surrogate to study neuroprotection in the central nervous system**
Joint Meeting EVER - ARVO

There is a large number of neurodegenerative diseases that course with neuronal death and permanent function loss. Most of these diseases do not have treatment. One possible way to ameliorate these diseases would aim to delay the course of the disease by slowing neuronal loss. The retina, a sensorial portion of the central nervous system, is particularly suited to investigate in vivo and ex vivo neuroprotective approaches to impinge on the very many common pathological pathways leading to neuronal death. In this Special Interest Symposium, different views and approaches will be presented to tackle the study of neuroprotection in the retina.

Organizer: **Manuel Vidal-Sanz** (*Spain*)
Co-Organizer: **Adriana Di Polo** (*Canada*)

- 14:45 Mitochondrial transport along RGC axons: strategies to restore energy homeostasis and visual function
Adriana Di Polo (*Canada*)
- 15:00 Do all retinal ganglion cells respond similarly to injury and protection?
Manuel Vidal-Sanz (*Spain*)
- 15:15 New trends in retinal imaging
Francesca Cordeiro (*United Kingdom*)
- 15:30 Neuroprotection in ophthalmology. Targets in the most frequent diseases. A clinician's point of view
Jose Carlos Pastor Jimeno (*Spain*)
- 15:45 From mouse to primate: retinal circuit disassembly and plasticity in glaucoma
Yvonne Ou (*USA*)

14:45-16:00 | Calatrava 1

JM **G-232 - The Obergurgl optic nerve conference**
Joint Meeting EVER - Obergurgl optic nerve conference

Organizer: **Jonathan Crowston** (*Singapore*)
Co-Organizers: **Franz Grus** (*Germany*), **Keith Martin** (*Australia*)

- 14:45 Autophagy response in chronic neuronal oxidative stress
Christian Behl (*Germany*)
- 15:03 The role of autophagy in disease
Patricia Boya (*Spain*)
- 15:21 Modelling complex retinal disease with a large scale patient induced pluripotent stem cell approach
Alice Pebay (*Australia*)
- 15:39 Müller-retinal ganglion cell interactions
Elena Vecino (*Spain*)



14:45-16:00 | Calatrava 2

SIS

COS-227 - Contralateral effects after unilateral eye damage: the fellow eye is not a control anymore

Although the majority of the studies focus only on the study of the unilateral inflamed/lesioned/infected/damaged eye, the studies measuring both the effects on the ipsilateral and contralateral side have shown that after unilateral eye insult, the same changes induced in this eye, developed in the contralateral side. This has been reported both from experimental studies in animals (unilateral induced glaucoma, surgery and inflammation) and from the clinical practice (unilateral infection, inflammation or surgery). Although the changes induced in the contralateral side are of a lesser degree than in the affected eye, those should not be ignored. In this symposium these contralateral effects after unilateral eye damage will be reviewed and the two main implications of this parallel alteration will also be discussed: a) in the experimental design of both preclinical and clinical studies, the contralateral eyes cannot be considered as a control; and, b) in the clinical practice, clinicians must consider the convenience of treating both eyes of patients with unilateral ocular conditions to avoid pain and secondary undesirable effects in the fellow eye.

Organizer: **Juana Gallar** (*Spain*)

Co-Organizer: **M. Carmen Acosta** (*Spain*)

- 14:45 Bilateral changes in corneal sensitivity after unilateral corneal infections
Juana Gallar (*Spain*)
- 15:00 Unilateral corneal insult also alters sensory nerve activity in the contralateral eye
M. Carmen Acosta (*Spain*)
- 15:15 Contralateral inflammatory effects on the trigeminal ganglion after unilateral corneal lesion
Giulio Ferrari (*Italy*)
- 15:30 In vivo confocal microscopy demonstrates longitudinal bilateral changes of corneal immune cells and nerves in herpetic keratitis
Pedram Hamrah (*USA*)
- 15:45 Retinal glial activation in the contralateral eyes in a mouse model of unilateral laser-induced glaucoma.
Elena Salobar-Garcia (*Spain*)

14:45-16:00 | Gaudi 1

SIS

MBGE-38 - The origin of myopia - epidemiology, visual control and signaling pathways

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*)

- 14:45 Shedding light on myopia by studying congenital stationary night blindness
Christina Zeitz (*France*)
- 15:00 Ocular blood flow and myopia
Barbara Swiatczak (*Switzerland*)
- 15:15 Insights to myopia gleaned from retinal electrophysiology
Omar Mahroo (*United Kingdom*)
- 15:30 Animal models in myopia
Baptiste Wilmet (*France*)
- 15:45 Genetics of myopia: gene finding and beyond
Annet Haarman (*The Netherlands*)



14:45-16:00 | Gaudi 2

SIS LC-207 - Problems with diffraction in antipresbyopia approaches and what is the alternative?

Presbyopia is age-related loss of accommodation leading to difficulty in reading or focusing on near subjects. Treatment and correction of presbyopia have become challenging with increasing demands and expectations of patients since there are no drugs or procedures that can cause perfect vision at all distances without risk. Surgical options are related with the limitation of the present technologies and their trade-off nature. Especially diffractive technology is related with some optical phenomena, including dysphotopsias in different lighting conditions, etc. The session will present the present problems with diffractive technologies and some new approaches to overcome these problems.

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

- 14:45 Problems with diffractive IOLs
Andrzej Grzybowski (*Poland*)
- 15:00 A new inverted meniscus IOL to improve peripheral vision
Pablo Artal (*Spain*)
- 15:15 Customized asphericity for increased depth of focus
Ines Yago (*Spain*)
- 15:30 Monovision revitalized
George Beiko (*Canada*)
- 15:45 Options and considerations for the correction of presbyopia in the absence of cataract
Dan Reinstein (*United Kingdom*)

14:45-16:00 | Gaudi 3

SIS G-78 - Cellular & molecular approach to glaucoma diagnosis and therapy

This SIS will provide an update on recent developments in basic sciences and diagnostic devices with respect to the management of glaucoma as well as new potential therapies for this disease. Most recent developments in the fields of molecular genetics, optic nerve imaging and new IOP measuring strategies will be discussed in the first talks. The last ones will provide insight about new therapeutic targets especially regarding neuroprotection and a not so distant gene therapy. Subjects discussed: clinical applications of molecular genetics research in glaucoma daily practice (molecular basis, pharmacogenetics, genetics of bleb fibrosis); developments of OCT in glaucoma; innovative approaches to measuring intraocular pressure; novel formulations in the treatment of glaucoma and glaucoma gene therapy.

Organizer: **Elena Milla** (*Spain*)

Co-Organizer: **Nuria Comes** (*Spain*)

- 14:45 Clinical applications of molecular genetics research in glaucoma daily practice
Elena Milla (*Spain*)
- 15:00 Implication of Mueller glia in glaucoma
Elena Vecino (*Spain*)
- 15:15 Innovative approaches to measuring intraocular pressure
Maria Jesus Muniesa (*Spain*)
- 15:30 Novel formulations in the treatment of glaucoma
Rocio Herrero Vanrell (*Spain*)
- 15:45 Gene therapy of glaucoma: just an attractive experimental approach?
Nuria Comes (*Spain*)



16:00-17:00 | Coffee Break

16:00-17:00 | Poster Session 1

17:00-18:15 | Auditorium

SIS RV-88 - Surgical approaches in treatment of large macular holes

Large macular holes (LMHs) defined as full-thickness defects in the outer plexiform and photoreceptor layers at the fovea with minimum large diameter > 400 µm. Nearly 50% of patients with macular holes have LMHs. Pathogenic features of LMHs appeared to be different than in cases of idiopathic MH with smaller diameter. Hypertrophic RPE at the bottom of MH is a sign of chronic LMHs. Surgical treatment of LMHs with its complete closure remains challenging. Application of conventional vitreoretinal procedures (pars plana vitrectomy, ILM peeling with or without endotamponade) for MH treatment with closure rate 98% are insufficient for LMHs. It was reported that closure rate in LMHs surgery remains around 56%. There are different alternative surgical approaches that increase the closure rate in LMHs surgery. The most important anatomic feature necessary for visual improvement after LMHs closure remains re-establishment of the foveal ELM and ellipsoid zone which reflects the potential of photoreceptor function. This SIS will discuss pathologic particularities and surgical aspects of the operative treatment of LMHs in regard to the newest surgical techniques.

Organizer: **Lyubomyr Lytvynchuk** (Germany)

Co-Organizer: **Ihor Novytskyy** (Ukraine)

- 17:00 Large holes in macular surgery
Diana Chichur (Ukraine)
- 17:15 Macular surgery in myopic eyes.
Oksana Ilyuk (Ukraine)
- 17:30 Anatomical and functional results of vitrectomy and gas tamponade in macular hole treatment
Ihor Novytskyy (Ukraine)
- 17:45 What is the best way to treat a refractory macular hole?
Andrii Ruban (Ukraine)
- 18:00 Iatrogenic macular detachment for large macular holes: how to improve this technique.
Lyubomyr Lytvynchuk (Germany)



17:00-18:15 | Calatrava 1

SIS MBGE-72 - Genes phenotypes and Artificial Intelligence

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

Co-Organizer: **Nikolas Pontikos** (*United Kingdom*)

- 17:00 Oculomics: the eye as a window to systemic disease
Konstantinos Balaskas (*United Kingdom*)
- 17:15 Eye 2 Gene
Nikolas Pontikos (*United Kingdom*)
- 17:30 Prediction of causative genes in inherited retinal disorders from spectral-domain optical coherence tomography utilizing deep learning techniques
Yu Fujinami-Yokokawa (*Japan*)
- 17:45 In silico interpretation of variants identifies novel causes of inherited eye disease in the 100,000 genomes project
Gavin Arno (*United Kingdom*)
- 18:00 Japan Eye Genetics Consortium; a platform of genes, phenotypes, and application of AI
Kaoru Fujinami (*Japan*)

17:00-18:15 | Calatrava 2

SIS COS-89 - Genetic therapies for corneal diseases; where are we standing?

This Special Interest Symposium will focus on current research for genetic treatment of corneal diseases. Experts in the field will present recent advances in genetics of corneal diseases and, most important, they will highlight current approaches for gene therapy, emphasizing on challenges and limitations.

Organizer: **Zisis Gatzioufas** (*Switzerland*)

Co-Organizer: **Nora Szentmary** (*Germany*)

- 17:00 Genetics of Fuchs corneal endothelial dystrophy - An update
Frederic Mascarelli (*France*)
- 17:18 Rock inhibitors and antisense oligonucleotides for Fuchs corneal endothelial dystrophy
Adam Wylegala (*Poland*)
- 17:36 Genetics of keratoconus; how realistic is gene therapy?
Georgios Anogeianakis (*Greece*)
- 17:54 Targeting corneal dystrophies for genetic treatment; challenges and limitations
Miltos Balidis (*Greece*)



17:00-18:15 | Calatrava 33

SIS

ACB-224 - Pathogenic role of the macroglia in neuroretinal diseases

Retinal macroglial cells (astrocytes and Müller glia) play important roles in retinal neuronal activity, including maintenance of ionic and neurotransmitter homeostasis; glucose metabolism; providing cytokines and growth factors; elimination of toxic substances; protection against oxidative damage; induction of blood-retinal barrier properties; as well as in the immune response, among others. When tissue damage occurs, these macroglial cells respond by a process called reactive gliosis, to defend the nerve tissue against damage and try to maintain its homeostasis. The reactivation of macroglia may initially be beneficial, however, if macrogliosis becomes chronic, it is harmful by directly or indirectly damaging the tissue (neurons and vessels) and preventing tissue repair. Macroglial cells may act in concert with microglia during the inflammatory process, so that inflammatory mediators produced by astrocytes can chronically activate microglial cells or vice versa, contributing to neuronal death. Given the importance of these cells for retinal function, the purpose of the present SIS is to analyse the possible detrimental or beneficial roles of macroglial cells in different retinal pathologies.

Organizer: **Ana Isabel Ramirez** (*Spain*)

Co-Organizer: **Juan Jose Salazar** (*Spain*)

- 17:00 Response of retinal macroglia to inflammatory damage
Meritxell Lopez Gallardo (*Spain*)
- 17:18 Macroglial activation over time in an experimental glaucoma model
José A. Fernández-Albarral (*Spain*)
- 17:36 Astrocyte activation and protein aggregation in the retina of Alzheimer's disease patients
Silvia Di Angelantonio (*Italy*)
- 17:54 Role of Müller cells in cone mosaic rearrangement and retinal remodeling in photoreceptor degenerations
Diego Garcia-Ayuso (*Spain*)

17:00-18:15 | Gaudi 1

C

G-94 - The jungle of anti-glaucomatous eye drops and their generics

The number of anti-glaucomatous eye drops has dramatically increased within the last decade. The most significant reason for this is the introduction of generics. Moreover, the number of preservative free eye drops have increased. There is an ongoing debate among healthcare providers about the safety and efficacy of generic versus brand name eye drops. While one would expect generics to be a true copy of the original eye drop, there are surprisingly few requirements for the introduction of a copy eye drop in the market. Thus, only the concentration of the active ingredients must be identical to that of the original product. Since many other factors such as bottle material, bottle shape and size and cap color, drop size, pH, viscosity, and buffer capacity can affect efficacy, there is concern about whether generics are really identical to their original variants. Another lively debate concerns the use of preservatives in eye drops. Increasing literature indicates significant side effect by preservatives when used for lifetime. This course will provide an overview of current original/generic anti-glaucomatous eye drops and the availability of preservative free possibilities. Finally, the course will end with a plenary discussion on the pros and cons of both generics and preservative containing eye drops.

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

co-organizer: **Frances Meier-Gibbons** (*Switzerland*)

- 17:00 Update on current anti-glaucomatous drugs
Barbara Cvenkel (*Slovenia*)
- 17:18 What do we know about preservatives?
Andrew Tatham (*United Kingdom*)
- 17:36 Generics pros and cons
Frances Meier-Gibbons (*Switzerland*)
- 17:54 Trends in glaucoma: update on clinical trials and new targets to treat glaucoma
Miriam Kolko (*Denmark*)



17:00-18:15 | Gaudi 2

SIS LC-33 - Straylight from experimental studies to clinical practice

Ocular straylight is still an often overlooked property of visual quality. Our SIS will cover different factors which affect ocular straylight, as patient's refraction and the optics of intraocular lenses implanted with cataract surgery. We will also give an overview on the importance of straylight in clinical practice. The SIS will conclude with considerations of ocular straylight in relation with driving a car.

Organizer: **Ralph Michael** (*Germany*)
Co-Organizer: **Timo Eppig** (*Germany*)

- 17:00 Effects of refraction on straylight
Thomas J.T.P. Van Den Berg (*The Netherlands*)
- 17:15 Light scattering in IOLs
Grzegorz Labuz (*Germany*)
- 17:30 IOL glistenings and disability glare
Andrzej Grzybowski (*Poland*)
- 17:45 Straylight in clinical practice
Nic Reus (*The Netherlands*)
- 18:00 How straylight affects driving ability
Sarah Hershko (*Belgium*)

18:15-18:40 | Auditorium

PS EVER Lecture delivered by the Past President

Introduced by **Dominique Bremond-Gignac** (*France*)

Proteostasis is age-related macular degeneration
Kai Kaarniranta (*Finland*)



The accumulation of damaged and harmful components in cells, particularly those composed of misfolded and potentially hazardous proteins, is characteristic for several neurodegenerative diseases, including age-related macular degeneration (AMD). Misfolded proteins frequently expose hydrophobic patches that structurally should be buried inside the protein, making the misfolded proteins prone to aggregation. Inefficient protein homeostasis and failures in removing misfolded and aggregated proteins or impaired organelles, especially damaged mitochondria, can lead to the production of reactive oxygen species and increase in oxidative stress. Oxidative stress-induced damage to the retinal pigment epithelium (RPE) is considered to be a key factor in AMD pathology. The ubiquitin-proteasome and the lysosomal/autophagy pathways are the two major proteolytic systems to remove damaged proteins and organelles. There is increasing evidence that proteostasis is disturbed in RPE as evidenced by lysosomal lipofuscin and extracellular drusen accumulation in AMD. The role of clearance mechanisms in AMD pathology will be discussed.



Friday, 14 October 2022

08:30-09:45 | Auditorium

SIS EOVS-53 - The retina as a window into the brain

The use of the retina as a window into the brain has been widely debated but is now gaining additional momentum with new insights into retinal changes based on new data processing techniques leading to the development of new biomarker of retinal changes and their association with neurodegenerative disorders. With all the advantages of allowing the non-invasive imaging of the CNS and the fact that ocular disorders share characteristics of other CNS diseases, this symposium will cover retina-brain relationships in health and neurological disorders, in humans and animal models of disease, the use of texture biomarkers, and the use of machine learning and AI in this field.

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

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

- 08:30 Retina-brain structure functional correlations in health and neurological disorders
Miguel Castelo-Branco (*Portugal*)
- 08:45 Association of retinal nerve fibre layer thickness with cognition in a population-based study
Franziska G. Rauscher (*Germany*)
- 09:00 The retina as a window to the brain in Alzheimer's disease? Insights from an animal model
António Francisco Ambrósio (*Portugal*)
- 09:15 Machine learning approaches using OCT
Rui Bernardes (*Portugal*)
- 09:30 Developing an AI retinal biomarker
Francesca Cordeiro (*United Kingdom*)

08:30-09:45 | Calatrava 1

SIS RV-99 - Vascular alterations in diabetic retinopathy

This SIS has been put together to provide an overview of ongoing and published research on retinal vascular parameters in DM. The speakers invited are a mix of basic scientists, clinicians and those involved in device development. Hence the aim is to provide information on the underlying mechanisms of how vessel structure and dynamics are affected by diabetes and to foster discussion about the clinical use of retinal vessel indices in diabetes research and care.

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

Co-Organizer: **Konstantin Kotliar** (*Germany*)

- 08:30 Integrated assessment of temporal, structural and spatial parameters of dynamic retinal vessel behaviour in diabetes mellitus
Konstantin Kotliar (*Germany*)
- 08:48 Retinal vessel analysis and models of pathomechanisms of diabetic retinopathy
Leopold Schmetterer (*Singapore*)
- 09:06 Retinal blood flow and oxygen metabolism in diabetes
Doreen Schmidl (*Austria*)
- 09:24 Structural and vascular retinal parameters in early onset type 2 diabetics
Rebekka Heitmar (*United Kingdom*)

Friday
14 October 2022



08:30-09:45 | Calatrava 2

SIS NSPH-26 - Mitochondrial dysfunction and retinal ganglion cell loss - new insights and treatment strategies

Retinal ganglion cells are exquisitely sensitive to mitochondrial dysfunction and the factors that underlie this selective vulnerability are being painstakingly dissected with the discovery of new optic atrophy genes. We are gradually building a coherent picture of the overlapping mechanisms contributing to retinal ganglion cell loss and how to intervene to slow or stop the ongoing neurodegenerative process. This session will provide an update on the genetic pathways involved and the treatment strategies that are being considered for mitochondrial optic neuropathies.

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

- 08:30 New genes and new phenotypes
Neringa Jurkute (*United Kingdom*)
- 08:48 OPA1 trans-splicing: a gene therapy approach to treat OPA1-related optic neuropathies
Guy Lenaers (*France*)
- 09:06 Toxic optic neuropathies - update on genetics and therapy
Piero Barboni (*Italy*)
- 09:24 Treatment strategies for mitochondrial optic neuropathies
Patrick Yu-Wai-Man (*United Kingdom*)

Friday
14 October 2022

08:30-09:45 | Calatrava 3

SIS PBP-210 - Nutrition and nutritional supplements as therapeutic tools for the eyes. Physicochemical and molecular approaches

Our diet can influence the risk of suffering important conditions, such as metabolic syndrome, cardiovascular/respiratory diseases, mental disorders, cancer, and ophthalmic pathologies. The choice of "to eat healthy" is one of the most relevant modifiable environmental factors that impacts long-lasting wellbeing. Special attention will be given to the physicochemical and molecular characteristics of vitamins, poly-unsaturated fatty acids, phenolics, carotenoids, and oligoelements and the role of nutritional supplements in ophthalmic diseases. Also natural food that may benefit the eyes will be reviewed. It is also important to give emphasis to oxidative stress and its downstream signalling, such as lipid peroxidation by-products that may act as messengers that influence gene expression. Although many eye diseases do not have an effective treatment, an appropriate diet and reasonable supplementation (for each case) may slow its progression. Therefore, nutrients and nutritional supplements-based evidence for eye and vision health are interestingly reviewed in this symposium.

Organizer: **Maria Dolores Pinazo Duran** (*Spain*)
Co-Organizer: **Gianluca Scuderi** (*Italy*)

- 08:30 Saffron benefits for eye diseases
Jose Fernandez-Albarral (*Spain*)
- 08:45 Gut microbiome in retina health
Gianluca Scuderi (*Italy*)
- 09:00 Is docosahexaenoic acid supplementation effective in non-proliferative diabetic retinopathy?
Francisco Javier Hernandez-Martinez (*Spain*)
- 09:15 Targeting neuroinflammation in early diabetic retinopathy
Serena Fragiotta (*Italy*)
- 09:30 Pros and cons of natural food and nutraceuticals for dry eyes
Maria Dolores Pinazo Duran (*Spain*)



08:30-09:45 | Gaudi 1

SIS COS-29 - Corneal nerves and their role in ocular surface inflammation and wound healing

The cornea receives the densest sensory innervation of the entire body. The extensive distribution of sensory nerves across the corneal epithelium and stroma makes them central players in the pathophysiology of highly prevalent ocular disorders. In fact, most of the corneal diseases affect nerve morphology and/or function. Conversely, it is emerging that corneal nerves are key regulators of wound healing and inflammation at the ocular surface. This symposium will review the complex anatomy of corneal sensory innervation and its role and mechanisms regulating wound healing. In addition, we will provide a review of the interactions between nerves and the immune system at the ocular surface, with a special focus on infectious keratitis. Finally, we will discuss the potential clinical implications of these findings, and suggest therapeutic strategies.

Organizer: **Giulio Ferrari** (*Italy*)
Co-Organizer: **Nora Szentmary** (*Germany*)

- 08:30 The anatomy of corneal nerves
Neil Lagali (*Sweden*)
- 08:48 Corneal nerves and wound healing
Antonio Di Zazzo (*Italy*)
- 09:06 Mast cells and their role in corneal neuroinflammation
Sunil Chauhan (*USA*)
- 09:24 Nerves, substance P and ocular surface inflammation
Giulio Ferrari (*Italy*)

Friday
14 October 2022

08:30-09:45 | Gaudi 2

SIS G-113 - Trabeculectomy: dead art or dead loss?

Trabeculectomy has long been the gold standard for glaucoma surgery. It is still the single most effective, safe and reliable surgical procedure for controlling glaucoma - achieving adequate pressure control most of the time in the low teens. In this course we will discuss when to perform a trabeculectomy and present pearls and tips of the technique. In the era of MIGS (minimally invasive glaucoma surgery) we will focus on the place of trabeculectomy in the glaucoma treatment algorithm.

Organizer: **Dimitrios Besinis** (*Greece*)
Co-Organizer: **Philip Bloom** (*London, United Kingdom*)

- 08:30 Trabeculectomy indications - when to do it (Trab vs MIGS)
Dimitrios Besinis (*Greece*)
- 08:48 Trabeculectomy techniques - tips and pearls
Philip Bloom (*United Kingdom*)
- 09:06 Trabeculectomy- complications and management
Jeremy Diamond (*United Kingdom*)
- 09:24 When not to do a trabeculectomy (Trab vs Tube)
Alastair Porteous (*United Kingdom*)



08:30-09:45 | Gaudi 3

JM COS-229 - Amniotic membrane for the ocular surface: what's new Joint Meeting EVER - Instituto Oftalmobiologia Aplicada (IOBA)

New therapeutic concepts and clinical strategies are emerging for the different kinds of amniotic membranes (AM). There are new commercial forms of AM that are under investigation for old and new applications, from ocular surface epithelial persistent defects to the AM extract eyedrops or the new use of AM as a delivery platform and substrate for stem cells for ocular surface repair.

Organizer: **Margarita Calonge** (*Spain*)

- 08:30 Amniotic membrane: basic concepts, different kinds
Lidia Cocho (*Spain*)
- 08:48 Amniotic membrane for ocular surface pathology: the old and the new
Josè M. Herrera (*Spain*)
- 09:06 Lyophilized amniotic membrane for corneal ulcers and postoperative cross-linking
Juliette Knoeri (*France*)
- 09:24 Amniotic membrane as a substrate and delivery vehicle for stem cells
Margarita Calonge (*Spain*)

Friday
14 October 2022

09:45-10:10 | Auditorium

KN EVER Keynote Lecture

Introduced by **Francesca Cordeiro** (*United Kingdom*)

Novel insights into neuronal and vascular damage glaucoma
Adriana Di Polo (*Canada*)



Despite decades of clinical and basic research, we still do not understand the factors that cause retinal ganglion cell death and loss of vision in glaucoma patients. This keynote lecture will provide insights into new mechanisms that lead to early neuronal and neurovascular dysregulation in glaucoma. Several pathological changes associated with retinal ganglion cell damage will be discussed including dendritic retraction and synapse loss, metabolic deficits, and loss of neurovascular coupling. The role of pericytes in retinal capillary function will be presented, including newly identified inter-pericyte tunneling nanotubes, and their impact on retinal ganglion cell viability. These new data will highlight therapeutic opportunities to alleviate key pathological processes and restore visual function in glaucoma and other optic neuropathies.

10:15-10:45 | Break



10:45-12:00 | Auditorium

SIS

COS-37 - VISICORT - Adverse immune signatures and their prevention in corneal transplantation

The immune response is the most complex barrier to the long-term success of tissue transplants from allogeneic and bio-artificial sources. Human corneal grafts are typically considered to have superior short- and long-term outcomes and lower requirements for immunosuppression compared to solid organ transplants because of the inherent immune privilege and tolerogenic mechanisms associated with the anterior segment of the eye. However, in a substantial proportion of corneal transplants, the rates of acute rejection and/or graft failure are comparable to or even greater than those of the commonly transplanted solid organs. In this special interest symposium, we present the results of VISICORT, a multi-disciplinary EU FP-7 supported project with expertise in basic immunology, bio-sampling, systems biology/immune profiling, bioinformatics, clinical tissue transplantation and cell therapy. We report the clinical outcomes of a prospective study of over 850 penetrating and posterior lamellar corneal transplant recipients at 5 leading European transplant centres, present an analysis of the systemic immune response during acute CT rejection, provide a comparative analysis of the immunological challenge of corneal compared with solid organ transplantation and describe how a preclinical model may inform future novel therapeutic strategies to improve outcomes in high risk corneal transplantation.

Organizer: **Conor Murphy** (*Ireland*)
Co-Organizer: **Uwe Pleyer** (*Germany*)

- 10:45 The VISICORT project: lessons from solid organ transplantation
Matthew Griffin (*Ireland*)
- 11:00 Current measures to prevent corneal transplant rejection
Uwe Pleyer (*Germany*)
- 11:15 New approaches to improving corneal transplant survival in a pre-clinical model
Thomas Ritter (*Ireland*)
- 11:30 Clinical outcomes in a large multi-centre prospective corneal transplant study
Hjortdal Jesper (*Denmark*)
- 11:45 New findings on the immune response following corneal transplantation
Conor Murphy (*Ireland*)

10:45-12:00 | Calatrava 1

SIS

G-58 - Microglia in retinal disease

Retinal neurodegeneration, including glaucoma, multiple sclerosis, Parkinson's Disease and Alzheimer's disease, are major cause of morbidity worldwide. There is currently no early diagnosis and no cure. Activation of microglia is increasingly recognized as an early hallmark of retinal neurodegenerative diseases, and different morphologies have been described. It is established that microglia mediated inflammation is the main cause of retinal pathology, and activated microglia have recently been suggested to be the primary target to reduce retinal damage and visual impairment.

Organizer: **Francesca Cordeiro** (*United Kingdom*)
Co-Organizer: **Manuel Vidal-Sanz** (*Spain*)

- 10:45 Microglia in the retina
Francesca Cordeiro (*United Kingdom*)
- 11:10 Understanding the role of microglia in the onset of photoreceptor degeneration
Diego Garcia-Ayuso (*Spain*)
- 11:35 Microglia - an innocent bystander?
Elena Salobar-Garcia (*Spain*)

Friday
14 October 2022



10:45-12:00 | Calatrava 2

SIS NSPH-62 - A historical pandemic meeting again

History of ophthalmology is fulfilled with many forgotten, and sometimes unknown facts, which give us better understanding of the past, and sometimes also of the present day. Without good understanding of the present knowledge it is very difficult to plan the future. Our session will present and discuss the unknown contributions to refractive surgery, and very active clinical work of Waclaw Szuniewicz in China, and Brazil. Although his name is still present in Ophthalmology, in Maddox rod, double prism Maddox, red glass Maddox, Maddox cross and Maddox wing, the other contributions of Ernest Maddox are mostly forgotten, and they will be discussed. Moreover, the role of different plants in Ophthalmology, and the history of glaucoma surgery will be presented.

Organizer: **Andrzej Grzybowski** (*Poland*)
Co-Organizer: **Seyed Ghazi-Nouri** (*United Kingdom*)

- 10:45 The history of medical virology and ophthalmology
Agnieszka Polak (*Poland*)
- 11:00 Mr Ernest Maddox and his work
Seyed Ghazi-Nouri (*United Kingdom*)
- 11:15 Ethnobotanic history of ophthalmology
Agnieszka Polak (*Poland*)
- 11:30 Ocular references on ancient coins
Juan Luis Sanchez (*Spain*)
- 11:45 Hispanic colliria seals in the Roman Empire
Rafael J. Perez-Cambrodi (*Spain*)

10:45-12:00 | Calatrava 3

JM COS-230 - New concepts and ideas about dry eye disease Joint Meeting EVER - SEO - SESOC - EuDES

This is a joint SIS between EVER and Sociedad Española de Oftalmología (SEO), Sociedad Española de Superficie Ocular y Córnea (SESOC) and European Dry Eye Society (EuDES). The aim of the SIS is to present new and unknown aspects of the most common ocular condition. From sensation to inflammation. Regarding pathophysiology, diagnosis, and therapy.

Organizer: **José Benitez del Castillo** (*Spain*)

- 10:45 Natural treatments for DED
Elisabeth M. Messmer (*Germany*)
- 11:03 Corneal esthesiometry
Jesus Merayo-Llodes (*Spain*)
- 11:21 Digital solutions for dry eye disease
Francesc March de Ribot (*Spain*)
- 11:39 Toxic conjunctivitis from cosmetics in DED
Konstadinos G. Boboridis (*Greece*)

Friday
14 October 2022



10:45-12:00 | Gaudi 1

SIS EOVS-52 - Colour vision loss in patients with damaged visual pathways - retina and cortex

Recent advances in the isolation and testing of Red / Green (RG) or / and Yellow / Blue (YB) chromatic sensitivity have enhanced our understanding of colour processing in the retina. Several studies have now demonstrated how S-cone signal increments and decrements can lead to the perception of “blue” and “yellow” colours, respectively, whilst -L+M and +L-M cone contrast signals of equivalent magnitude lead to the perception of “red” and “green” colours, even when S-cone signals remain unchanged. By contrast, the processing of opponent colour signals and the generation of perceived primary colours in extra striate areas of the cortex remains poorly understood. When acquired loss of RG or / and YB chromatic sensitivity arises as a result of damage to central visual pathways, the patients often experience unusual changes to vision and in some cases selective loss of RG or YB colour discrimination, and even to total loss of colour vision. Such findings suggest that colour vision is no longer linked directly to polarity sensitive, colour-opponent signals and that the extraction and coding of primary colours involves separate populations of neurons. Functional specialisation in the cortex may therefore extend to primary colours. The aim of this symposium is to review unusual findings from recent studies in patients with damaged central visual pathways and to learn more about the mechanisms involved in the cortical processing of chromatic signals.

Organizer: **Gordon Plant** (*United Kingdom*)
Co-Organizer: **Franziska G. Rauscher** (*Germany*)

- 10:45 The value of colour assessment in diagnostic dilemmas
Benjamin Evans (*United Kingdom*)
- 11:03 Colour-related, binocular interactions in patients with dyschromatopsia
John Barbur (*United Kingdom*)
- 11:21 Cerebral achromatopsia
Franziska G. Rauscher (*Germany*)
- 11:39 The ‘Retinex’ of colour vision impairment
Gordon Plant (*United Kingdom*)

10:45-12:00 | Gaudi 2

SIS IM-98 - The crucial role of microbiome not only in autoimmune uveitis

Human health is a very closely linked to a healthy microbial profile. Microbiota fundamentally influences the immune system development, and its perturbation, i.e., dysbiosis, is associated with many inflammatory diseases. This section SIS aims for an overview of the importance of microbiome in uveitis and other autoimmune diseases, of the clinical application of recent research in experimental models and also in human medicine.

Organizer: **Jarmila Heissigerova** (*Czech Republic*)
Co-Organizer: **Miloslav Kverka** (*Czech Republic*)

- 10:45 Microbiome and autoimmunity
Miloslav Kverka (*Czech Republic*)
- 11:10 The role of microbiome in uveitis in experimental mice model
Jarmila Heissigerova (*Czech Republic*)
- 11:35 Gut microbiome and Behcet’s disease
Graham Wallace (*United Kingdom*)



10:45-12:00 | Gaudi 3

SIS COS-86 - Corneal imaging

Corneal imaging is an important tool in the diagnosis, disease monitoring and surgical planning of wide range of corneal disorders. Corneal topography is still a widely used imaging technique in daily practice, which details the surface curvature of the cornea. Technical development and innovation allowed to measure both anterior and posterior surfaces of the cornea by using Scheimpflug photography techniques. It provides accurate subclinical and early keratoconus detection. Optical coherence tomography enables more detailed resolution, even individual corneal layers can be visualized. This is extremely useful to monitor graft position after lamellar transplantation. In vivo confocal microscopy of the cornea provides examination of the cornea at cellular level. Moreover, it provides information on sub-basal corneal nerve plexus morphology, predicts and diagnoses peripheral neuropathy and helps to detect corneal immune cells. Specular imaging is an important tool in endothelial disorder detection, in corneal preservation and eye banking.

Organizer: **László Modis** (*Hungary*)
Co-Organizer: **Edward Wylegala** (*Poland*)

- 10:45 Corneal surface analysis - Topography
Achim Langenbacher (*Germany*)
- 11:00 Corneal curvature and thickness - Scheimpflug
Illes Kovacs (*Hungary*)
- 11:15 In vivo corneal biopsy - OCT
Edward Wylegala (*Poland*)
- 11:30 Corneal endothelium - Specular microscopy
László Modis (*Hungary*)
- 11:45 Imaging of corneal nerves with in vivo confocal microscopy (IVCM)
Elisabeth M. Messmer (*Germany*)

Friday
14 October 2022

12:00-12:25 | Auditorium

PS European Ophthalmic Heritage Lecture

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

Eye genes: looking forward, glancing back
Veronica Van Heyning (*United Kingdom*)



When we began the identification of genes implicated in eye disease the process was slow and laborious. It is three decades since we identified PAX6 as the gene mutated in aniridia, before the launch of the Human Genome Project. Since then there have been seismic changes in technology: in sequencing, gene expression studies, including database generation and data mining and the use of AI (artificial intelligence). The building of the Human Cell Atlas is revolutionising our understanding of microanatomy. Patient phenotyping has also evolved with great strides in ocular imaging and psychophysics. Two decades ago we identified further key eye development genes, SOX2 and OTX2, implicated in anophthalmia and microphthalmia. Together with retinal disease gene discovery, the era of functional network building began. Our interests encompassed defining not only coding region mutations – now much aided by advances in protein structure prediction – but also non-coding regulatory variation. Exploration of dynamic and established genome organisation is contributing to improved understanding of these aspects normal and abnormal function. Our speedy tour will take us through much territory.

12:30-13:30 | CALATRAVA 1

CIS Industry Sponsored Symposium *not EACCME accredited (see page 99)*



13:30-14:45 | Auditorium

C

NSPH-25 - Mitochondrial disease - what you need to know

Mitochondrial disease affects at least 1 in 5,000 people in the population and over half of all patients will develop ocular manifestations. The two most common phenotypes are visual loss associated with primary retinal ganglion cell loss and optic atrophy, and extraocular muscle pathology leading to progressive ophthalmoplegia and ptosis. Visual impairment can also arise due to outer retinal degeneration. This session will provide a clinically relevant overview of the investigation of patients with suspected mitochondrial disease and the management options.

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

Co-Organizer: **Valerio Carelli** (*Italy*)

- 13:30 When to suspect mitochondrial disease and how to investigate it
Chiara La Morgia (*Italy*)
- 13:48 Mitochondrial optic neuropathies
Alfredo Sadun (*USA*)
- 14:06 Chronic progressive external ophthalmoplegia
Rustum Karanjia (*Canada*)
- 14:24 Retinal involvement in mitochondrial disease
Marcela Votruba (*United Kingdom*)

Friday
14 October 2022

13:30-14:45 | Calatrava 1

SIS

G-60 - New technologies in glaucoma

There have several innovative technologies which have been advancing rapidly in the clinical arena. In addition to a large number of MIG devices that are now being advocated, this session will also discuss: use of chemical sensors to detect changes in tears, using DARC as a biomarker, home monitoring possibilities in glaucoma including self-tonometry and visual field testing.

Organizer: **Francesca Cordeiro** (*United Kingdom*)

Co-Organizer: **Philip Bloom** (*United Kingdom*)

- 13:30 Scleral sensor contact lenses
Ali Yetisen (*United Kingdom*)
- 13:48 DARC
Francesca Cordeiro (*United Kingdom*)
- 14:06 MIGS - the good, the bad and the ugly
Philip Bloom (*United Kingdom*)
- 14:24 Home monitoring
Andrew Tatham (*United Kingdom*)



13:30-14:45 | Calatrava 2

SIS COS-44 - Acanthamoeba keratitis - diagnostic and treatment challenges - from parasitological to clinical aspects

Acanthamoebae are the causative agents of an often seriously progressing keratitis (AK) occurring predominantly in contact lens wearers and can cause several disseminating infections potentially resulting in granulomatous amoebic encephalitis (GAE) in the immunocompromised host. The predominant genotypes in the AK cases are T4, other genotypes found were T3, T5, T6, T8, T10 and T11. Clinical signs of acanthamoeba keratitis are in early stages grey-dirty epithelium, pseudodendritiform epitheliopathy, perineuritis, multifocal stromal infiltrates, ring infiltrate and in later stages scleritis, iris atrophy, anterior synechiae, secondary glaucoma, mature cataract, and chorioretinitis. As conservative treatment, we use up to one year triple-topical therapy (polyhexamethylene-biguanide, propamidine-isethionate, neomycin). In therapy resistant cases, surgical treatment options such as corneal cryotherapy, amniotic membrane transplantation, riboflavin-UVA cross-linking, and penetrating keratoplasty are applied.

Organizer: **Nora Szentmary** (*Germany*)

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

- 13:30 Twenty-five years of acanthamoeba diagnostics in Austria
Julia Walochnik (*Austria*)
- 13:48 Advantages and pitfalls of confocal microscopy for detection of AK
Neil Lagali (*Sweden*)
- 14:06 Acanthamoeba keratitis - clinical signs and potential specific conservative treatment
Nora Szentmary (*Germany*)
- 14:24 Prognostic factors associated with the need for surgical treatments in Acanthamoeba keratitis
Vincent Borderie (*France*)

13:30-14:45 | Calatrava 3

SIS NSPH-92 - The wide spectrum of neuroocular pathologies

Acute optic neuritis in adults and children combined with optic disk swelling may be diagnosed as a multiple sclerosis or a pathology with MOG antibodies positive. The presence of antibodies to myelin oligodendro-cyte glycoprotein (MOG antibodies) is associated with optic neuritis, myelitis and brainstem encephalitis. MOG antibodies is now considered to denote a disease entity, MOG-antibodies-associated disease distinct from multiple sclerosis (MS) and from AQP4- antibodies positive neuro-myelitis optica spectrum disorder (NMOSD). This joint sections SIS aims for a better understanding of neuro-ocular pathologies in children and in adults.

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

- 13:30 MOG-Ab prevalence in optic neuritis and clinical predictive factors for diagnosis
Jean-Baptiste Ducloyer (*France*)
- 13:55 Clinical spectrum of neuro-ophthalmological manifestations associated in MOG antibodies in children
Matthieu Robert (*France*)
- 14:20 Auto-immune retinopathies
Isabelle Audo (*France*)

Friday
14 October 2022



13:30-14:45 | Gaudi 1

JM

COS-231 - Advances in keratoconus and ocular surface management Joint Meeting EVER - Sociedade Portuguesa de Oftalmologia

Keratoconus affects young patients and impairs patients' quality of life throughout the entire life. In fact, the visual deficit can be debilitatingly severe, with up to 20% of patients requiring a corneal transplant. The role of ocular surface environment for the outcome of corneal diseases has been recently recognized in dry eye, post-refractive surgery ectasia and in keratoconus. In this symposium, we will present the latest research on the correlation between inflammatory cytokines and the surgical outcomes of cross-linking for keratoconus treatment. We will also focus on the use of nanoparticles for enhancing surgical techniques and on the customized approach of cross-linking through topography-guided UVA beam emission. We will discuss new methodologies for evaluating keratoconus progression and the role of modern intracorneal rings.

Organizer: **Andreia Rosa** (Portugal)

Co-Organizer: **Esmeralda Costa** (Portugal)

- 13:30 Tear film mediators after corneal cross-linking
Celso Miguel Costa (Portugal)
- 13:45 A nanotechnology-based solution for EPI-ON corneal cross-linking
Elisa Campos (Portugal)
- 14:00 Beyond the Dresden protocol: optimization corneal cross linking for the treatment of keratoconus
Joao Jil (Portugal)
- 14:15 Update on intrastromal cornea ring segment (ICRS) implantation
Tiago Monteiro (Portugal)
- 14:30 Choroidal thickness profile in keratoconus
Joao Costa (Portugal)

Friday
14 October 2022

13:30-14:45 | Gaudi 2

JM

YO SESSION - G-45 - Scientific efficiency - get a step ahead of your peers!

Organizer: **João Barbosa Breda** (Portugal)

Co-Organizers: **Sophie Lemmens** (Belgium), **Danijela Mrazovac** (Croatia)

- 13:30 Introduction
- 13:35 What a YO can do in pharma industry?
Jean-Frédéric Chibret (France)
- 13:50 How to thrive in academia?
Giuseppe Giannaccare (Italy)
- 14:05 Discussion
- 14:15 Thea Trophy Winners' presentations



13:30-14:45 | Gaudi 3



RV-206 - Update in degenerative eye diseases and neuroprotection Joint Meeting EVER - Universidad de Valencia

Among the most prevalent eye diseases, ocular surface disorders, glaucoma, diabetic retinopathy and age related-macular degeneration, mainly affecting the elderly but also the young and adult population, are major causes of visual disability and irreversible blindness worldwide. A wide variety of risk factors and pathogenic mechanisms have been identified, but many remain still unknown. Moreover, the majority of the above diseases has no cure. Some evidence supports the role of neuroprotection, that may result in damage blocking, recovery and/or regeneration of the affected ocular tissues. In fact, neuroprotection can be an outstanding tool for developing new therapeutic strategies, based on natural food, available drugs or new discoveries. Therefore in this symposia, a better comprehension of neuroprotection will be offered, to reduce or avoid visual impairment and to improve the quality-of-life related to vision.

Organizer: **Maria Dolores Pinazo Duran** (*Spain*)

Co-Organizer: **Carlo Nucci** (*Italy*)

- 13:30 Autophagy and retinal ganglion cell death in glaucoma: friend or foe?
Rossella Russo (*Italy*)
- 13:45 Systemic administration of 7,8-dihydroxiflavona (DHF) after intraorbital nerve section in the rat produces neuroprotection of the Brn3a+ retinal ganglion cell population
Beatriz Vidal-Villegas (*Spain*)
- 14:00 Neuroprotection and neuroregeneration of cornea and ocular surface
Jose Manuel Salgado-Borges (*Spain*)
- 14:15 Genetic approaches of antioxidant vitamin supplementation for glaucoma neuroprotection
Vicente Zanon-Moreno (*Spain*)
- 14:30 Brain involvement in glaucoma: a new target in neuroprotection
Carlo Nucci (*Italy*)

14:45-15:45 | Coffee Break

14:45-15:45 | Poster Session 2

15:45-16:15 | Business Meetings

- ACB - COS - EOVS** -> Auditorium
- G - IM - LC** -> Calatrava 1
- MBGE** -> Calatrava 2
- NSPH** -> Calatrava 3
- PBP** -> Gaudi 1
- PO** -> Gaudi 2
- RV** -> Gaudi 3

Friday
14 October 2022



16:15-17:30 | Auditorium

SIS

MBGE-39 - The cellular and molecular mechanisms of eye development

SIS will cover studies of the cellular and molecular mechanisms governing formation of all major ocular tissues and will link these studies to anterior segment abnormalities, cataract and retinal degenerations. Studies of eye development are driven by dissecting the critical roles of specific DNA-binding transcription factors and regulation of their activities by extracellular signaling in specific compartments of the eye. Emerging studies of RNA-binding proteins provide novel insights into the genetic control of development. Critical gaps and novel research opportunities in our understanding of gene function during normal and abnormal eye development will be summarized and discussed in the context of understanding of ocular cell and tissue homeostasis, including roles on neural crest cells in the anterior segment formation. Collectively, these proposed presentations will add novel insights into understanding of eye development, regenerative potential of multiple ocular tissues, and rational design of therapies to prevent and/or delay onset of age-related eye diseases.

Organizer: **Ales Cvekl** (USA)

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

- 16:15 Morphogenesis of the optic vesicles - the roots of retinogenesis in amniote embryos
Timothy Grocott (United Kingdom)
- 16:30 Genetic dissection of eye development - lessons from Pax6
Zbynek Kozmik (Czech Republic)
- 16:45 Retinal pigmented epithelium development from the perspective of transcription factors and cis-regulatory elements
Ruth Ahery-Padan (Israel)
- 17:00 Genetic coding of lens fiber cell differentiation
Ales Cvekl (USA)
- 17:15 Cilia-mediated signaling during anterior segment development, repair and disease
Carlo Iommi (USA)

Friday
14 October 2022

16:15-17:30 | Calatrava 2

JM

G-223 - New developments in glaucoma medical treatment Joint Meeting EVER - Sociedad Española de Glaucoma (Spain)

Glaucoma medical treatment is under continuous evolution. There are new molecules for IOP reduction like ROCK kinasa inhibitors and nitric oxix donor. But the future of glaucoma medical treatment perhaps resides in new delivery formulation for topical treatment or intraocular injection. There are also some non IOP reduction modalities of treatment that could help to reduce glaucoma progression.

Organizer: **Francisco José Muñoz Negrete** (Spain)

Co-Organizer: **Jose Javier Garcia-Medina** (Spain)

- 16:15 Novel drug delivery systems for the treatment of glaucoma
Rocio Herrero Vanrell (Spain)
- 16:30 ROCK inhibitors in glaucoma medical treatment
Francesco Oddone (Italy)
- 16:45 Intraocular injections of glaucoma medications
Francisco José Muñoz Negrete (Spain)
- 17:00 Role of antioxidants in glaucoma medical treatment
Jose Javier Garcia-Medina (Spain)
- 17:15 Neuroprotection in glaucoma. Myth or reality
Francesca Cordeiro (United Kingdom)



16:15-17:30 | Calatrava 3

C RV-233 - Uveitis in clinical practice

The participants will be updated on the current, evidence-based trends on diagnosis and management of certain challenging topics in uveitis. The objective of the course is to address common uveitis challenges which are presented through clinical cases. The current evidence and optimal approach on the diagnosis and management of certain uveitis controversies will be provided. In addition, flow charts and treatment algorithms will be presented at the end of each lecture. Finally, the audience will have the opportunity to interact with the speakers by answering multiple choice questions which will summarize the key points of each topic. At the conclusion of the course the attendee will be updated on the current, evidence-based trends on diagnosis and management of certain challenging topics in uveitis.

Organizer: **Paris Tranos** (*Greece*)

Co-Organizer: **Teifi James** (*United Kingdom*)

- 16.15 Keypoints in clinical presentations, lab tests and treatment options
Teifi James (*United Kingdom*)
- 16.15 How imaging can make the uveitis challenging cases easy
Chrysa Koutsiouki (*Greece*)
- 16.45 10 common mistakes in uveitis. A guide to escape disasters
Paris Tranos (*Greece*)
- 17.00 Dealing with the complications of uveitis
Dimitris Koufakis (*Greece*)
- 17.15 Vitreoretinal complications of uveitis. The role of vitrectomy
Athanasios Vakalis (*Greece*)

16:15-17:30 | Gaudi 1

SIS NSPH-63 - New approaches in myopia control: update 2022

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. In some parts of the world, 70-90% of children completing high schools are myopic, and as many as 20% may be highly myopic. It is accepted that myopia results from excessive axial elongation of the eye, which appears to be environmentally driven. Experimental studies have examined the biochemical mechanisms involved in regulation of axial elongation. From these studies, 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: **Dominique Bremond-Gignac** (*France*)

- 16:15 Epidemiology and the protective effects of time outdoors
Cristina Alvarez-Peregrina (*Spain*)
- 16:30 Myopia risk factors
Carla Lanca (*Portugal*)
- 16:45 Contrast polarity and myopia
Frank Schaeffel (*Germany*)
- 17:00 Benefits and limitations of the low dose atropine use
Andrzej Grzybowski (*Poland*)
- 17:15 Optical methods in myopia control
Dominique Bremond-Gignac (*France*)

Friday
14 October 2022



16:15-17:30 | Gaudi 2

SIS IM-73 - Malignant masquerade syndromes in uveitis

Masquerade syndromes can be very challenging as they usually present as uveitis not reacting well to standard treatment regimens. The SIS will focus on the new concepts of diagnosis and treatment of malignant masquerade syndromes, as those can be not only sight but also life threatening.

Organizer: **Sara Touhami** (*France*)

Co-Organizer: **Marek Trneny** (*Czech Republic*)

- 16:15 The eye and Lymphoma: new concepts of an old acquaintance
Sara Touhami (*France*)
- 16:30 Management of primary CNS Lymphomas including vitreoretinal lymphomas
Marek Trneny (*Czech Republic*)
- 16:45 Upcoming implications of the DECODE VRL study for the diagnostics of PVRL
Vinodh Kakkassery (*Germany*)
- 17:00 15 years of PVRL-experience of Prague Uveitis Centre
Jarmila Heissigerova (*Czech Republic*)
- 17:15 Challenging cases
Sara Touhami (*France*), **Marek Trneny** (*Czech Republic*)

Friday
14 October 2022

16:15-17:30 | Gaudi 3

SIS COS-49 - Advances and innovations in corneal bio-engineering

This SIS aims to provide an update of current innovations in the field of corneal bio-engineering and highlight the challenges and limitations towards the development of an artificial cornea. Leaders in the field will present their work in corneal endothelial and stromal bio-engineering, emphasizing on recent advances and future perspectives.

Organizer: **Zisis Gatzoufias** (*Switzerland*)

Co-Organizer: **Gilles Thuret** (*France*)

- 16:15 Alternatives for corneal endothelial tissue engineering
Gilles Thuret (*France*)
- 16:33 Alternatives for corneal stroma replacement
Mark Ahearne (*Ireland*)
- 16:51 Corneal organoids - future perspectives
Pierre Balmer (*Switzerland*)
- 17:09 Artificial cornea: myth or reality?
Neil Lagali (*Sweden*)



17:30-17:55 | Auditorium

KN 3. EVER Keynote Lecture

Introduced by Nora Szentmary (*Germany*)

Corneal transplantation - When and how?
Berthold Seitz (*Germany*)



According to the German Keratoplasty Registry 2020 out of a total of 9042 keratoplasties, 31.2% are performed as penetrating keratoplasty (PKP), 3.0% as deep anterior lamellar keratoplasty (DALK) and 65.8% as posterior lamellar keratoplasty (98.3% DMEK vs. 1.7% DSAEK). To avoid the feared increase of astigmatism after suture removal, we have performed “nonmechanical” 193 nm excimer laser trephination in over 5000 eyes since 1989 in Erlangen and Homburg/Saar. This non-contact method avoids distortion, and results in lower objective astigmatism, higher regularity of topography and better visual acuity than manual trephination. Few published results after suture removal do not justify the huge technical and financial effort of femtosecond laser application for PKP – especially not in keratoconus. DALK saves good host endothelium, reduces the risk of immune reactions and may achieve favorable visual results, if intraoperatively Descemet’s membrane is bared. To avoid disadvantages for the patient in case of the necessity for „conversion“ to PKP, we propagate „Excimer laser assisted DALK“. For pure endothelial decompensation without stromal scars, today DMEK is supposed to be first choice. However, we do encourage each DMEK surgeon to standardize the surgical step-by-step procedure, to minimize donor loss and/or technical deficits that may lead to early or late graft failure and repeat keratoplasty.

Friday
14 October 2022

18:00-19:15 | Auditorium

SIS Women in EVER - Women in Eye Research: panel discussion

Come and join us for an exchange of experiences and to join our panel discussion. Meet some of EVERs keynote speakers and amazing researchers and clinicians and help transform the next generation eye researcher/ clinician. Equality, diversity, and inclusion is important for individuals to thrive and as health care professionals crucial in tackling health disparities.

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

Co-organizer: **Franziska Rauscher** (*Germany*)

18:00 How far have we come - a few facts and figures
Rebekka Heitmar (*United Kingdom*)

18:18 Women at the interface of cognitive neuroscience, ophthalmology and optometry
Brigitte Röder (*Germany*)

18:36 Women and eye health: health disparities in children
Maria Dolores Pinazo Duran (*Spain*)

18:54 How can we provide support and how can you get involved
Rebekka Heitmar (*United Kingdom*), **Brigitte Röder** (*Germany*), **Maria Dolores Pinazo Duran** (*Spain*)



18:00-19:15 | Calatrava 1

SIS

COS-66 - Infectious keratitis - diagnosis and treatment with changing microbial resistance in Europe and Asia

We summarize up-to-date diagnostic and treatment options of bacterial, herpetic, acanthamoeba and mycotic keratitis, with respect to Europe and Asia. For diagnostic purpose, corneal sensitivity is analysed, in vivo confocal microscopy, polymerase-chain-reaction (PCR), in vitro culture and histological examination are performed. As conservative treatment primarily topical moxifloxacin or cephasolin with fortified tobramycin or gentamycin in bacterial, topical antiviral gel (in some cases in combination with systemic antiviral treatment) in part in combination with topical corticosteroids in herpetic, voriconazole, amphotericin-B or natamycin in mycotic, and topical-triple-therapy (diamidine, biguanid and antibiotics) in acanthamoeba keratitis is used. Beside conservative treatment, keratoplasty, amniotic membrane transplantation and crosslinking therapy may be necessary. Crosslinking is solely contraindicated in herpetic keratitis.

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

- 18:00 Bacterial keratitis - challenges with changing microbial resistance
László Modis (*Hungary*)
- 18:18 The chameleon of herpetic keratitis
Berthold Seitz (*Germany*)
- 18:36 Acanthamoeba keratitis – specific conservative treatment or surgery?
Nora Szentmary (*Germany*)
- 18:54 Mycotic keratitis - experience in Europe
Loay Daas (*Germany*)

Friday
14 October 2022

18:00-19:15 | Calatrava 2

C

G-112 - Why gonioscopy remains essential in the time of AS OCT

In this course the best way to perform gonioscopy will be shown by video as well as photographs. Anatomical findings as well as pathologies will be shown. The advantages and disadvantage of different grading systems will be discussed. Alternative examination procedures as well as imaging systems will be shown and compared to traditional gonioscopy.

Organizer: **Anton Hommer** (*Austria*)
Co-Organizer: **Prin Rojanapongpun** (*Thailand*)

- 18:00 How to perform gonioscopy and normal findings in the angle
Doreen Schmidl (*Austria*)
- 18:25 Abnormal findings in the angle and possible consequences
Anton Hommer (*Austria*)
- 18:50 Alternatives to gonioscopy: pros and cons
Prin Rojanapongpun (*Thailand*)



18:00-19:15 | Calatrava 3

SIS NSPH-91 - Pediatric myopia and associated ocular pathologies

Myopia refer to an increase wider group of world people. Some specific myopia are genetically determined and may be related to specific syndromes. Recent advances in genetics help us for a better understanding of the underlying of ocular axial length development mechanisms. Practical cases will be described for a better understanding of these topical treatments to a better medical management of evolutive myopic children. An overview of the pediatric pathological diagnosis, imaging and treatment is summarized.

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

- 18:00 Epidemiology and risk factors for myopia development
Andrzej Grzybowski (*Poland*)
- 18:18 Imaging and check-up for evolutive myopia
Dominique Bremond-Gignac (*France*)
- 18:36 Hereditary and genetic bases of myopia
Huban Atilla (*Turkey*)
- 18:54 Congenital myopia
Matthieu Robert (*France*)

18:00-19:15 | Gaudi 2

SIS IM-97 - Update on pediatric uveitis

Uveitis in children differ in several way from adult uveitis. In this SIS, we will present three diseases that are associated with the pediatric population. We will not only recap their main clinical features but also develop some specific recent data for each of them. We will end with case presentation that will illustrate this point. This last part will be interactive.

Organizer: **Francois Willermain** (*Belgium*)

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

- 18:00 Work up of pediatric uveitis
Francois Willermain (*Belgium*)
- 18:18 TINU syndrome
Dorine Makhoul (*Belgium*)
- 18:36 Blau syndrome
Jarmila Heissigerova (*Czech Republic*)
- 18:54 Congenital and childhood toxoplasmosis
Alexandra Kozyreff (*Belgium*)



18:00-19:15 | Gaudi 3

C

G-68 - Perimetry - from first principles to state-of-the-art interpretation of standard automated perimetry test results

In this course we aim to teach researchers and clinicians to correctly interpret standard automated perimetry test results. Topics covered are (1) first principles of perimetry (including role of background luminance, stimulus area/duration, the definition of the dB, etc.), (2) reading and interpreting a printout (systematic treatise of all information available on a printout), and (3) perimetric variability (sources of variability and ways to deal with it when identifying change in sensitivity/threshold).

Organizer: **Nomdo Jansonius** (*The Netherlands*)
Co-Organizer: **Tony Redmond** (*United Kingdom*)

- 18:00 First principles of perimetry
Tony Redmond (*United Kingdom*)
- 18:18 Reading a standard automated perimetry printout
Nomdo Jansonius (*The Netherlands*)
- 18:36 Perimetric variability - psychophysics
Tony Redmond (*United Kingdom*)
- 18:54 Dealing with perimetric variability in clinical practice
Nomdo Jansonius (*The Netherlands*)

Friday
14 October 2022

19:15-19:45 | Auditorium

PS

EVER General Assembly



Saturday, 15 October 2022

08:30-09:45 | Auditorium



LC-211 - Endophthalmitis prophylaxis and treatment: update 2022

This SIS will review the most recent updates in endophthalmitis. The faculty will feature specialists from multiple European nations as well as the US, and will discuss differences in practice patterns on both sides of the Atlantic. Acute-onset postoperative endophthalmitis following cataract surgery and endophthalmitis following intravitreal injection will be emphasized. The SIS will discuss prophylaxis of endophthalmitis (including the latest data on intracameral antibiotics), differential diagnosis (i.e., distinguishing infectious endophthalmitis from non-infectious inflammation), and management options, including TAP and inject, pars plana vitrectomy, and the latest evidence of systemic antibiotics. There will be ample opportunity for questions and discussion.

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

Co-Organizer: **Stephen Schwartz** (*USA*)

- 08:30 Endophthalmitis prophylaxis in cataract surgery and intravitreal injection in the US
Stephen Schwartz (*USA*)
- 08:45 Endophthalmitis prophylaxis in cataract surgery and intravitreal injection in Europe
Andrzej Grzybowski (*Poland*)
- 09:00 Distinguishing infectious endophthalmitis from noninfectious inflammation - cataract surgery and intravitreal injection
Francisco Javier Ascaso (*Spain*)
- 09:15 Is the endophthalmitis vitrectomy study still relevant in 2022?
Christos Skevas (*Germany*)
- 09:30 Novel options in diagnosis and treatment of endophthalmitis
Lyubomyr Lytvynchuk (*Germany*)

08:30-09:45 | Calatrava 1



G-204 - The lifespan of glaucoma - from zero to hundred

Glaucoma is a chronic disease and patients must be observed and treated for a long time. The management of glaucoma patient's needs an ongoing discussion about the necessary diagnostic evaluations and the treatment options. In this course, glaucoma specialists will talk about glaucoma management in the different phases of patient's life's, starting with the guidance during pregnancy, especially regarding medical and surgical treatment of glaucoma in pregnant women. We know that the management of glaucoma changes with the age of the patient: Children need a different approach to the disease than very old patients. In children, surgery is primarily needed to control the disease, however, in elderly patients, laser treatments may be an option. It is important to think about a patient's life expectancy: Elderly patients are often undertreated because it is not acknowledged that patients may live longer than we think. The course will include time for discussion among the specialists about the different treatment options.

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

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

- 08:30 The 9 months and beyond dilemma: glaucoma and pregnancy
Ingeborg Stalmans (*Belgium*)
- 08:55 How to best take care of young patients with glaucoma
Matteo Sacchi (*Italy*)
- 09:20 Old is the new young: a paradox for glaucoma patients
Francesco Oddone (*Italy*)



08:30-09:45 | Calatrava 2

SIS

RV-201 - Macular oedema in retinal vascular disorders: modern concepts of pathology and treatment

Organizer: **Lyubomyr Lytvynchuk** (*Germany*)

Co-Organizer: **Matus Rehak** (*Germany*)

- 08:30 VEGFA165-induced persistent impairment of the retinal endothelial cells' barrier only transiently depends on the growth factors' action
Heidrun Deissler (*Germany*)
- 08:45 The impact of muller cells on development and resolution of macular edema
Matus Rehak (*Germany*)
- 09:00 Vitrectomy with ILM peeling and subretinal injections of BSS in diabetic macular oedema in one eye vs. intravitreal anti-VEGF injections in the second eye- a Swept Source OCT angiography study
Zofia Anna Nawrocka (*Poland*)
- 09:15 Diabetic macular edema
Andrzej Grzybowski (*Poland*)
- 09:30 Intraocular drug delivery methods: conventional versus modern approaches
Lyubomyr Lytvynchuk (*Germany*)

08:30-09:45 | Calatrava 3

SIS

IM-208 - The uveitis imaging battle

The objective of this course is providing the audience with a useful and practical view of the old and new imaging techniques in uveitis, not only the aid in the diagnosis and monitoring, but also is role on unveiling the pathophysiology of uveitic entities. This course will organize a panel of uveitis and imaging specialists with a substantive experience with uveitis disorders and will present didactic lectures and interactive cases with extensive discussion in order to provide course attendees with the tools and skill set to manage challenging cases that incorporate both retinal and uveitic disease findings.

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

Co-Organizer: **Aniruddha Agarwal** (*United Arab Emirates*)

- 08:30 The bread and butter: Structural OCT and OCT-A in uveitis
Tomas Burke (*Ireland*)
- 08:45 Meeting and old friend: fundus autofluorescence in uveitis
Alejandro Follonosa (*Spain*)
- 09:00 No dye, no glory: fluorescein and indocyanine green angiographic in uveitis
Ester Carreño Salas (*Spain*)
- 09:15 The magic of time: Imaging analysis in uveitis
Aniruddha Agarwal (*United Arab Emirates*)
- 09:30 Watching the cell: the future of imaging in uveitis
Colin Chu (*United Kingdom*)



08:30-09:45 | Gaudi 1

SIS RV-70 - Diffuse intraocular hemorrhage - an overview

Intraocular haemorrhage (IH) is one of the most common reasons of sudden vision loss. It is a common manifestation of multiple and diverse pathologic entities at the level of the vitreous, the retina or the choroid with dire prognosis on several occasions if not urgently treated. In light of new research data, imaging technologies and management options there is an abundance of new information for the busy clinician or the retina specialist. Aim of this special interest symposium is to present a thorough overview of IH.

Organizer: **Vasilios Papastefanou** (*United Kingdom*)

Co-Organizer: **Tina Xirou** (*Greece*)

- 08:30 Etiology and diagnosis of vitreous hemorrhage
Tryfon Rotsos (*Greece*)
- 08:45 Pathophysiology of intraocular hemorrhage: the role of iron in cell death
Emilie Picard (*France*)
- 09:00 Management and prognosis of vitreous hemorrhage
Tina Xirou (*Greece*)
- 09:15 Management and diagnosis of subretinal and supracoroidal hemorrhage
Eugenia Kontou (*Greece*)
- 09:30 Hemorrhage due to intraocular tumours
Vasilios Papastefanou (*United Kingdom*)

09:45-10:10 | Auditorium

PS Ophthalmic Research Lecture

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

Genetic dynamics and global clinical features of inherited retinal diseases
Carlo Rivolta (*Switzerland*)



Inherited retinal diseases (IRDs) are monogenic conditions, almost invariantly transmitted as typical Mendelian traits. However, in contrast to most genetic disorders, always caused by mutations in the same disease-specific gene, IRDs may originate from DNA defects involving any one of approximately 250 different loci. This unusual feature, combined with an overall reduced clinical prevalence, leads to complicated diagnostic procedures and highlights disease mechanisms that rarely seen in medical genetics. In this lecture, we will discuss our most recent results on the molecular determinants of IRDs, based on the investigation of several genomes from patients and unaffected individuals from various parts of the world. In addition to producing a detailed mutational landscape of these conditions, the analysis of our data provides new and unexpected findings about the clinical and the molecular dynamics of IRDs.

10:15-11:15 | Coffee Break

10:15-11:15 | Poster Session 3

Saturday
15 October 2022



11:15-11:40 | Auditorium

PS EVER Lecture delivered by the Past President

Introduced by Manuel Vidal-Sanz (*Spain*)

What can we learn from Rare Eye Diseases
Dominique Bremond-Gignac (*France*)



Rare eye diseases are considered if the prevalence is lower than 1/2000 in the general population and are usually recognized in pediatric ophthalmologic practices. Even if not all ophthalmologists see these ocular diseases, the model mostly genetic, can be useful to treat other ocular anomalies in pathologies that are more common. We will expose new insights in congenital aniridia, a congenital panocular disorder characterized by complete or partial iris hypoplasia and foveal hypoplasia, resulting in nystagmus and reduced visual acuity. High-resolution foveal imaging by spectral-domain optical coherence tomography (SD-OCT) may improve the diagnosis. Moreover, Leber congenital amaurosis is a new model for gene therapy and opens new therapeutic options. We will also provide update for congenital anterior segment malformations, vernal keratoconjunctivitis, albinism, and OVCR in children.

11:45-13:00 | Auditorium

SIS RV-202 - Ocular cell therapy: present and future

Cell therapy for ocular disease has made significant progress within the last years due to increased knowledge about the origin of certain pathological processes. Additionally, the improvement of the surgical cell delivery methods and instrumentation allows to apply different types of stem and progenitor retinal cells, which behaviour and function were recently evaluated. This knowledge brought cell therapy to the time point when it could be applied in the patients with degenerative ocular diseases. The aim of this SIS is to present an overview of the current trends in ocular cell therapy, of the range of the diseases, which could be treated with this approach as well as the different methodology used in the scientific unit all over the world.

Organizer: **Kapil Bharti** (*USA*)

Co-Organizer: **Lyubomyr Lytvynchuk** (*Germany*)

- 11:45 From biomimetic in vitro culture towards functional transplantation of hPSC-RPE
Heli Skottman (*Finland*)
- 12:00 Maturation of stem cell derived retinal organoid cells following subretinal transplantation
Mandeep Singh (*USA*)
- 12:15 Subretinal implantation of human primary RPE cells cultured on nanofibrous membranes in minipigs
Goran Petrovski (*Norway*)
- 12:30 Developing autologous cell therapy for macular degeneration: from bench-to-bedside
Kapil Bharti (*USA*)
- 12:45 Subretinal application of cell cultures: surgical methods and its transition to the use in human
Lyubomyr Lytvynchuk (*Germany*)



11:45-13:00 | Calatrava 1

SIS PBP-226 - La retina de los vertebrados by Ramón y Cajal

Drs. Cuenca and de la Villa are Spanish neuroscientists who have dedicated their research activity for more than 25 years to the study of the structure and function of the retina. Both researchers have made notable contributions, either jointly or separately, in high-impact journals, to the study of the retina both in physiological conditions and in different pathophysiological processes. Both researchers have been members of the EVER. The Special Interest Symposium aims to present to the scientific community the book LA RETINA DE LOS VERTEBRADOS, originally published by Santiago Ramón y Cajal in 1892 only in French. Two years later and due to its great importance it was translated into German by Richard Greeff and in 1972 it was translated into English by Sylvia Thorpe and Mitchell Glickstein but it has never seen the light of day in Spanish. The organizers, through the Editorial Board of the Higher Council for Scientific Research (CSIC) have once again published Cajal's original book translated into Spanish for the first time. They present the Spanish edition of La Retina de los Vertebrados in the context of current knowledge of the retina.

Organizer: **Pedro De La Villa** (*Spain*)
Co-Organizer: **Nicolas Cuenca** (*Spain*)

- 11:45 The importance of Cajal contribution to the knowledge of the visual system
Fernando De Castro (*Spain*)
- 12:10 Retinal structure: from Cajal drawings to present morphological techniques
Nicolas Cuenca (*Spain*)
- 12:35 Retinal function: from Cajal drawings to present physiological techniques
Pedro De La Villa (*Spain*)

11:45-13:00 | Calatrava 2

SIS COS-90 - Corneal biomechanics for refractive surgeons; a survival guide

This Special Interest Symposium will cover modern biomechanical aspects of laser-assisted refractive surgery, emphasizing on current methods for corneal biomechanical evaluation, with the aim to guide refractive surgeons in the "ocean" of corneal biomechanics. Experts in the field will discuss current options for enhancement of corneal biomechanical screening and they will present advanced tools for corneal biomechanical assessment pre- and post-laser refractive surgery, addressing issues such as early detection of corneal biomechanical abnormalities, prevention of post-laser corneal ectasia, corneal biomechanical enhancement, ect.

Organizer: **Zisis Gatzoufas** (*Switzerland*)
Co-Organizer: **Miltos Balidis** (*Greece*)

- 11:45 Corneal biomechanics for beginners - understanding the basics
Dimitris Sakellaris (*Greece*)
- 12:03 In vivo evaluation of corneal biomechanics in clinical practice; why, when and how?
Miguel Rechichi (*Italy*)
- 12:21 Biomechanical effect of intracorneal ring segment implantation
Loïc Hamon (*Germany*)
- 12:39 Biomechanical profile of refractive procedures; is there a biomechanical privilege?
Miltos Balidis (*Greece*)



11:45-13:00 | Calatrava 3

JM

IM-209 - Challenging cases in Uveitis. The real world battle Joint Meeting EVER - Sociedad Española de Inflamacion Ocular (Spain)

The objective of this course is to present real cases in a discussion format to interact with the audience. The audience will have the opportunity to learn through discussion with uveitis experts of difficult cases.

Organizer: **Alfredo Adàn** (Spain)
Co-Organizer: **Alejandro Follonosa** (Spain)

- 11:45 Diagnosing the subretinal fluid
Ester Carreño Salas (Spain)
- 12:00 TBD
Alfredo Adàn (Spain)
- 12:15 Bilateral recurrent choroidal neovascularization in AZOOR
Alejandro Follonosa (Spain)
- 12:30 The silent beast - A case of late-onset postoperative endophthalmitis
Ines Hernanz (Spain)
- 12:45 TBD
Victor Llorens (Spain)

11:45-13:00 | Gaudi 1

SIS

COS-100 - Cornea & glaucoma

The purpose of this Special Interest Symposium is to investigate novel interactions between corneal pathologies and glaucoma, as well as to provide an update on diagnosis and state-of-the-art management of complex conditions, overlapping the fields of corneal disease and glaucoma.

Organizer: **Matthias Grieshaber** (Switzerland)
Co-Organizer: **Konstantin Gugleta** (Switzerland)

- 11:45 Preservatives, generics and ocular surface
Miriam Kolko (Denmark)
- 12:00 Effect of MIGS on corneal endothelium
Konstantin Gugleta (Switzerland)
- 12:15 Post-keratoplasty glaucoma; diagnosis and treatment
Edward Wylegala (Poland)
- 12:30 IOP measurement in abnormal corneas
Matthias Grieshaber (Switzerland)
- 12:45 Laser vision correction in glaucoma; myths and reality
Elisabeth Patsoura (Greece)



11:45-13:00 | Gaudi 2

SIS COS-64 - Keratoprosthesis

In the Keratoprosthesis SIS, we shall be covering essential information about keratoprostheses (KPros). KPro surgery is not familiar territory for most ophthalmologists including cornea surgeons. It is important to inform all about this field. We shall start the session by guiding corneal surgeons how to start a keratoprosthesis service. Stem cell transplantation will then be discussed as an alternative to KPro surgery. Different KPro options especially the Boston KPro Type 1 and the osteo-odonto-keratoprosthesis (OOKP) will be explained. The clinical psychologist's role is pivotal for patients to help them to be ready for long-term difficulties of KPro surgery. Finally, recent updates in the KPro field and future changes in KPro design will be discussed.

Organizer: **Christopher Liu** (*United Kingdom*)

- 11:45 Stem cells versus keratoprostheses
Mehran Zarei-Ghanavati (*Iran*)
- 12:00 Update on Boston KPro1
Sadeer Hannush (*USA*)
- 12:15 United Kingdom OOKP outcomes
Venkata Avadhanam (*United Kingdom*)
- 12:30 Update on tibial keratoprosthesis
Maria de la Paz (*Spain*)
- 12:45 Leading and managing a keratoprosthesis service
Christopher Liu (*United Kingdom*)

11:45-13:00 | Gaudi 3

SIS G-205 - Updates in glaucoma

This session will highlight latest ideas on important and topical issues in glaucoma. Experts will cover latest ideas in 24-hour telemetry, SLT in glaucoma, COVID changes in glaucoma management and new approaches to treatment.

Organizer: **Francesca Cordeiro** (*United Kingdom*)
Co-Organizer: **Eduardo Normando** (*United Kingdom*)

- 11:45 24 hour IOP control - 24 hour telemetry, water drinking test, and slow release medication
Timothy Yap (*United Kingdom*)
- 12:03 Catalys project as a medical decision support system for glaucoma management
Elena Pereira (*United Kingdom*)
- 12:21 What has COVID taught us about glaucoma management?
Eduardo Normando (*United Kingdom*)
- 12:39 Future approaches to glaucoma management
Francesca Cordeiro (*United Kingdom*)



14:15-15:30 | Auditorium

JM

COS-95 - EuDES symposium: meibomian gland dysfunction - quo vadis? (Joint SEO - SESOC - EUDES)

Organizer: **Elisabeth M. Messmer** (*Germany*)

- 14:15 Inflammation in MGD
Piera Versura (*Italy*)
- 14:30 Microbiota in MGD
Pasquale Aragona (*Italy*)
- 14:45 Lid hygiene - why and how
Elisabeth M. Messmer (*Germany*)
- 15:00 New diagnostic techniques in MGD
Jesus Merayo-Lloves (*Spain*)
- 15:15 Device-assisted therapies in MGD
José Benitez del Castillo (*Spain*)

14:15-15:30 | Calatrava 1

SIS

PBP-219 - Innovative technologies to treat diseases of the back of the eye (Part 1)

Delivering drugs targeted for posterior segment diseases of the eye in a safe, patient-friendly, and controlled manner has long been the focus of drug delivery researchers and is a central aim of the MSCA-funded ORBITAL training network. This two-part SIS will present the exciting work of our PIs and Early Stage Researchers who are working to develop smart technologies capable of the controlled release of ophthalmic drugs relevant to the treatment and management of these conditions. As such, this SIS will deliver talks on nanomaterial carriers and extended-release platforms, such as nano- and micro-devices, implants and contact lenses, and discuss their potential to bypass the ocular barriers and efficiently deliver therapeutics efficiently to the site of action. Given that most of these pathologies are chronic and multifactorial, translation of such potential treatment options require effective models. To highlight the importance of such development steps, ORBITAL-ITN researchers will present their work on novel in vitro and ex vivo pre-clinical approaches designed to increase the speed and successful translation of these technologies towards efficient therapeutic tools in the personalized treatment of back of the eye diseases.

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

Co-Organizer: **Ana Paula Serro** (*Portugal*)

- 14:15 Development of co-encapsulating bevacizumab and dexamethasone liposomes with cell penetrating peptide surface functionalisation for posterior eye drug delivery
Umer Farooq (*Ireland*)
- 14:30 Development of injectable thermoresponsive Cs-g-PNIPAAm hydrogel for intrascleral drug delivery of sunitinib malate for the posterior segment ocular disease, age-related macular degeneration
Shilpkala Gade (*United Kingdom*)
- 14:45 Improving drug delivery to the back of the eye by use of peptide-eluting contact lenses
Nadia Toffoletto (*Portugal*)
- 15:00 Dexamethasone-melatonin-vitamin E PLGA microspheres targeting neurodegeneration in glaucoma
Marco Brugnera (*Spain*)
- 15:15 Development of 3D-printed devices for the study of transscleral drug delivery on freshly-excised whole porcine eyes
Felipe M. González-Fernández (*Italy*)



14:15-15:30 | Calatrava 2



G-228 - In vivo identification of angle dysgenesis: implications for management

Anterior segment Imaging of the angle has gained importance for diagnosis and management of angle closure disease. Its relevance is not well established in primary open angle glaucomas (POAG). In Vivo identification of Schlemm's canal(SC) and trabeculodysgenesis, provides important anatomical insights into the pathogenesis of POAG and its management especially for angle based procedures. Histopathological evidence shows that angle dysgenesis is not only evident in eyes of Congenital and Juvenile Open angle glaucomas but also among adult onset POAG. However, there exists a wide spectrum of anatomical variability of the drainage angle, the trabecular meshwork and SC morphology in normal eyes which can make it difficult to distinguish normal from abnormal, therefore, interpretation of ASOCT images requires experts with good experience of the complexity involved in the developmental anomalies of the outflow pathways.

Organizer: **Viney Gupta** (*India*)
Co-Organizer: **Shweta Birla** (*India*)

- 14:15 Glaucoma gene mutations and their association with angle dysgenesis
Viney Gupta (*India*)
- 14:30 In vivo identification of Schlemm's canal and response to SLT
Shikha Gupta (*India*)
- 14:45 Deep Learning model to identify angle dysgenesis on ASOCT images
Shweta Birla (*India*)
- 15:00 In vivo Identification of angle dysgenesis
Karthikeyan Mahalingam (*India*)

14:15-15:30 | Calatrava 3



LC-200 - Artificial Intelligence in glaucoma. Update 2022

Deep learning (DL), has shown promising diagnostic performance in image recognition, speech recognition and natural language processing. For glaucoma diagnosis, a number of DL systems for automatic analysis of fundus photographs have been developed in many countries. The session will provide basics in artificial intelligence, and review of developments of AI use in glaucoma based on different approaches, including fundus pictures, OCT scans and visual fields. Moreover, the subject of potential use of AI in glaucoma screening will be presented and discussed.

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

- 14:15 The ABC of AI
Ingeborg Stalmans (*Belgium*)
- 14:30 Promises and hazards of AI
Andrzej Grzybowski (*Poland*)
- 14:45 On a quest for solutions
Ruben Hemelings (*Belgium*)
- 15:00 Visual field-based AI in glaucoma
Leopold Schmetterer (*Singapore*)
- 15:15 How to make glaucoma screening cost-effective?
Luis Abegão Pinto (*Portugal*)



14:15-15:30 | GAUDI 1

RF Rapid Fire 1 - ACB

Moderators: **Anu Kauppinen** (*Finland*), **Heli Skottman** (*Finland*)

- | | | |
|-----|-------|--|
| 114 | T.002 | <p>Clinical grade of genetically corrected RPE cells for autologous cell therapy of hereditary retinal dystrophies
 Juan Ureña-Peralta¹, Anna Brymova², Noelia Pimentel Mayordomo¹, Pavla Jendelova², Taras Ardan², Hana Studenovska², Jan Motlik², Goran Petrovski³, Slaven Erceg¹ (¹<i>Spain</i>, ²<i>Czech Republic</i>, ³<i>Norway</i>)</p> |
| 159 | T.003 | <p>Single nucleotide polymorphisms in pigmentation-related dopachrome tautomerase and melanocortin receptor genes are associated with wet age-related macular degeneration in a Finnish cohort
 Ali Koskela, Mika Reinisalo, Seppo Helisalmi, Mikko Liukkonen, Kai Kaarnirant, Arto Urtti, Paavo Honkakoski (<i>Finland</i>)</p> |
| 224 | T.006 | <p>Synchrotron-based FTIR microspectroscopy of human primary retinal pigmented epithelial cells as a model for age-related macular degeneration
 Natasha Josifovska^{1,2}, Sofija Andjelic², Xhevat Lumi², Tanja Ducic³, Goran Petrovski¹ (¹<i>Norway</i>, ²<i>Slovenia</i>, ³<i>Spain</i>)</p> |
| 261 | T.008 | <p>Activation of Nrf2-mediated protective pathways by nature-inspired hybrids improves proteostasis in retinal pigment epithelial cells
 Ali Koskela¹, Federico Manai², Filippo Basagni², Mikko Liukkonen¹, Michela Rosini², Stefano Govoni², Massimo Dal Monte², Adrian Smedowski³, Kai Kaarniranta¹, Marialaura Amadio² (¹<i>Finland</i>, ²<i>Italy</i>, ³<i>Poland</i>)</p> |
| 269 | T.010 | <p>Repurposing dimethyl fumarate? In vitro evidence of Nrf2-pathway activation and cytoprotective effects in human retinal endothelial cells
 Marialaura Amadio, Federico Manai (<i>Italy</i>)</p> |
| 350 | T.013 | <p>Exacerbated mitochondrial fusion abrogates mitophagy and leads to pro-inflammatory signalling in Müller glia during diabetic retinopathy
 Aidan Anderson, Nada Alfahad, Ian G. Ganley, Saaeha Rauz, Graham Wallace, Tim M. Curtis, Jose M. Romero (<i>United Kingdom</i>)</p> |
| 408 | T.014 | <p>Amfenac together with simvastatin reduces IL-8 and MCP-1 and increases VEGF release from ARPE-19 cells upon inflammatory conditions
 Niina Bhattarai, Maria Hytti, Onni Kolari, Hilikka Nisula, Sirpa Loukovaara, Anu Kauppinen (<i>Finland</i>)</p> |



14:15-15:30 | GAUDI 2

RF Rapid Fire 2 - NSPH

Moderators: **Huban Atilla** (*Turkey*), **Rustum Karanjia** (*USA*)

- 12 F.102 Dyschromatopsia in multiple sclerosis reflects diffuse chronic neurodegeneration beyond anatomical landmarks
Antonio Barreiro González, Maria T. Sanz, Sara Carratalà-Boscà, Francisco Pérez-Miralles, Carmen Alcalá, Enrique España-Gregori, Bonaventura Casanova (*Spain*)
- 45 F.104 Correlations between visual function and inner retinal structure in OPA1 autosomal dominant optic atrophy
Berthold Pemp, Johannes Schrittwieser, Karl Kircher, Wolfgang Schmidt, Andreas Reitner (*Austria*)
- 52 F.105 Assessment of visual function and the neuroretina in subjects diagnosed with color blindness
Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cerdón Ciordia, María José Vicente Altabás, María Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Inés Munuera, María Isabel Fuertes, Elena Garcia-Martin (*Spain*)
- 80 F.108 Long-term efficacy and safety of idebenone in patients with Leber's hereditary optic neuropathy (LHON) in the chronic phase: Results from the prospective, natural history-controlled LEROS study
Patrick Yu-Wai-Man¹, Valerio Carelli², Livia Tomasso², Thomas Klopstock³, on behalf of the LEROS study group³ (¹*United Kingdom*, ²*Italy*, ³*Germany*)
- 363 F.120 Long-term efficacy and safety of idebenone in patients with Leber's hereditary optic neuropathy (LHON) in the subacute/dynamic phase: Results from the prospective, natural history-controlled LEROS study
Patrick Yu-Wai-Man¹, Valerio Carelli², Livia Tomasso², Thomas Klopstock³, on behalf of the LEROS Study Group⁷ (¹*United Kingdom*, ²*Italy*, ³*Germany*)
- 94 F.109 COVID-19 vaccination and vision loss in three older male individuals homoplasmic for m.14484T>C mutation in the ND6 gene
Marcela Votruba (*United Kingdom*)
- 120 F.111 Combining retinal neuronal and microvascular measurements improves discriminative power for multiple sclerosis patients without previous optic neuritis
Jacqueline Chua¹, Mihai Bostan², Yin Ci Sim¹, Inna Bujor², Leopold Schmetterer¹, Alina Popa-Cherecheanu² (¹*Singapore*, ²*Romania*)
- 226 F.115 The Phase 3 REFLECT trial: efficacy and safety of bilateral gene therapy for leber hereditary optic neuropathy (LHON)
Patrick Yu-Wai-Man¹, Nancy Newman², Prem Subramanian², Mark Moster², An-Guor Wang³, Sean Donahue², Bart Leroy⁴, Valerio Carelli⁵, Valérie Biousse², Catherine Vignal-Clermont⁶, Alfredo Sadun², Robert Sergott², Gema Rebolleda Fernández⁷, Bart Chwalisz², Rudrani Banik², Eric Cox⁶, Michel Roux⁶, Magali Tiel⁶, José-Alain Sahel^{2,6} (¹*United Kingdom*, ²*USA*, ³*Taiwan*, ⁴*Belgium*, ⁵*Italy*, ⁶*France*, ⁷*Spain*)
- 254 F.116 How ready is Artificial Intelligence (AI) for clinical use?
Rosina Zakri, Nigel Davies (*United Kingdom*)

Saturday
15 October 2022



14:15-15:30 | Gaudi 3

SIS

COS-215 - Regenerative surgery of the ocular surface

Ocular surface reconstruction is taking a very important role today due to the many problems related to trauma, autoimmune problems, aggressive surgeries of the eye, especially vitreoretinal and corneal disease. This course will cover the surgical and medical procedures that are performed today to optimize the ocular surface including therapy of neurotrophic ulcers, limbal stem cell deficiency, severe dry eye and mucocutaneous syndromes. The course will include a general introduction about the current condition of corneal graft surgery and its limitations, limbal stem cell reconstruction, multi-surgical approaches to the ocular surface, corneal stroma regenerative surgery, ocular surface regenerative approaches and bio stimulant platelet derived therapies.

Organizer: **Jorge Alio** (*Spain*)

- 14:15 Current status of limbal transplants for the treatment of limbal stem cell deficiencies
Rafael I. Barraquer (*Spain*)
- 14:33 Corneal stromal regeneration
Jorge Alio (*Spain*)
- 14:51 Ocular surgical use of autologous platelet-rich plasma
Alejandra Rodriguez (*Spain*)
- 15:09 Mesenchymal stem cells for ocular surface disease
Margarita Calonge (*Spain*)



15:30-16:45 | Auditorium



Young Investigators Award Session 1

Moderators: **Margarita Calonge** (*Spain*), **Francesca Cordeiro** (*United Kingdom*)

- 473 S.098 The effect of sodium glucose transporter 2 inhibitor in diabetic macular edema. A pilot study
Irene Gil Hernández, Delia Hernandez Perez, Maria Jesus Puchades Montesa, Jose Luis Gorriz Teruel, Antonio M. Duch-Samper (*Spain*)
- 673 T.023 Intra-corneal implantation of 3D bio-printed mesenchymal stem cells using femtosecond-laser- assisted intrastromal keratoplasty
Gerard Boix Lemonche, Richard M. Nagymihaly, Essi M. Niemi, Natasha Josifovska, Stian Johansen, Morten Carstens Moe, Hanne Scholz, Goran Petrovski (*Norway*)
- 789 T.111 The ROCK-inhibitor ripasudil suppresses the expression of extracellular matrix proteins in Fuchs endothelial corneal dystrophy
Maria Strunz, Matthias Zenkel, Ursula Schlötzer-Schrehardt, Friedrich Kruse (*Germany*)
- 25 S.033 Signal shadowing during intraoperative optical coherence tomography assisted vitreoretinal surgery: a systemic analysis
Erick Carlos Reyna, Melisa Öztekin, Susanne Binder, Knut Stieger, Lyubomyr Lytvynchuk (*Austria*)
- 44 T.113 Occipital cortex activity in response to melanopsin in healthy humans
Astrid Minier¹, Corinne Kostic¹, Murray Micah M.^{1,2}, Aki Kawasaki¹ (*¹Switzerland, ²USA*)
- 93 S.037 Evaluating the challenges in implementation of the Royal College of Ophthalmologists (RCOphth) 2020 Guidelines on Hydroxychloroquine Retinopathy Screening at Rochdale Eye Unit, United Kingdom
Maha Noor, Rehna Khan, Suresh Kafle (*United Kingdom*)
- 106 S.039 Geographic atrophy in AMD - prognostic factors based on long-term follow-up
Luca Cedro¹, Laura Hoffmann², Hatz Katja¹ (*¹Switzerland, ²Germany*)
- 663 S.136 Metabolic effects of the retina in a murine model of AD (TgSwDI)
Mariana Yolotzin García-Bermúdez, Rupali Vohra, Kristine Freude, Maj Schneider Thomsen, Blanca Irene Aldana, Miriam Kolko (*Denmark*)
- 676 S.138 P2X7R and TNFR1 antagonism neuroprotects rodent retinal ganglion cells in a sepsis model
Kristy Tatiana Rodríguez Ramírez, Francesco Calzaferrri, Cristobal De Los Rios, Manuel Vidal-Sanz, Marta Agudo-Barriuso (*Spain*)
- 333 S.069 Ambra1 haploinsufficiency results in metabolic alterations and exacerbates age-associated retinal degeneration
Beatriz Villarejo-Zori, Ignacio Ramírez-Pardo, Juan Ignacio Jiménez-Loygorri, Elena Sierra-Filardi, Sandra Alonso-Gil, Raquel Gómez-Sintes, Patricia Boya (*Spain*)
- 399 S.079 Clinical features of inflammatory vitreous hemorrhage: a comparative study between children and adults
Meryem Doukh, Nesrine Abroug, Tarek Dridi, Yassine Belghith, Aida Jallouli, Sonia Attia, Moncef Khairallah (*Tunisia*)



15:30-16:45 | Calatrava 1

SIS

BBP-220 - Innovative Technologies to treat diseases of the back of the eye (Part 2)

Delivering drugs targeted for posterior segment diseases of the eye in a safe, patient-friendly, and controlled manner has long been the focus of drug delivery researchers and is a central aim of the MSCA-funded ORBITAL training network. This two-part SIS will present the exciting work of our PIs and Early Stage Researchers who are working to develop smart technologies capable of the controlled release of ophthalmic drugs relevant to the treatment and management of these conditions. As such, this SIS will deliver talks on nanomaterial carriers and extended-release platforms, such as nano- and micro-devices, implants and contact lenses, and discuss their potential to bypass the ocular barriers and efficiently deliver therapeutics efficiently to the site of action. Given that most of these pathologies are chronic and multifactorial, translation of such potential treatment options require effective models. To highlight the importance of such development steps, ORBITAL-ITN researchers will present their work on novel in vitro and ex vivo pre-clinical approaches designed to increase the speed and successful translation of these technologies towards efficient therapeutic tools in the personalized treatment of back of the eye diseases.

Organizer: **Rocio Herrero Vanrell** (*Spain*)

Co-Organizers: **Carmen Alvarez-Lorenzo** (*Spain*), **Laurence Fitzhenry** (*Ireland*)

- 15:30 Novel episcleral implants of sunitinib can depress ocular neovascularization under ex-vivo conditions
Deepakkumar Mishra (*United Kingdom*)
- 15:45 Development of a new intraocular hypertension and glaucoma animal model with gold nanoparticles
Azza Dammak (*Spain*)
- 16:00 RNA delivery platforms for ocular delivery
Ayah Burhan (*Ireland*)
- 16:15 Micellar solutions of Pluronic F127 for ocular drug delivery
Butsabarath Klahan (*Ireland*)
- 16:30 A novel approach of increasing bioavailability of drug molecules to the posterior ocular segment through topical administration using penetration enhancing agents
Abhinav Thareja (*United Kingdom*)

Saturday
15 October 2022



15:30-16:45 | CALATRAVA 2

RF Rapid Fire 3 - RV

Moderators: **Jost Jonas** (*The Netherlands*), **Isabelle Pinilla** (*Spain*)

- 443 S.091 Optic disc pit macular serous detachment recurrence. A surgical approach using ILM autograph
Efstratios Parikakis, Aspasia Diafa, Loukas Kontomichos, Georgios Batsos, Theodora Gianni, Nikolaos Mpouratzis, Evangelos Spanos, Dimitrios Karagiannis (*Greece*)
- 445 S.092 Closure of large macular holes
Oksana Ilyuk (*Ukraine*)
- 486 S.100 Systemic lupus erythematosus purtscher like retinopathy optical coherence tomography angiography assessment implications
Enrique Garcia-Soler¹, Clara Martínez Rubio¹, Marc Dominique De Smet², Patricia Udaondo Mirete¹, David Salom Alonso¹ (¹*Spain*, ²*Switzerland*)
- 494 S.102 Comparative study of lipid profile influence on foveal avascular central zone
Safa Ben Aoun, Hela Sassi, Khawla Fekih, Slim Nouri, Khadija Mzoughi, Monia Cheour (*Tunisia*)
- 529 S.107 Expression and activation of MMP10 in retinal pigment epithelium cell lines and plasma levels in age related macular degeneration patients
Jorge Gonzalez-Zamora, Maria Hernandez, Jaione Bezunartea, Sergio Recalde, Idoia Belda Zuazu, Maite Moreno Orduña, Patricia Fernandez-Robredo, Alfredo García Layana (*Spain*)
- 11 S.030 Surgical removal of dexamethasone implant (Ozurdex) accidentally injected inside crystalline lens
Efstratios Parikakis, Loukas Kontomichos, Georgios Batsos, Vasileios Peponis, Nikolaos Mpouratzis, Anastasios Mpisoukis, Dimitrios Karagiannis (*Greece*)
- 16 S.031 Quantitative analysis of neovascular activity in age-related macular degeneration using optical coherence tomography angiography
Mariia Kovalevskaia (*Russian Federation*)
- 369 S.071 Brain-derived neurotrophic factor-mimetic compounds in biodegradable microspheres as novel neuroprotective approaches for retinal diseases
Marco Brugnera¹, Flavia Messina², Alison Reynolds², Niall O'Reilly², Giedrius Kalesnykas³, Rocío Herrero-Vanrell¹, Breandán Kennedy², Irene Bravo-Osuna¹ (¹*Spain*, ²*Ireland*, ³*Finland*)
- 373 S.072 Managing recurrent macular holes with ready-to-use freeze-dried disks of human amniotic membranes
Thibaud Mathis¹, Marc De Smet², Laurence Barnouin¹, Kodjikian Laurent¹ (¹*France*, ²*Switzerland*)
- 377 S.075 The stiffness of the substrate affects Müller cell survival, morphology and reactivity
Laura Prieto, Xandra Pereiro, Patricia Villegas, Noelia Ruzafa, Elena Vecino (*Spain*)
- 380 S.076 Retinal tissue oxygenation differs between eye fundus regions, but not with age, sex, and intraocular pressure in non-human primates
Cléophaçe Akitegetse, Jasmine Poirier, Nicolas Lapointe, Éric Hamel, Joannie Desroches, Natasha Dargis, Roberta Palmour, Maurice Ptito, Jean-François Bouchard (*Canada*)



15:30-16:45 | CALATRAVA 3

RF Rapid Fire 4 - G

Moderators: **Ali Yetisen** (*United Kingdom*), **Elena Salobrar-Garcia** (*Spain*)

- | | | |
|-----|-------|--|
| 8 | F.001 | Selective laser trabeculoplasty (SLT) in eyes with angle recession glaucoma
Rhizlane Abdi (<i>Morocco</i>) |
| 65 | F.005 | Validation of anterior segment OCT in detecting angle dysgenesis in glaucoma using Artificial Intelligence
Shweta Birla Dhakonia¹, Viney Gupta¹, Toshit Varshney¹, Bindu Somarajan¹, Shikha Gupta¹, Mrinalini Gupta², Karthikeyan Mahalingam¹, Abhishek Singh¹, Dinesh Gupta¹ (¹ <i>India</i> , ² <i>Germany</i>) |
| 125 | F.014 | VEGF levels in the aqueous humor of patients with primary open angle glaucoma: a systematic review and a meta-analysis
Georgios Dimtsas, Anastasia Tsiogka, Marilita Moschos (<i>Greece</i>) |
| 126 | F.015 | Implantation of a novel glaucoma drainage with a small lumen silicone tube in rabbits: a pilot study
Myungjin Kim, Seungsoo Rho, Jongchul Han, Eunsol Kim, Hae Rang Kim (<i>South Korea</i>) |
| 131 | F.017 | Evaluation of generated synthetic OCT images in deep-learning models for glaucoma detection
Damon Wong, Ashish Jith, Rachel Chong, Jonathan Crowston, Jacqueline Chua, Inna Bujor, Rahat Hussain, Eranga Vithana, Michael Girard, Daniel Ting, Cheng Ching-Yu, Tin Aung, Alina Popa-Cherecheanu, Leopold Schmetterer (<i>Singapore</i>) |
| 216 | F.023 | Evaluation of the neuroprotective effect of metformin in diabetic patients with glaucoma
Alessio Martucci, Federico Carlucci, Andrea Satriano, Massimo Cesareo, Rossella Russo, Carlo Nucci (<i>Italy</i>) |
| 346 | F.037 | Association of visual acuity and vessel density in glaucoma patients with myopia
Seong Ah Kim, Chan Kee Park, Hae-Young Lopilly Park (<i>South Korea</i>) |
| 361 | F.039 | Macular and peripapillary microvascular changes in open angle glaucoma and ocular hypertension: a longitudinal study using optical coherence tomography angiography (OCT-A)
Maria del Mar Schilt-Catafal, Vicente T. Pérez-Torregrosa, Antonio M. Duch-Samper (<i>Spain</i>) |
| 561 | F.057 | Optical coherence angiography of optic disc in eyes with primary open-angle glaucoma and normal tension glaucoma with equal levels of structural damage
Ioannis Halkiadakis, Elpida Kollia, Vasilis Tzimis, Michalis Tzakos (<i>United Kingdom</i>) |
| 734 | F.072 | Tear metabolomics. An outstanding approach to the molecular diagnosis of glaucoma
Alex Gallego-Martinez, Mari Carmen Martinez-Bisbal, Irene Andres-Blasco, Marina Dolores Botello Marabotto, Francisco Javier Hernandez-Martinez, Ramon Martinez-Mañez, Maria Dolores Pinazo Duran (<i>Spain</i>) |



15:30-16:45 | GAUDI 1

RF Rapid Fire 5 - ACB

Moderators: **Maria Hytti** (*Finland*), **Ulla Aapola** (*Finland*)

- 430 T.016 Accelerated maturation of ARPE-19 cells for the translational assessment of gene therapy
Filippo Locri, Jonathan Bernd, Flavia Plastino, Anders Kvanta, Helder Andre (*Sweden*)

- 619 T.019 Studies on intraocular transplantation of pancreatic cells in a large-eyed preclinical animal model
Yesenia Ortega Melin, Pim Van Krieken, Andrea Dicker, Per-Olof Berggren, Anders Kvanta, Helder Andre (*Sweden*)

- 696 T.024 Cellular remodelling of the inner retina and the retinal ganglion cells in experimental retinal detachment
Pavlina Tsoka, Theodora Steirou, Miltiadis K. Tsilimbaris (*Greece*)

- 702 T.025 Autophagy protects retinal pigment epithelial cells from hydroquinone-induced toxicity
Maria Hytti, Anu Kauppinen, Kai Kaarniranta (*Finland*)

- 748 T.026 Neuronal and synaptic connectivity impairment along with the vascular alterations in the macula of diabetic patients
Henar Albertos-Arranz, Isabel Ortuno-Lizaran, Xavier Sanchez Saez, María José Ruiz Pastor, Natalia Martínez-Gil, Pedro Lax, Nicolas Cuenca (*Spain*)



15:30-16:45 | GAUDI 2



Rapid Fire 6 - NSPH

Moderators: **Neringa Jurkute** (*United Kingdom*), **Marcela Votruba** (*Germany*)

- 272 F.117 Role of the hematological phenotype as a predictive biomarker of retinopathy of prematurity development
Mariza Fevereiro Martins, Ana Carolina Santos, Filipa Teixeira, Rita Rosa, Pedro Barros, Ricardo Parreira, Susana Teixeira, Mafalda Mota, Madalena Monteiro, Mário Alfaiate, Renato Silva, Jorge Breda, Hercília Guimarães, Carlos Marques-Neves, Manuel Bicho (*Portugal*)
- 385 F.122 Assessing the impact of long-term idebenone treatment on various visual acuity outcomes in Leber's hereditary optic neuropathy (LHON): Results, according to disease stage, from the prospective, natural history-controlled LEROS study
Livia Tomasso¹, Valerio Carelli¹, Patrick Yu-Wai-Man², Thomas Klopstock³, on behalf of the LEROS Study Group³ (¹*Italy*, ²*United Kingdom*, ³*Germany*)
- 492 F.128 Validation of postnatal growth and retinopathy of prematurity (G-ROP) criteria for retinopathy of prematurity in a Spanish tertiary care hospital with an advanced neonatal intensive care unit.
Carlos Cauto Picazo, Isabel Pascual Camps, Lorena Azorín Pérez, Marta Solaz Ruiz, Laura Fernández García, Ester Torres Martínez, Amparo Ortiz Seller, Inmaculada Almor Palacios, Ana Rodrigo Hernández, Honorio Barranco González, Enrique España Gregori (*Spain*)
- 535 F.133 Characterization of Charles Bonnet syndrome in Leber hereditary optic neuropathy patients
Hong-An Nguyen¹, Mohammad Kreimeh¹, Lissa Poincenot¹, Melanie Lalonde^{1,2}, Rustum Karanjia^{1,2} (¹*Canada*, ²*USA*)
- 549 F.134 Is the anatomy of the macula different in individuals with dyslexia?
José Javier García Medina, Nieves Bascuñana-Mas, Celia Gómez Molina, Elena Rubio Velázquez, Vicente Zanón-Moreno, María Dolores Pinazo Duran, Paloma Sobrado-Calvo, Monica Del-Rio-Vellosillo (*Spain*)
- 728 F.141 Tomography features of the lamina cribrosa and its scleral canal in different types and stages of the diabetic optic neuropathy
Maryna Karlychuk, Serhii Pinchuk, Pavel Bezditko (*Ukraine*)
- 378 F.123 Assessing the impact of long-term idebenone treatment on various visual acuity outcomes in Leber's hereditary optic neuropathy (LHON): Results, according to primary mitochondrial DNA mutation, from the prospective, natural history-controlled LEROS study
Livia Tomasso¹, Valerio Carelli¹, Patrick Yu-Wai-Man², Thomas Klopstock⁴ on behalf of the LEROS Study Group (¹*Italy*, ²*United Kingdom*, ³*Germany*)



15:30-16:45 | GAUDI 3

RF Rapid Fire 7 - LC/PO

Moderators: **Jan-Willem Beenakker** (*The Netherlands*), **Andrzej Grzybowski** (*Poland*)

- 9 F.078 Exposure to subthreshold dose of UVR-B does not induce apoptosis in the rat lens in vivo during the first 24 hours
Konstantin Galichanin, Lovisa Falkman, Zhaohua Yu (*Sweden*)
- 53 F.082 Performance evaluation of cataract surgery on a virtual reality simulator
Zhaohua Yu, Alexandru Popa, Per Söderberg (*Sweden*)
- 142 F.083 Pupillary light responses after uncomplicated cataract surgery
Juan Antonio Miralles De Imperial Ollero, Alberto López-Alacid, Pedro Esteban Quilez Franco, Maria Paz Villegas Perez (*Spain*)
- 422 F.089 An analysis of posterior capsule rupture (PCR) rate and risk stratification within the National Health Services (NHS)
Sammie Mak, Maha Noor, Hussein Almuhtaseb (*United Kingdom*)
- 158 T.147 Comparison of two primary intraocular lymphoma experimental murine models
Eva Skrlova, Eva Uherkova, Diana Malarikova, Aneta Klimova, Petra Svozilkova, Peter Kesa, Petr Matous, Vit Herynek, Tomas Kucera, Pavel Klener, Jarmila Heissigerova (*Czech Republic*)
- 303 T.149 Inter-observer variability in MRI-based target volume delineation of uveal melanoma
Jan-Willem Beenakker¹, Myriam Jaarsma-Coes¹, Lisa Klaassen¹, Berit Verbist¹, Khanh Vu¹, Yvonne Klaver¹, Myra Rodrigues¹, Claire Nabarro¹, Gre Luyten¹, Marcel Van Herk², Coen Rasch¹ (¹*The Netherlands*, ²*United Kingdom*)
- 337 T.151 MR-based follow-up after brachytherapy and proton beam therapy in uveal melanoma
Michael Tang, Teresa Ferreira, Myriam Jaarsma-Coes, Lisa Klaassen, Marina Marinkovic, Khanh Vu, Coen Rasch, Carien Creutzberg, Nanda Horeweg, Yvonne Klaver, Myra Rodrigues, Gregorius Luyten, Jan-Willem Beenakker (*The Netherlands*)
- 341 T.152 Use of freeze-dried amniotic membrane of umbilical cord (hAM-UC) as scleral patch after conjunctival tumor excision surgery
Sacha Nahon-Esteve, Laurence Barnouin, Jean Pierre Caujolle (*France*)



16:45-18:00 | Auditorium



Young Investigators Award Session 2

Moderator: **Gordon Plant** (*United Kingdom*)

- 187 S.009 Corneal neovascularization associated with a novel PDGFRB gene variant: Implications for precision medicine treatment
Titas Gladkauskas¹, Ove Bruland¹, Leen Safieh², Edward Deepak^{1,3}, Eyvind Rødahl¹, Cecilie Bredrup¹ (¹Norway, ²Saudi Arabia, ³USA)
- 364 S.016 Genetic findings in over 600 individuals with inherited retinal disorders in Finland
Julia Krootila¹, Maria Kaukonen², Eeva-Marja Sankila¹, Maarjaliis Paavo¹, Sanna Seitsonen¹, Pauliina Repo¹, Michael P. Backlund¹, Anna Majander¹, Päivi Lindahl¹, Kristiina Vasara¹, Kristiina Avela¹, Eveliina Salminen¹, Robert E. MacLaren², Tero T. Kivelä¹, Joni A. Turunen¹ (¹Finland, ²United Kingdom)
- 616 S.022 Characterising a novel retinal organoid model of Oculocutaneous albinism and optic nerve misrouting
Philip Wagstaff, Reinier Bakker, Eszter Emri, Anneloor ten Asbroek, Arthur Bergen (*The Netherlands*)
- 624 S.023 Establishment and measurement of myopia in mice with ON-bipolar cell defects
Wilmet Baptiste¹, Duvoisin Robert², Callebert Jacques¹, Goulet Ruben¹, Tourain Christophe¹, Michiels Christelle¹, Degardin Julie¹, Frederiksen Helen¹, Cesar Quenol¹, Simonutti Manuel¹, Marre Olivier¹, Sahel José-Alain^{1,2}, Isabelle Audo¹, Picaud Serge¹, Christina Zeitz¹ (¹France, ²USA)
- 233 F.025 Precision and agreement of individual and simultaneous volumetric measurements with optical coherence tomography in healthy and glaucoma subjects
Abinaya Venkataraman, Johan Hedström, Loujain Al-Soboh, Alberto Dominguez-Vicent (*Sweden*)
- 163 F.112 Analysis of RNFL and GCL in patients with multiple sclerosis and fibromyalgia
Elisa Viladés Palomar, Beatriz Cordon Ciordia, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Maria Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Inés Munuera, Maria Satue, Elena Garcia-Martin (*Spain*)
- 546 F.054 Structure-function relationship between central visual field and macular parameters in glaucoma patients
Cristina Ye-Zhu, Laura Diez-Alvarez, Laia Jaumandreu, Fernando Huelin, Ana Diaz-Montealegre, Elisa González-Pastor, Alvaro Martin-Ares, Gema Rebollada, Francisco Muñoz-Negrete (*Spain*)
- 42 T.137 Analysis of vitreous immunity using OCT in rats with steroid-induced glaucoma
María Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Ines Munuera, Alberto Montolio, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordon Ciordia, Luis Pablo (*Spain*)
- 459 F.153 Tlr4 gene deletion accelerates retinal degeneration in rd10 and P23H/+ murine models of retinitis pigmentosa
Mateo Pazo González, Alonso Sánchez Cruz, Enrique J. De La Rosa Cano, Pedro De La Villa, Catalina Hernández Sánchez (*Spain*)



16:45-18:00 | Calatrava 1

SIS PBP-217 - Therapeutic strategies for photoreceptor degenerations

Photoreceptor degenerative diseases are currently the leading cause of irreversible visual impairment and blindness in industrialized countries. Although these diseases have different aetiologies and clinical presentations, they cause irreversible photoreceptor loss and are thus one of the greatest challenges in vision research today. Various treatments have been proposed to prevent photoreceptor degeneration and the subsequent secondary retinal remodelling, which causes the death of inner retinal neurons, or to substitute the lost photoreceptors. The aim of this SIS is to provide a forum for discussion of different therapies that are under investigation for the treatment of these diseases and that could give hope to patients.

Organizer: **Diego Garcia-Ayuso** (*Spain*)

Co-Organizer: **Maria Paz Villegas Perez** (*Spain*)

16:45 Restoring vision in blind patients: from optogenetic to sonogenetic therapies
Serge Picaud (*France*)

17:03 Immunomodulation for retinal degenerations
Thomas Langmann (*Germany*)

17:21 Neuroprotective effects of intraocular bone marrow-derived mononuclear cell transplants in inherited retinal degenerations
Johnny Di Pierdomenico (*Spain*)

17:39 Pharmacological strategies in retinal dystrophies
Victoria Maneu (*Spain*)

Saturday
15 October 2022



16:45-18:00 | CALATRAVA 2

RF Rapid Fire 8 - RV

Moderator: **Maria Dolores Pinazo Duran** (*Spain*)

- 550 S.111 Vogt-Koyanagi-Harada disease following a serology-proven Bartonella henselae retinitis : a case report
Khawla Fekih, Hager Ben Amor, Mahjoub Ahmed, Slimen Meriem, Khochtali Sana, Sonia Attia, Imen Ksiai, Moncef Khairallah (*Tunisia*)
- 590 S.121 Myopic maculopathy and posterior staphyloma. Correlation with atn classification and severe pathological myopia
Maria Garcia-Zamora, Ignacio Flores-Moreno, Jorge Ruiz-Medrano, Mariluz Puertas, Elena Almazan-Alonso, Rocio Vega-Gonzalez, Jose M. Ruiz-Moreno (*Spain*)
- 609 S.127 Morphology-structural software: Interests for AMD drusenoid deposits "L", lipid type, density, structural, volume analysis and evolution. 5 years follow-up
Corinne Gonzalez (*France*)
- 622 S.128 Atypical venous vasculitis as a complication of venous thrombosis
Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Carmen Miquel López, Maria Victoria Navarro Abellán (*Spain*)
- 658 S.134 Uveitis in the elderly: clinical and demographic characteristics
Amina El Mayel, Hager Ben Amor, Marwa Romdhane, Hichem Aoun, Sonia Attia, Moncef Khairallah (*Tunisia*)
- 662 S.135 Generation and characterization of human USH2A retinal disease model
Ana Flores, Belen García, Gema Garcia, Noelia Pimentel Mayordomo, Maria Esther Gallardo, Carmen Ayuso Garcia, Jose Maria Millán, Dunja Lukovic (*Spain*)
- 684 S.139 Autophagy modulation in organotypic retinal cultures exposed to high glucose
Annagrazia Adornetto, Maria Luisa Laganà, Andrea Satriano, Giacinto Bagetta, Rossella Russo (*Italy*)
- 693 S.141 Changes in retinochoroidal vascularization evaluated by OCTA in long time evolution DM1 patients
Isabel Pinilla, Maria Sopeña-Pinilla, Ana Boned-Murillo, M^a Dolores Díaz-Barreda, Guisela Fernández-Espinosa, Isabel Bartolome, Javier Acha, Elvira Orduna Hospital (*Spain*)
- 719 S.144 Eight years follow-up of two choroideremia patients with a new mutation of the choroideremia gene
M^a Dolores Díaz-Barreda, Ana Boned-Murillo, Isabel Bartolome, Elvira Orduna Hospital, Guisela Fernández-Espinosa, María Sopeña, Isabel Pinilla (*Spain*)
- 770 S.152 Repeatability of retinal thickness measurements in children using spectral domain optical coherence tomography
Ana Boned-Murillo, Diana Perez Garcia, Maria Dolores Diaz, Ana Sánchez Cano, Leon Remon, Elvira Orduna Hospital, Guisela Fernández-Espinosa, Maria Sopeña Pinilla, Guillermo Pérez Rivasés, Isabel Pinilla Lozano (*Spain*)
- 785 S.154 Age- and sex-based evaluation of the association between refractive error and age-related macular degeneration in the Korean population
Donghyun Jee (*South Korea*)
- 790 S.156 Cardiovascular risk factors and characterization of retinal drusen by OCT in subjects with genetic risk for the development of Alzheimer disease
Elena Salobar-Garcia, Lidia Sánchez-Puebla, Ines Gil-Salgado, Lorena Elvira-Hurtado, José A. Fernández-Albarral, Jose A. Matamoros, Jose Manuel Ramirez, Ana I. Ramirez, Federico Ramirez-Toraño, Ana Barabash, Juan Jose Salazar, Rosa De Hoz (*Spain*)



16:45-18:00 | CALATRAVA 3

RF Rapid Fire 9 - COS

Moderators: **Zisis Gatzioufas** (*Switzerland*), **Nora Szentmary** (*Germany*)

- | | | |
|-----|-------|--|
| 633 | T.093 | Comparative analysis of posterior cornea between hydrops in keratoconus and Haab's striae in primary congenital glaucoma
Karthikeyan Mahalingam, Sohini Mandal, Abhishek Singh, Seema Sen, Jeewan Titiyal, Shikha Gupta, Viney Gupta (<i>India</i>) |
| 647 | T.097 | Determining subclinical edema in fuchs endothelial corneal dystrophy: Scheimpflug versus anterior segment optical coherence tomography
Oliver Dorado Cortez, Emmanuel Crouzet, Sylvain Poinard, Philippe Gain, Thibaud Garcin, Naoki Okumura, Noriko Koizumi, Gilles Thuret (<i>France</i>) |
| 258 | T.046 | TCF4 trinucleotide repeat expansion in Finnish patients with Fuchs' endothelial corneal dystrophy
Inka-Tuulevi Pettinen¹, Annamari Immonen¹, Joel Rämö^{1,2}, Aino Jaakkola¹, Kari Krootila¹, Maria Kaukonen¹, Hannes Lohi¹, Tero Kivelä¹, Joni Turunen¹ (¹ <i>Finland</i> , ² <i>USA</i>) |
| 461 | T.066 | Gene expression in tears of patients with dry eye disease and meibomian gland dysfunction treated with intensive pulsed light
Carlos Vérges, Jose Manuel Salgado-Borges (<i>Spain</i>) |
| 499 | T.071 | New potential markers for Fuchs corneal endothelial dystrophy: a proteomic study
Inès Aouimeur¹, Hanielle Vaitinadapoule¹, Naoki Okumura², Noriko Koizumi², Philippe Gain¹, Gilles Thuret¹, Zhiguo He¹ (¹ <i>France</i> , ² <i>Japan</i>) |
| 537 | T.077 | Characterization of Descemet membrane of Fuchs endothelial corneal dystrophy by chromatic confocal microscopy
Hanielle Vaitinadapoulé, Zhiguo He, Alina Hamri, Justin Thomas, Philippe Gain, Frederic Mascarelli, Gilles Thuret, French Fuchs Study Group FFSG (<i>France</i>) |



16:45-18:00 | GAUDI 1



Rapid Fire 10 - EOVS

Moderators: **Franziska Rauscher** (*Germany*), **Rebekka Heitmar** (*United Kingdom*)

- 153 T.118 Oxygen metabolic retinal function in retinitis pigmentosa correlates with disease severity
Olga Maria Zabek, Giacomo Calzetti, Dominique Prétot, Hendrik Peter Nicolas Scholl, Maria della Volpe (*Switzerland*)
- 173 T.120 Longitudinal OCT texture analysis to assess the retinal changes in the triple-transgenic mouse model of Alzheimer's disease
Rui Bernardes, Maryam Ghalati, Hugo Ferreira, João Martins, Pedro Guimarães, Paula Moreira, António Ambrósio, Miguel Castelo-Branco, Pedro Serranho (*Portugal*)
- 234 T.122 Effect of filters on the accommodation and colour discrimination
Alberto Dominguez-Vicent, Abinaya Venkataraman (*Sweden*)
- 255 T.123 Assessment of the impact of an early acute immune challenge on the diabetic retina
Hugo Fernandes, Alexandra Cruz, Raquel Boia, Rita Gaspar, Sara Nunes, Filipa Baptista, António Francisco Ambrósio (*Portugal*)
- 266 T.124 Value of ophthalmological psychophysical test and MEG in subjects at high risk for sporadic Alzheimer's disease
Inés López-Cuenca, Elena Salobrar-Garcia, Lidia Sanchez-Puebla, Rosa De Hoz, Alberto Nebreda, Alejandra García-Colomo, Ricardo Bruña, Federico Ramírez-Toraño, Ana Barabash, Pedro Gil, Fernando Mestú, Jose Manuel Ramirez, Ana Isabel Ramirez, Juan Jose Salazar (*Spain*)
- 359 T.126 Validation of a novel software-based platform to extract oculometric measures
Eitan Raveh, Assaf Ben Shimon, Vova Anisimov, Edmund Ben-Ami, Rivka Kreitman, Micha Breakstone (*Israel*)
- 434 T.128 Ocular biometric dimensions according to gender. Are they different?
J.M. Vilaplana-Mora, Irene Gil Hernández, José-Miguel Hervás Hernandis, F. Alarcón-Correcher, Ana López Montero, L. Vidal-Oliver, Antonio M. Duch-Samper (*Spain*)
- 455 T.129 A novel tool to study bipolar cell responses in glaucoma
Alejandro Gallego Ortega^{1,2}, Yukihiro Siga², Deborah Villafranca-Baughman², Heberto Quintero², Manuel Vidal-Sanz¹, Adriana Di Polo² (¹*Spain*, ²*Canada*)
- 491 T.132 Visual impairment in Malta - Preliminary data from The Malta Eye Study
David Agius, Daniel Cassar, Julian Mamo, Francis Carbonaro (*Malta*)



16:45-18:00 | GAUDI 2

RF Rapid Fire 11 - PBP

Moderators: **Marcelino Aviles-Trigueros** (*Spain*), **Pedro de la Villa** (*Spain*)

- 225 F.146 Administration of minocycline reduces microglia and Caspase-3 activation but does not mitigate retinal ganglion cell loss after ocular hypertension in mice
Francisco Javier Valiente-Soriano, María Cielo Sánchez-Migallón, Johnny Di Pierdomenico, Alejandro Gallego Ortega, Diego García-Ayuso, Manuel Vidal-Sanz, Marta Agudo-Barriuso (*Spain*)
- 243 F.148 Neuroprotective effects of ITH-IB6 against excitotoxicity-induced retinal injury
Johnny Di Pierdomenico, María Norte Muñoz, Alejandro Gallego Ortega, María Boluda Ruiz, Jose Manuel Bernal Garro, Maria Paz Villegas Perez, Cristobal De Los Rios2, Manuel Vidal-Sanz (*Spain*)
- 601 F.154 Chaperone-mediated autophagy is a cytoprotective response of photoreceptors during aging and retinal diseases
Raquel Gómez-Sintes^{1,2}, Ana Maria Cuervo², Patricia Boya¹ (¹*Spain*, ²*USA*)
- 644 F.155 Dopamine is involved in regulating vascular tone in retinal arterioles
Thor Eysteinnsson, Andrea García-Llorca (*Iceland*)
- 691 F.157 Administration of dutasteride in animal models of retinitis pigmentosa
María Miranda Sanz, Antolin Cantó, Teresa Olivar, Rosa López-Pedrajas, Javier Martínez-González, Vicente Hernández-Rabaza, Inmaculada Almansa (*Spain*)
- 727 F.161 Evaluation of tear film osmolarity in glaucomatous and ocular hypertensive patients under topical therapies: a real life experience of a glaucoma unit
Teresa Rolle, Andrea Ghilardi, Lorenza Malinverni, Tommaso Tibaldi, Michele Reibaldi (*Italy*)
- 797 F.164 In vitro and in vivo characterization of BIO203, a new amide norbixin conjugate with improved pharmacokinetic profile. Potential for oral treatment of age-related retinal degeneration
Valérie Fontaine, Serge Camelo, Christine Balducci, Laurence Dinan, Elodie Monteiro, Thinhinane Boumedine, Vincent Nguyen, Mylene Fournié, Justine Clatot, Mathilde Latil, Stanislas Veillet, René Lafont, Pierre Dilda (*France*)



16:45-18:00 | GAUDI 3

RF Rapid Fire 12 - MBGE/IM

Moderator: Christina Zeitz (*France*)

- 7 S.001 Prevalence and risk factors of corneal abnormalities in 60 years and older; Tehran Geriatric Eye Study
Abbas Ali Yekta, Mehdi Khabazkhoob, Hassan Hashemi, Reza Pakzad, Mohamadreza Aghamirsalim, Mohamadreza Moniri, Hadi Ostadimoghadda, Reihaneh Yekta, Yeganeh Yekta (*Tehran*)
- 37 S.002 Association of age-related macular degeneration on Alzheimer or Parkinson disease
Donghyun Jee (*South Korea*)
- 559 S.019 Ocular symptoms in confirmed COVID-19 patients: a local survey of mid and South Essex Trust, England
Muhammad Saad Asghar, Haseeb Akram, Aman Chandra (*United Kingdom*)
- 582 S.021 LINE-1 insertion in the RP1 gene in a family with retinitis pigmentosa
Michael Backlund, Pauliina Repo, Eeva-Marja Sankila, Maarjaliis Paavo, Kirmo Wartiovaara, Joni Turunen (*Finland*)
- 670 S.025 The long and short-'sightedness' of BMP3 in eye development
Amy Findlay, Chloe Stanton, Camilla Drake, Ian Jackson, Veronique Vitart (*United Kingdom*)
- 717 S.028 Improvement of hydroxychloroquine retinopathy monitoring by informatic systems
Alberto López Alacid, Pedro Esteban Quílez Franco, Juan Antonio Miralles De Imperial Ollero, Andres López Jiménez (*Spain*)
- 620 T.142 Multiple sclerosis and occlusive retinal vasculitis: a case series
Maria Khalil, Tom Buelens, Serena Borrelli, Julien Vanderhulst, François Willermain, Dorine Makhoul, Aurelie Le (*Belgium*)

Saturday
15 October 2022

18:00-18:30 | Auditorium

PS Prize Award Ceremony and Closing Remarks

18:30 | Exhibition Area

Farewell cocktail



Poster Session 1

Moderators: Kai Kaarniranta (Finland), Juana Gallar (Spain), Jarmila Heissigerova (Czech Republic), Kristina Irsch (France), Edward Wylegala (Poland),

16:00-17:00

POS Poster Session ACB

- 69 T.001 Autophagy and inflammation related RNA levels are elevated in Finnish age-related macular degeneration patient blood serum
Mikko Liukkonen, Bishwa Ghimire, Niko Kivinen, Leea Siintamo, Ali Koskela, Kai Kaarniranta (Finland)
- 114 *rf* T.002 Clinical grade of genetically corrected RPE cells for autologous cell therapy of hereditary retinal dystrophies
Juan Ureña-Peralta¹, Anna Brymova², Noelia Pimentel Mayordomo¹, Pavla Jendelova², Taras Ardan², Hana Studenovska², Jan Motlik², Goran Petrovski³, Slaven Erceg¹ (¹Spain, ²Czech Republic, ³Norway)
- 159 *rf* T.003 Single nucleotide polymorphisms in pigmentation-related dopachrome tautomerase and melanocortin receptor genes are associated with wet age-related macular degeneration in a Finnish cohort
Ali Koskela, Mika Reinisalo, Seppo Helisalmi, Mikko Liukkonen, Kai Kaarniranta, Arto Urtti, Paavo Honkakoski (Finland)
- 172 T.004 The cleavage of Gasdermin E is the rate limiting step in the secretion of IL-1 β in RPE cells with non-functional cellular clearance
Sofia Ranta-Aho, Maria Hytti, Maija Toppila, Niina Bhattarai, Kai Kaarniranta, Anu Kauppinen (Finland)
- 176 T.005 Resveratrol nanoparticles are neuroprotective in a model of Alzheimer's disease
Ehtesham Shamsher^{1,2}, Li Guo¹, Benjamin Davis¹, Vy Luong¹, Nivedita Ravindran¹, Satyanarayana Somavarapu¹, Francesca Cordeiro¹ (¹United Kingdom, ²Switzerland)
- 224 *rf* T.006 Synchrotron-based FTIR microspectroscopy of human primary retinal pigmented epithelial cells as a model for age-related macular degeneration
Natasha Josifovska^{1,2}, Sofija Andjelic², Xhevat Lumi², Tanja Ducic³, Goran Petrovski¹ (¹Norway, ²Slovenia, ³Spain)
- 237 T.007 Morphological comparison of the microglial cell population between organotypic retinal cultures and axotomised retinas in vivo
María Josefa González Riquelme¹, Fernando Lucas-Ruiz¹, Caridad Galindo-Romero¹, Raquel Boia², António Francisco Ambrósio², Manuel Vidal-Sanz¹, Ana Raquel Santiago², Marta Agudo-Barriuso¹ (¹Spain, ²Portugal)
- 261 *rf* T.008 Activation of Nrf2-mediated protective pathways by nature-inspired hybrids improves proteostasis in retinal pigment epithelial cells
Ali Koskela¹, Federico Manai², Filippo Basagni², Mikko Liukkonen¹, Michela Rosini², Stefano Govoni², Massimo Dal Monte², Adrian Smedowski³, Kai Kaarniranta¹, Marialaura Amadio² (¹Finland, ²Italy, ³Poland)
- 267 T.009 Orbital abscess surgery in a patient with odontogenic pansinusitis
Marta Comes Carsi, Sergio Maugard Tepper, Maria Amparo Lanuza García, Antonio M. Duch Samper (Spain)
- 269 *rf* T.010 Repurposing dimethyl fumarate? In vitro evidence of Nrf2-pathway activation and cytoprotective effects in human retinal endothelial cells
Marialaura Amadio, Federico Manai (Italy)
- 275 T.011 3D printed enucleated eye holder for research and surgical training
Yunfang Yang, Yunlan Zhang, Zhong You, Jared Ching (United Kingdom)
- 347 T.012 Oxygen-dependent regulation of β 3-adrenoceptor in the retina: another piece in the puzzle of the pathological neovascularization



- 350 *rf* T.013 **Rosario Amato (Italy)**
Exacerbated mitochondrial fusion abrogates mitophagy and leads to pro-inflammatory signalling in Müller glia during diabetic retinopathy
Aidan Anderson, Nada Alfahad, Ian G. Ganley, Saaeha Rauz, Graham Wallace, Tim M. Curtis, Jose M. Romero (United Kingdom)
- 408 *rf* T.014 Amfenac together with simvastatin reduces IL-8 and MCP-1 and increases VEGF release from ARPE-19 cells upon inflammatory conditions
Niina Bhattarai, Maria Hytti, Onni Kolari, Hilikka Nisula, Sirpa Loukovaara, Anu Kauppinen (Finland)
- 430 T.016 Accelerated maturation of ARPE-19 cells for the translational assessment of gene therapy
Filippo Locri, Jonathan Bernd, Flavia Plastino, Anders Kvanta, Helder Andre (Sweden)
- 437 T.017 Secretory autophagy is increased in 5xFAD mice
Johanna Ruuth, Toni Tamminen, Elisa Toropainen, Ali Koskela, Paula Korhonen, Heikki Tanila, Tarja Malm, Kai Kaarniranta (Finland)
- 501 T.018 Clinical parameters related to the glial activation and neuronal alterations present in the retinas of COVID-19 patients
Henar Albertos-Arranz, Natalia Martínez Gil, Xavier Sánchez Sáez, Agustina Noailles, María José Ruiz Pastor, Clara Monferrer Adsuara, Lidia Remolá Sargues, Ramón Calvo Andrés, Pedro Lax, Nicolás Cuenca (Spain)
- 619 *rf* T.019 Studies on intraocular transplantation of pancreatic cells in a large-eyed preclinical animal model
Yesenia Ortega Melin, Pim Van Krieken, Andrea Dicker, Per-Olof Berggren, Anders Kvanta, Helder Andre (Sweden)
- 645 T.020 Animal model for metabolomic diffusion studies in the eye
John Kim Hiller, Elise Mørk Sandås, Helge Rootwelt, Anja Østeby Vassli, Tor Paaske Utheim, Morten Carstens Moe, Katja Benedikte Prestø Elgstøen, Goran Petrovski (Norway)
- 649 T.021 A scoping review of three-dimensional ophthalmic anatomy smartphone applications
George Liu, Hasan Naveed, Christopher Liu (United Kingdom)
- 651 T.022 Selective proteasome inhibition activates AIM2 inflammasome in human retinal pigment epithelium cells
Iswariyaraja Sridevi Gurubaran, Maria Hytti, Kai Kaarniranta, Anu Kauppinen (Finland)
- 673 T.023 Intra-corneal implantation of 3D bio-printed mesenchymal stem cells using femtosecond-laser- assisted intrastromal keratoplasty
Gerard Boix Lemonche, Richard M. Nagymihaly, Essi M. Niemi, Natasha Josifovska, Stian Johansen, Morten Carstens Moe, Hanne Scholz, Goran Petrovski (Norway)
- 696 *rf* T.024 Cellular remodelling of the inner retina and the retinal ganglion cells in experimental retinal detachment
Pavlina Tsoka, Theodora Steirou, Miltiadis K. Tsilimbaris (Greece)
- 702 *rf* T.025 Autophagy protects retinal pigment epithelial cells from hydroquinone-induced toxicity
Maria Hytti, Anu Kauppinen, Kai Kaarniranta (Finland)
- 748 *rf* T.026 Neuronal and synaptic connectivity impairment along with the vascular alterations in the macula of diabetic patients
Henar Albertos-Arranz, Isabel Ortuno-Lizaran, Xavier Sanchez Saez, María José Ruiz Pastor, Natalia Martínez-Gil, Pedro Lax, Nicolas Cuenca (Spain)
- 786 T.027 Impairment of amacrine starburst cells and their synaptic contacts with dopaminergic cells could explain motion perception disturbances in Parkinson's disease
Xavier Sanchez Saez, Isabel Ortuno-Lizaran, Carla Sánchez Castillo, Lorena Vidal-Gil, Victoria Maneu, Pedro Lax, Nicolas Cuenca (Spain)



16:00-17:00

POS Poster Session COS

- 31 T.028 Successful DWEK in persistent corneal edema secondary to subacute unexplained endotheliitis: 6-month follow-up
Pablo Cisneros-Arias, Ismael Bakkali El Bakkali, Guillermo P. Rivasés, Eva Núñez Moscarda, Marta Orejudo De Rivas, Marta Suñer, Julia Aramburu Clavería, Miguel Castillo Fernandez, Paula Casas Pascual, Javier Ascaso Puyuelo, Cristina Calvo Simon, Carla Sánchez Remacha (Spain)
- 32 T.029 Clinical and tomographic characteristics of anterior scleritis
Rym Maamouri, Safa Ben Aoun, Ouederni Meriem, Daoua Fatma, Aydi Zohra, Monia Cheour (Tunisia)
- 50 T.030 A screening tool to detect chronic ocular graft versus host disease in a hematology/ oncology outpatient setting
Emily Greenan, Elizabeth Vandenberghe, Eibhlin Conneally, Joan Ní Gabhann-Dromgoole, Conor Murphy (Ireland)
- 104 T.031 The association between ocular biometric components and corneal aberrations in elderly
Abbas Ali Yekta, Hasan Hashemi, Mehdi Khabazkhoob, Shima Mesbahi, Hadi Ostadi Moghaddam, Javad Heravian Shandiz, Yeganeh Yekta, Abbas Azimi Khorasani, Asieh Ehsaei (Iran)
- 140 T.032 Use of new biomaterials with amniotic membrane growth factors in corneal regeneration in vivo
Ayla Basasoro Garmendia, Iraia Reparaz, David Esporrín-Ubieto, Juliana Nunes, Javier Mendicutte, María Mercedes Fernandez, Damien Dupin, Marcelo Calderón, Aitor Diaz, Arantxa Acera (Spain)
- 148 T.033 Spontaneous corneal perforation in treatment-resistant MPO-ANCA-associated small vessel vasculitis
Karin Zehnder, Aja Reinhold, Konstantin Gugleta, Zisis Gatzioufas (Switzerland)
- 164 T.034 In vitro evaluation of sodium hyaluronate protective effect against benzalkonium chloride toxicity
Manuela Pizzano, Alexia Vereertbrugghen, Jeremias Galletti, Melina Sol del Papa, María Silvia Passerini (Argentina)
- 167 T.035 Raloxifene induced keratopathy: a case report
Haeun Sim, Jeonga Jeong, Min Ji Kang, Jehyung Hwang (South Korea)
- 171 T.036 Vortex-like keratopathy associated with cancer therapy
Tamara Shukair (Spain)
- 177 T.037 iOCT-assisted DSAEK tamponade for spontaneous corneal perforation with secondary bleb formation in pellucid marginal degeneration
Aja Reinhold, Hendrik Scholl, Zisis Gatzioufas (Switzerland)
- 194 T.038 SMAD2/3 activation and myofibroblast conversion of corneal fibroblasts is fully dependent on the activation of MELK by the noncanonical TGFβ1 pathway
Jose Wolosin, Zheng Wang, Audrey Bernstein (USA)
- 198 T.039 Intrastromal corneal ring segments implantation with the aid of a femtosecond laser in cases of mild to moderate keratoconus: a 3-year study
Evangelos Spanos, Spiros Atzamoglou, Georgios Kontadakis, Loukas Kontomichos, Georgios Mpsatos, Eustratios Paroikakis, Vasileios Peponis (Greece)
- 213 T.040 Keratitis fugax hereditaria - useful to consider when you have a child with non-specific corneal findings and symptoms
Annamari Immonen, Anna Majander, Sabita Kawan, Michael Backlund, Kristiina Vasara, Päivi Lindahl, Tero Kivelä, Joni Turunen (Finland)

Thursday
13 October 2022



- 228 T.041 Ocular surface health affects the quality of life of the elderly
Ulla Aapola, Janika Nättinen, Jaakko Tuomilehto, Sirkka Keinänen-Kiukaanniemi, Jouko Saramies, Hannu Uusitalo (Finland)
- 247 T.043 Osmoprotective and bioprotective effect of threalose 3% under desiccating conditions: an in vitro study
Melina Sol del Papa, María Silvia Passerini, Alejandro Berra (Argentina)
- 253 T.044 The link between anterior scleral thickness, corneal biomechanical response and ocular parameters
Neus Burguera Giménez, Amparo Díez Ajenjo, Noemi Burguera, Maria Josefa Luque Cobija, Celeste Briceno Lopez, M^a Carmen García-Domene, Cristina Peris-Martínez (Spain)
- 256 T.045 Application of Thealoz[®] Duo eye drops confers novel protective effects on the ocular surface of dry eye patients
Natarajan Perumal, Eunjin Jeong, Sarah Runde, Caroline Manicam, Norbert Pfeiffer, Franz Grus (Germany)
- 258 T.046 TCF4 trinucleotide repeat expansion in Finnish patients with Fuchs' endothelial corneal dystrophy
rf **Inka-Tuulevi Pettinen¹, Annamari Immonen¹, Joel Rämö^{1,2}, Aino Jaakkola¹, Kari Krootila¹, Maria Kaukonen¹, Hannes Lohi¹, Tero Kivelä¹, Joni Turunen¹ (¹Finland, ²USA)**
- 280 T.047 The effect of amniotic membrane proteins released by ocular inserts containing self-healing hydrogels
Arantxa Acera, David Esporin, Aitor Diaz, Juliana De Souza, Mercedes Fernandez, Jorge Burgos, Javier Zabalza, Xandr Pereiro, Marcelo Calderon, Damien Dupin, Elena Vecino (Spain)
- 288 T.048 Ophthalmic liposomal formulations using synthetic phospholipids for the treatment of dry eye disease
Miriam González-Cela Casamayor, José Javier López Cano, Vanessa Andrés-Guerrero, Marta Vicario de la Torre, José Manuel Benítez del Castillo, Rocío Herrero Vanrell, Irene T. Molina-Martínez (Spain)
- 297 T.049 Corneal fine-needle diathermy with intrastromal and subconjunctival injection of Bevacizumab in a child with corneal neovascularization of herpetic origin
Guillermo Pérez Rivasés, Ismael Bakkali El Bakkali, Marta Orejudo De Rivas, Pablo Cisneros Arias, Eva Josefina Nuñez Moscarda, Julia Aramburu Claveria, Miguel Castillo Fernandez, Marta Suñer Martinez, Patricia Ramiro Millán, Javier Ascaso Puyuelo (Spain)
- 316 T.050 Preliminary results of serial sessions of a newly developed at home device using low-level light therapy for the treatment of dry eye disease
Giovanna Carnovale Scalzo, Sabrina Vaccaro, Massimiliano Borselli, Vincenzo Scorgia, Giuseppe Giannaccare (Italy)
- 331 T.051 Nerve regeneration and corneal wound healing by ophthalmic formulations based on sodium hyaluronate, taurine, Vitamin B6 and Vitamin B12
Claudio Bucolo, Grazia Maugeri, Salvatore Giunta, Giovanni Luca Romano (Italy)
- 344 T.052 Corneal stroma densitometry evolution in a clinical model of cellular therapy for advanced keratoconus
Jorge Alio, Mona El Zarif, Jorge Alio del Barrio (Spain)
- 345 T.053 Macrophage infiltration in the cornea in a mouse model of sepsis
Susana Quirce, Kristy Tatiana Rodríguez Ramírez, Manuel Vidal-Sanz, Marta Agudo-Barriuso (Spain)
- 352 T.054 Comparing the efficacy of idroflog vs conventional artificial tears in patients with dry eye disease after cataract surgery
Giuseppe Giannaccare, Massimiliano Borselli, Costanza Rossi, Alessandra Mancini, Sabrina Vaccaro, Giovanna Carnovale Scalzo, Vincenzo Scorgia (Italy)
- 357 T.055 Snail track a in a case with anterior segment dysgenesis caused by a novel FOXC1 variant
Jana Jedličková, Pavlína Skalická, Lubica Dudakova, Petra Liskova (Czech Republic)



- 366 T.056 Characterization of tear dynamics
Darshan Ramasubramanian, José Manuel López Alonso, Jose Luis Hernandez Verdejo, David Madrid Costa (*Spain*)
- 368 T.057 Difference of corneal endothelial characteristics of diabetic and non-diabetic cataract patients who underwent phacoemulsification at Dr Saiful Anwar Hospital Malang
Nidia Astriani Yamin, Nina Handayani, Hidayat Sujuti (*Indonesia*)
- 370 T.058 Successful treatment of corneal perforation due to gonococcal keratoconjunctivitis with a combinations amniotic membrane transplantation and antibiotics
Dicky Putra Perdana, Ovi Sofia (*Indonesia*)
- 381 T.059 Investigating the use of translational readthrough inducing drugs in keratocytes from a mouse model of Brittle cornea syndrome
Chloe Stanton, Amy Findlay, Camilla Drake, Veronique Vitart (*United Kingdom*)
- 383 T.060 A mouse model of Brittle cornea syndrome type 2
Amy Findlay, Chloe Stanton, M. Mustafa, Camilla Drake, Veronique Vitart (*United Kingdom*)
- 387 T.061 DSAEK in corneal decompensation by Baikoff lens implant after traumatic cataract and superior iridodialysis
Julia Aramburu Clavería, Marta Suñer Martínez, Miguel Castillo Fernández, Marta Orejudo de Rivas, Pablo Andrés Cisneros Arias, Eva Josefina Núñez Moscarda, Ismael Bakkali El Bakkali, Guillermo Pérez Rivasés, Javier Ascaso Puyuelo (*Spain*)
- 420 T.062 Prevalence of dry eye disease based on body mass index in islamic boarding school population in rural Malang area
Mutiara Kristiani Putri, Herwindo Dicky Putranto, Rosy Aldina (*Indonesia*)
- 421 T.063 Hairline cracks in osteo-odonto-keratoprosthesis: an Achilles' heel
George Liu, Hasan Naveed, Christopher Liu (*United Kingdom*)
- 448 T.064 The monitoring of the speed of re-epithelization after refractive surgery performed with the method of Trans-PRK, with the use of Hydrocortisone sodium phosphate (Softacort)
Dimitris Sakellaris (*Greece*)
- 450 T.065 Patient-reported outcomes measurements in dry eye patients after 84 days of daily treatment with a preservative-free combination containing sodium hyaluronate and trehalose: the TEARS study
Antonio Mateo-Otobia¹, Olivier Chassany², Martin Duracinsky² (*¹Spain, ²France*)
- 461 T.066 Gene expression in tears of patients with dry eye disease and meibomian gland dysfunction treated with intensive pulsed light
rf
Carlos Vérges, Jose Manuel Salgado-Borges (*Spain*)
- 466 T.067 Corneal morphological and structural changes measured with pentacam induced by pterygium surgery
Mateo Villalba, Alejandro Tocón Argudo, Pilar Margarita Álvarez Fernández, Javier Benitez-del-Castillo Sanchez (*Spain*)
- 476 T.068 Correlation between biomechanical and endothelial corneal properties in myopic children
Maria-Cristina Corbu, Liliana Voinea, Valeria Coviltir, Speranta Schmitzer, Mihaela Constantin, Dana Dascalescu, Miruna Burcel, Radu Ciuluvica, Vasile Potop (*Romania*)
- 481 T.069 Visual and tomographic outcomes of a 330° arc-length ICRS implantation in moderate to advanced central keratoconus
André Ferreira, João Pedro Romano, Miguel Neves, Miguel Gomes, Luís Oliveira (*Portugal*)
- 483 T.070 Changes in corneal diameter in myopic children during 18 months randomly assigned to orthokeratology lenses or single-vision spectacles
Daniel Lazar, Trine Møldrup Jakobsen (*Denmark*)
- 499 T.071 New potential markers for Fuchs corneal endothelial dystrophy: a proteomic study



- rf* Inès Aouimeur¹, Hanielle Vaitinadapoule¹, Naoki Okumura², Noriko Koizumi², Philippe Gain¹, Gilles Thuret¹, Zhiguo He¹ (¹France, ²Japan)
- 502 T.072 Topical sevoflurane ocular toxicity: in vivo study
Denisse Michelle Espinosa Encalada, Raquel Maroto Cejudo, Carlos Cava Valenciano, Mónica Gómez-Juarez Sango, Victoria Adámoli Vidal, Fernando Andrés Pretel (*Spain*)
- 506 T.073 The use of preservative-free hydrocortisone in the postoperative treatment regimen after trans-PRK
Dimitris Sakellaris, Garitsis Panagiotis, Zachariadis Zachos, Miltos Balidis (*Greece*)
- 515 T.074 A model of the oxygen tension and consumption across the cornea under a contact lens with incorporation of blinking effects
Clara Lim, Paul Hainey, Neil Goodenough, Almudena Crooke-Alvarez, Maria Garcia-Montero (*Spain*)
- 520 T.075 Tear proteome profile in eyes with keratoconus after intracorneal ring segment implantation or corneal crosslinking
Nahia Goñi, Itziar Martínez-Soroa, Oliver Ibarrondo, Mikel Azkargorta, Felix Elortza, David Galarreta, Aritz Bidaguren, Leire Juaristi, Arantxa Acera (*Spain*)
- 526 T.076 Content identification for the multifocal contact lens patient-reported outcomes (MCL-PRO) instrument item bank
Elsa Albero Ros^{1,2}, Amalia Lorente-Velázquez², Mariano Gonzalez-Perez² (¹Portugal, ²Spain)
- rf* 537 T.077 Characterization of Descemet membrane of Fuchs endothelial corneal dystrophy by chromatic confocal microscopy
Hanielle Vaitinadapoulé, Zhiguo He, Alina Hamri, Justin Thomas, Philippe Gain, Frederic Mascarelli, Gilles Thuret, French Fuchs Study Group FFSG (*France*)
- 539 T.078 Succesfull systemic treatment of monoclonal gammopathy with corneal significance (MGCS) - a case report
Kitti Kormányos¹, Orsolya Németh¹, Achim Langenbacher², Zoltán Zsolt Nagy¹, Gergely Varga¹, László Gopcsa¹, Gábor Mikala¹, Nóra Szentmáry^{1,2} (¹Hungary, ²Germany)
- 548 T.079 Pseudo-double anterior chamber following deep anterior lamellar keratoplasty (DALK) with type 2 bubble formation
Neha Khanderia, Luis Garcia Onrubia, Mani Bhogal (*United Kingdom*)
- 575 T.081 Anterior segment optical coherence tomography for the detection and management of early keratoplasty complications
Molka Ferchichi, Ouederni Meriem, Hamdi Ben Ammar, Gharbi Zaienb, Nafaa Fehmy, Monia Cheour (*Tunisia*)
- 578 T.082 Agreement between anterior segment swept source-OCT and Scheimpflug imaging corneal aberration measurements in healthy eyes
Francisco Pérez Bartolomé, Rocío Vega Gonzalez, Jorge Peraza Nieves, Jose María Ruiz Moreno (*Spain*)
- 583 T.083 Repeatability of quantitative measurements of anterior segment analysis with swept-source AS-OCT in dry eye, ocular surface disease and healthy eyes
Alberto Recchioni¹, Alberto Domínguez-Vicent², Abinaya Priya Venkataraman², Graham Wallace¹, Saaeha Rauz¹ (¹United Kingdom, ²Sweden)
- 587 T.084 Anterior-segment swept-source ocular coherence tomography and Scheimpflug imaging agreement for keratometry and pupil measurements in healthy eyes
Francisco Pérez Bartolomé, Rocio Vega Gonzalez, Jorge Peraza Nieves, Jose María Ruiz Moreno (*Spain*)
- 588 T.085 Topical sevoflurane corneal toxicity: in vitro study
Raquel Maroto Cejudo, Denisse Michelle Espinosa Encalada, Carlos Cava Valenciano, Mónica Gómez-Juarez Sango, Maria Gomez Picazo, Fernando Andrés Pretel (*Spain*)



- 591 T.086 Effect of crystalline lens on visual quality in pterygium patients before surgery
Elena Arias-García, A. Susana Ortí Navarro, Amparo Díez Ajenjo, M^a Carmen García-Domene, Maria Josefa Luque Cobija, Cristina Peris Martínez (Spain)
- 596 T.087 Validation of the CD11c-DTR transgenic mouse as a model to study neuroimmune interactions in the cornea
Laura Frutos-Rincón, Maria José Rincón-Frutos, M. Carmen Acosta, Juana Gallar (Spain)
- 600 T.088 Stenotrophomonas maltophilia keratitis: the relevance of antibiotics sensitivity testing
Damián García Navarro, Andrés Biescas Merino, Jacobo Yáñez Merino, Mario García Hermosín, Inés Munuera Rufas (Spain)
- 605 T.089 Effects of contact lens wearing on corneal sensitivity and reflex functions
José Ángel Pastor-Zaplana, Juana Gallar, M. Carmen Acosta (Spain)
- 625 T.090 Preoperative noninvasive screening of dry eye in patients scheduled for cataract surgery
Sabrina Vaccaro, Giovanna Carnovale Scalzo, Costanza Rossi, Massimiliano Borselli, Alessandra Mancini, Giovanna Lionetti, Benedetta Fratto, Pietro Bianchi, Giovanni Scalia, Vincenzo Scorgia, Giuseppe Giannaccare (Italy)
- 626 T.091 Wesseley, a perfect immune ring
Mario García Hermosín, Inés Munuera Rufas, Damián García Navarro, Andrés Biescas Merino, Jacobo Yáñez Merino (Spain)
- 632 T.092 Psychometrics properties of a new scale to evaluate the impact of dry eye on daily life and the patient satisfaction using eye drops
Martin Duracinsky, Olivier Chassany, Alexandros Gryparis, Alice Bodeveix (France)
- 633 T.093 Comparative analysis of posterior cornea between hydrops in keratoconus and Haab's striae in primary congenital glaucoma
rf **Karthikeyan Mahalingam, Sohini Mandal, Abhishek Singh, Seema Sen, Jeewan Titiyal, Shikha Gupta, Viney Gupta (India)**
- 635 T.094 Ex vivo models of corneal epithelial regeneration in bioreactor: respective roles of limbal, conjunctival and corneal epithelia
Zhiguo He, Chantal Perrache, Sylvain Poinard, Fabien Forest, Inès Aouimeur, Louise Coulomb, Olfa Ben Moussa, Hanielle Vaïtinadapoulé, Benjamin Peyret, Oliver Dorado Cortez, Tomy Sagnial, Marielle Mentek, Emmanuel Couzet, Sébastien Urbaniak, Jean-Marie Papillon, Corantin Maurin, Sandrine Ninotta, Frederic Mascarelli, Philippe Gain, Gilles Thuret (France)
- 636 T.095 Peripheral sterile corneal ring infiltrate after accelerated corneal cross-linking - a case report
Tobias Suppiger, Reinhold Aja, Gkatzioufas Zisis (Switzerland)
- 646 T.096 Corneal epithelial microcysts as side effect of belantamab mafodotin: management and evolution
Yolanda Cifre Fabra, Álvaro Andrés Ojeda Parot, Patricia Bayo Calduch, Antonio M. Duch-Samper (Spain)
- 647 T.097 Determining subclinical edema in fuchs endothelial corneal dystrophy: Scheimpflug versus anterior segment optical coherence tomography
rf **Oliver Dorado Cortez, Emmanuel Couzet, Sylvain Poinard, Philippe Gain, Thibaud Garcin, Naoki Okumura, Noriko Koizumi, Gilles Thuret (France)**
- 659 T.098 Ophthalmological clinical characteristics of patients with diagnosis of scleritis at the National Institute of Rehabilitation in Mexico
Martha Fuentes, Dulce Pérez (Mexico)
- 668 T.099 Acute phase of epidemic keratoconjunctivitis: management in practice
Racem Choura, Jihene Sayadi, Dhouha Gouider, Haythem Raihan, Manel Mekni, Nourhene Aidi, Imene Zeghal, Ines Malek, Leila Nacef (Tunisia)



- 675 T.100 The effect of chlorhexidine, povidone-iodine and betadine antiseptic eye drops on cultured human conjunctival goblet cell survival
Rubin Hadad (*Denmark*)
- 714 T.101 Keratoconus and personality traits: a case-control study
Francesco Aiello, Gabriele Gallo Afflitto, Francesca Ceccarelli, Carlo Nucci (*Italy*)
- 715 T.102 A novel technique of amniotic membrane suturing for ex vivo cultivated limbal epithelial stem cell expansion increases the number of progenitor cells
Jovana Bisevac, Morten Carstens Moe, Goran Petrovski, Agate Noer (*Norway*)
- 716 T.103 The incidence of complications related to the corneal graft in the group of 758 patients
Dominika Szkodny, Ewa Wróblewska-Czajka, Adam Wylegala, Edward Wylegala (*Poland*)
- 738 T.104 The use of anterior segment optical coherence tomography in infectious keratitis
Asma Hassairi, Fahd Jendoubi, Ines Fendouli, Rim Limaiem, Leila El Matri (*Tunisia*)
- 750 T.105 Lax eyelid condition and floppy eyelid syndrome prevalence in obstructive sleep apnoea syndrome patients: a systematic review and meta-analysis
Francesca Ceccarelli¹, Gabriele Gallo Afflitto^{1,2}, Mario Alessandri Bonetti¹, Massimo Cesareo¹, Francesco Aiello¹, Carlo Nucci¹ (*¹Italy, ²USA*)
- 751 T.106 Toxic conjunctivitis due to cosmetics: description of the pathology and evaluation of topical treatment with unpreserved hydrocortisone 3.35 mg/ml and ketotifen 0.25 mg/ml
Agni Mokka, Konstadinos G. Boboridis (*Greece*)
- 755 T.107 Corneal neoformation in a patient with Crohn's disease
Luisa Fernanda Vera, Gabriella Gallarate, Carla Angela Zavattero (*Italy*)
- 758 T.108 Fish-eye disease: ocular characteristics in anterior-segment optical coherence tomography of a patient with lecithin-cholesterol acyltransferase deficiency
Ismael Bakkali El Bakkali, Pablo Cisneros Arias, Guillermo Pérez Rivasés, Eva Josefina Núñez Moscarda, Marta Orejudo de Rivas, Miguel Castillo Fernández, Marta Suñer Martínez, Francisco Javier Ascaso Puyuelo, María Ángeles Del Buey Sayas (*Spain*)
- 778 T.109 Evaluation of risk factors for recurrence by anterior segment optical coherence tomography in pterygium surgery
Marina Aguilar González, Cristina Peris-Martínez, Isabel Pascual Camps, Ana Hervás Ontiveros, Emma Marín Payá, Enrique España Gregori (*Spain*)
- 781 T.110 Tear film stability in dry eye syndrome: time and break-up patterns
Vanessa Gallo, Fabrizio D'Ancona, Alessia Panzeri, Paolo Nucci, Edoardo Villani (*Italy*)
- 789 T.111 The ROCK-inhibitor ripasudil suppresses the expression of extracellular matrix proteins in Fuchs endothelial corneal dystrophy
Maria Strunz, Matthias Zenkel, Ursula Schlötzer-Schrehardt, Friedrich Kruse (*Germany*)
- 808 T.112 Neuropathic corneal pain impacts patient's quality-of-life dimensions more than dry eye disease
Leyla Mirzaee, Akhil Meka, Maria Lopez, Arsia Jamali, Gabriela Dieckmann, Dilruba Koseoglu, Navneet Ramesh, Bijan Khasksari, Stephanie Cox, Pedram Hamrah (*USA*)



16:00-17:00

POS Poster Session EOVS

- 44 T.113 Occipital cortex activity in response to melanopsin in healthy humans
Astrid Minier¹, Corinne Kostic¹, Murray Micah M.^{1,2}, Aki Kawasaki¹ (¹Switzerland, ²USA)
- 51 T.114 The relationships between mesopic light sensitivity and macular inner and outer retinal layer thicknesses in older healthy adults
María Puell, Carolina Moreira-Estebanz, Melisa Remis-Gonzalez, Juan Cedrun-Sanchez (Spain)
- 56 T.115 Point-of-care diagnostic devices for dry eye disease
Yuqi Sh, Yubing Hu, Ali Yetisen (United Kingdom)
- 89 T.116 Relationship between ganglion cell complex thickness and brief presentation stimuli - visual acuity across foveal and parafoveal locations in healthy eyes
M^o Jesús Pérez-Carrasco, Erika Sarco Silva, Claudia Sacristán Marcos, María Puell (Spain)
- 138 T.117 The impact of visual impairment and other risk factors on health-related quality of life among people living in retirement homes in Armenia
Aida Giloyan, Ani Babayan, Tsovinar Harutyunyan, Varduhi Petrosyan (Armenia)
- 153 T.118 Oxygen metabolic retinal function in retinitis pigmentosa correlates with disease severity
rf **Olga Maria Zabek, Giacomo Calzetti, Dominique Prétot, Hendrik Peter Nicolas Scholl, Maria della Volpe** (Switzerland)
- 156 T.119 Metabolic long-term monitoring of transcorneal electrical stimulation in retinitis pigmentosa
Olga Maria Zabek¹, Nesrin Meral¹, Hanna Camenzind Zuche¹, Ursula Müller¹, Dominique Prétot¹, Annkatrin Rickmann², Hendrik Peter Nicolas Scholl¹, Maria della Volpe Waizel¹ (¹Switzerland, ²Germany)
- 173 T.120 Longitudinal OCT texture analysis to assess the retinal changes in the triple-transgenic mouse model of Alzheimer's disease
rf **Rui Bernardes, Maryam Ghalati, Hugo Ferreira, João Martins, Pedro Guimarães, Paula Moreira, António Ambrósio, Miguel Castelo-Branco, Pedro Serranho** (Portugal)
- 174 T.121 Age-related changes in mesopic macular light sensitivity in healthy eyes
Carolina Moreira-Estebanz, Melisa Remis-Gonzalez, Juan Cedrun-Sanchez, María Puell (Spain)
- 234 T.122 Effect of filters on the accommodation and colour discrimination
rf **Alberto Dominguez-Vicent, Abinaya Venkataraman** (Sweden)
- 255 T.123 Assessment of the impact of an early acute immune challenge on the diabetic retina
rf **Hugo Fernandes, Alexandra Cruz, Raquel Boia, Rita Gaspar, Sara Nunes, Filipa Baptista, António Francisco Ambrósio** (Portugal)
- 266 T.124 Value of ophthalmological psychophysical test and MEG in subjects at high risk for sporadic Alzheimer's disease
rf **Inés López-Cuenca, Elena Salobrar-Garcia, Lidia Sanchez-Puebla, Rosa De Hoz, Alberto Nebreda, Alejandra García-Colomo, Ricardo Bruña, Federico Ramírez-Toraño, Ana Barabash, Pedro Gil, Fernando Mestú, Jose Manuel Ramirez, Ana Isabel Ramirez, Juan Jose Salazar** (Spain)
- 339 T.125 Comparison of ocular aberrations and retinal image quality provided by a validated aberrometer and a new open field aberrometer for VEMoS project
Jorge Alio, Antonio Martínez-Abad, Marina José-Martínez, Paula Mira-López (Spain)
- 359 T.126 Validation of a novel software-based platform to extract oculometric measures
rf **Eitan Raveh, Assaf Ben Shimon, Vova Anisimov, Edmund Ben-Ami, Rivka Kreitman, Micha Breakstone** (Israel)

Thursday
13 October 2022



- 371 T.127 Development of e-Health technologies for Big Data Analysis in contact lens
Youssef Marrakchi Chikri^{1,2}, Jose Manuel Lopez Alonso¹, Nuria Garzón¹, Mariano Gonzalez-Perez¹
(¹Spain, ²Portugal)
- 434 T.128 Ocular biometric dimensions according to gender. Are they different?
rf **J.M. Vilaplana-Mora, Irene Gil Hernández, José-Miguel Hervás Hernandis, F. Alarcón-Correcher, Ana López Montero, L. Vidal-Oliver, Antonio M. Duch-Samper** (Spain)
- 455 T.129 A novel tool to study bipolar cell responses in glaucoma
rf **Alejandro Gallego Ortega^{1,2}, Yukihiro Siga², Deborah Villafranca-Baughman², Heberto Quintero², Manuel Vidal-Sanz¹, Adriana Di Polo²** (¹Spain, ²Canada)
- 460 T.130 Characterization of rotational symmetry and noise in multifocal contact lens power maps
Alicia López Raso, Jose Manuel Lopez Alonso, Javier Ruiz Alcocer, Elena Durán Prieto, Mercedes Burgos Martínez, Neil Goodenough (Spain)
- 480 T.131 Perceived prescription for multifocal contact lenses
Alicia López Raso, Jose Manuel Lopez Alonso, Javier Ruiz Alcocer, Elena Durán Prieto, Mercedes Burgos Martínez, Neil Goodenough (Spain)
- 491 T.132 Visual impairment in Malta - Preliminary data from The Malta Eye Study
rf **David Agius, Daniel Cassar, Julian Mamo, Francis Carbonaro** (Malta)
- 654 T.133 The Impact of cannabis consumption on visual processing
Melanie Lalonde¹, Hong-An Nguyen¹, Fargol Mostofian¹, Rustum Karanjia^{1,2}, Stuart Coupland¹
(¹Canada, ²USA)
- 678 T.134 Leber hereditary optic neuropathy (LHON): retinal structure and function correlations
Sanja Petrovic Pajic^{1,2}, Mirella Barboni³, Maja Sustar Habjan¹, Marko Hawlina¹ (¹Slovenia, ²Serbia, ³Hungary)
- 804 T.136 Evidence for visual cortical plasticity in retinitis pigmentosa
Miguel Castelo-Branco, Joana Sampaio, Eduardo Silva, Sónia Ferreira, Otilia C. d' Almeida (Portugal)

16:00-17:00

POS

Poster Session IM

- 42 T.137 Analysis of vitreous immunity using OCT in rats with steroid-induced glaucoma
María Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Ines Munuera, Alberto Montolio, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordon Ciordia, Luis Pablo (Spain)
- 248 T.138 Orbital myositis associated with rheumatoid arthritis: a systematic review of clinical features and paraclinical data
Javad Mahdavi (Iran)
- 249 T.139 New onset of acute uveitis following COVID-19 vaccination
Haeun Sim, Jeonga Jeong, Min Ji Kang, Jehyung Hwang (South Korea)
- 321 T.140 Clinical manifestations, laboratory characteristics, and treatment outcomes of ocular syphilis: a case series
Catarina Ferreira, Sofia Teixeira, Sofia Fonseca (Portugal)



- 574 T.141 Ocular surface manifestations and SARS-CoV-2 RNA detection in conjunctival swabs of patients hospitalized for COVID-19 pneumonia: a Belgian cohort
Zsuzsanna Valyi, Maria Khalil, Sigi Van den Wijngaert, Deborah Konopnicki, François Willermain, Marie Bruyneel (Belgium)
- 620 T.142 Multiple sclerosis and occlusive retinal vasculitis: a case series
rf **Maria Khalil, Tom Buelens, Serena Borrelli, Julien Vanderhulst, François Willermain, Dorine Makhoul, Aurelie Le (Belgium)**
- 627 T.143 Human palpebral infestation by mysterious laying eggs: a case report
Hakami Sina, Correa Simon, Miendje Deyi Veronique Yvette, Azzagnuni Younes, Willermain François, Makhoul Dorine, Le Aurelie (Belgium)
- 665 T.144 A unique case report of Vogt-Koyanagi-Harada syndrome following COVID-19 vaccination
Vanessa Lee, Wenting Zhou (Singapore)
- 723 T.145 Ocular syphilis in a patient with human immunodeficiency virus (HIV) co-infection
Nourhene Aidi, Jihene Sayadi, Manel Mekni, Dhouha Gouider, Racem Choura, Haythem Raihan, Imene Zeghal, Ines Malek, Leila Nacef (Tunisia)

16:00-17:00

POS Poster Session PO

- 103 T.146 Adjuvant ruthenium- plaque brachytherapy in the treatment of conjunctival melanoma
Luise Grajewski, Lothar Krause (Germany)
- 158 T.147 Comparison of two primary intraocular lymphoma experimental murine models
rf **Eva Skrlova, Eva Uherkova, Diana Malarikova, Aneta Klimova, Petra Svozilkova, Peter Kesa, Petr Matous, Vit Herynek, Tomas Kucera, Pavel Klener, Jarmila Heissigerova (Czech Republic)**
- 229 T.148 Report of two cases of subconjunctival haemorrhage as first sign of post-pregnancy acquired hemophilia A (AHA)
Mario Fruschelli, Davide Marini, Diego Luciani, Federico Caroni, Luca Puccetti (Italy)
- 303 T.149 Inter-observer variability in MRI-based target volume delineation of uveal melanoma
rf **Jan-Willem Beenakker¹, Myriam Jaarsma-Coes¹, Lisa Klaassen¹, Berit Verbist¹, Khanh Vu¹, Yvonne Klaver¹, Myra Rodrigues¹, Claire Nabarro¹, Gre Luyten¹, Marcel Van Herk², Coen Rasch¹ (¹The Netherlands, ²United Kingdom)**
- 309 T.150 Choroidal haemangioma and its multimodal diagnosis: a case report
Guillermo Pérez Rivasés, Ismael Bakkali El Bakkali, Marta Orejudo De Rivas, Pablo Cisneros Arias, Eva Josefina Nuñez Moscarda, Julia Aramburu Clavería, Miguel Castillo Fernandez, Marta Suñer Martinez, Olivia Esteban Floria, Javier Ascaso Puyuelo (Spain)
- 337 T.151 MR-based follow-up after brachytherapy and proton beam therapy in uveal melanoma
rf **Michael Tang, Teresa Ferreira, Myriam Jaarsma-Coes, Lisa Klaassen, Marina Marinkovic, Khanh Vu, Coen Rasch, Carien Creutzberg, Nanda Horeweg, Yvonne Klaver, Myra Rodrigues, Gregorius Luyten, Jan-Willem Beenakker (The Netherlands)**
- 341 T.152 Use of freeze-dried amniotic membrane of umbilical cord (hAM-UC) as scleral patch after conjunctival tumor excision surgery
rf **Sacha Nahon-Esteve, Laurence Barnouin, Jean Pierre Caujolle (France)**



- 514 T.155 Postural exophthalmos caused by orbital varix
Marta Orejudo deRivas, Eva Núñez Moscarda, Guillermo Pérez Rivasés, Julia Aramburu Claveria, Pablo Cisneros Arias, Marta Suñer Martínez, Ismael Bakkali el Bakkali, Miguel Castillo Fernández, Jesus Castillo Laguarda (Spain)
- 536 T.156 Outcomes from a new surgical procedure in lower eyelid reconstruction: marginal approach to releasing the lid with closure handling technique (MARCH technique)
Anna March De Ribot, Francesc March De Ribot (France)
- 612 T.157 Clinical features and multimodal imaging findings in primary vitreoretinal lymphoma
Faten Cherif, Abroug Nesrine, Belguith Yassine, Jeribi Mohamed, Sonia Attia, Moncef Khairallah (Tunisia)
- 730 T.158 Orbital hemangioma with atypical spontaneous resolution
Manuel Almarcha Menargues, Juan Antonio Sánchez Perea, Maria Victoria Navarro Abellán, Carmen Miquel López (Spain)
- 754 T.159 Aflibercept as a treatment for neovascular membrane associated with choroidal osteoma
Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Maria Victoria Navarro Abellán, Carmen Miquel López (Spain)
- 759 T.160 Mechanical ptosis as presentation of orbital lymphoma
Ines Munuera, Damian García Navarro, Andrés Biescas Merino, Jacobo Yañez Merino, Mario García Hermosín, Laura Gil Arribas, Laura Lavilla García (Spain)



Poster Session 2

Moderators: Piero Barboni (*Italy*), Elena Milla (*Spain*), Lieve Moons (*Belgium*), Maria Pilar Rojas Lozano (*Spain*)

14:45-15:45

POS Poster Session G

- 8
rf F.001 Selective laser trabeculoplasty (SLT) in eyes with angle recession glaucoma
Rhizlane Abdi (*Morocco*)
- 15 F.002 Effect of idiopathic epiretinal membrane on the macular ganglion cell complex measurement in eyes with glaucoma
Shunsuke Nakakura, Ryo Asaoka, Satomi Oogi, Ryota Aoki, Kanae Matsuya, Etsuko Terao, Yoshiaki Kiuch (*Japan*)
- 19 F.003 Subjective risk factors of glaucoma in miopic students
Veronika Antonyan (*Russian Federation*)
- 35 F.004 Bleb independent glaucoma surgery to activate uveolymphatic route of non-trabecular aqueous humor outflow pathway - 1-year results
Vinod Kumar, Kamal Abdulmuhsen Abu Zaalán, Zarina Rustamova, Mikhail Frolov, Andrej Bezzabotnov, Galina Dushina, Ahmad Shradqa (*Russian Federation*)
- 65
rf F.005 Validation of anterior segment OCT in detecting angle dysgenesis in glaucoma using Artificial Intelligence
Shweta Birla Dhakonia¹, Viney Gupta¹, Toshit Varshney¹, Bindu Somarajan¹, Shikha Gupta¹, Mrinalini Gupta², Karthikeyan Mahalingam¹, Abhishek Singh¹, Dinesh Gupta¹ (¹*India*, ²*Germany*)
- 75 F.006 Chronic glaucoma in rats induced by single injection of fibronectin-loaded PLGA microspheres
Ines Munuera, Manuel Subías Perié, Lorena Arias Campo, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordón Ciordia, Luis Pablo, Maria Jesus Rodrigo (*Spain*)
- 77 F.007 Comparing MicroShunt outcomes between first and second operated eyes
Michael Xiangchen Fu, Eduardo Maria Normando, Philip Bloom (*United Kingdom*)
- 87 F.008 Rho kinase inhibitor for primary open-angle glaucoma and ocular hypertension - a Cochrane systematic review
Josefine Clement Freiberg¹, Alexander von Spreckelsen¹, Augusto Azuara-Blanco², Miriam Kolko¹, Gianni Virgili³ (¹*Denmark*, ²*United Kingdom*, ³*Italy*)
- 90 F.009 Neurodegeneration in chronic glaucoma analyzed according to different hypertensive models induced in rats
Manuel Subías Perié, Lorena Arias Campo, Ines Munuera, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordón Ciordia, Luis Pablo, Maria Jesus Rodrigo (*Spain*)
- 97 F.010 Adaptive chin rest device for optimizing visual field testing
Sepideh Jamali Dogahe, Adam Wentworth, Mostafa Sadeghmousavi, Sunil Khanna, Cheryl Khanna (*USA*)
- 98 F.011 Ocular surface assessment of preserved and preservative-free brimonidine tartrate in glaucoma patients: a parallel-grouped comparison trial
Myungjin Kim, Seungsoo Rho, Chang Kyu Lee, Ko Eun Kim, Jonghoon Shin, Eunsol Kim (*South Korea*)
- 112 F.012 Estimation of the adherence to Mediterranean diet by Greek glaucomatous patients
Ioanna Vlachogianni, Klio Chatzistefanou, Konstantinos Droutsas, Marilita Moschos (*Greece*)

Friday
14 October 2022



- 124 F.013 Cyclodiode vs micropulse transscleral laser treatment
Monica Kelada, Philip Bloom, Eduardo Maria Normando (*United Kingdom*)
- 125 F.014 VEGF levels in the aqueous humor of patients with primary open angle glaucoma: a systematic review and a meta-analysis
rf
Georgios Dimtsas, Anastasia Tsiogka, Marilita Moschos (*Greece*)
- 126 F.015 Implantation of a novel glaucoma drainage with a small lumen silicone tube in rabbits: a pilot study
rf
Myungjin Kim, Seungsoo Rho, Jongchul Han, Eunsol Kim, Hae Rang Kim (*South Korea*)
- 127 F.016 Ocular hypo pressure treatment in rats with chronic glaucoma: refractive, functional and structural neuroretinal study
Lorena Arias Campo, Ines Munuera Rufas, Manuel Subías Perié, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordón Ciordia, Luis Pablo, Maria Jesus Rodrigo (*Spain*)
- 131 F.017 Evaluation of generated synthetic OCT images in deep-learning models for glaucoma detection
rf
Damon Wong, Ashish Jith, Rachel Chong, Jonathan Crowston, Jacqueline Chua, Inna Bujor, Rahat Hussain, Eranga Vithana, Michael Girard, Daniel Ting, Cheng Ching-Yu, Tin Aung, Alina Popa-Cherecheanu, Leopold Schmetterer (*Singapore*)
- 135 F.018 Efficacy of a standardized intracameral combination of mydriatics and anesthetic (Mydrane®) for cataract surgery in patients with concomitant primary open angle glaucoma
Matteo Ripa, Giovanni Cuffaro, Maria Cristina Savastano, Giulia Grieco, Stanislao Rizzo, Francesco Ricci (*Italy*)
- 143 F.019 ELAVL1/HuR regulates both endo- and exogenous neuroprotection in retinal ganglion cells
Adrian Smedowski¹, Anna Pacwa¹, Xiaonan Liu^{1,2}, Joanna Machowicz¹, Piotr Rodak¹, Marita Pietrucha-Dutczak¹, Saeed Akhtar³, Marialaura Amadio⁴, Joanna Lewin-Kowalik¹ (¹*Poland*, ²*Finland*, ³*Saudi Arabia*, ⁴*Italy*)
- 165 F.020 Unique Roberts syndrome presentation with bilateral congenital glaucoma in a Saudi baby; a case report
Amar Almulhim, Basamat Almoallem, Ehab Alsirhy, Essam Osman (*Saudi Arabia*)
- 166 F.021 Bilateral multiple ciliary body cysts with angle-closure glaucoma in 18-year-old patient: a case report
Amar Almulhim (*Saudi Arabia*)
- 188 F.022 Acute glaucoma secondary to posterior scleritis uveal effusion syndrome
Maria Victoria Navarro Abellán, Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Carmen Miquel López, Elena Rubio Velázquez, Celia Gómez Molina, José Javier García Medina (*Spain*)
- 216 F.023 Evaluation of the neuroprotective effect of metformin in diabetic patients with glaucoma
rf
Alessio Martucci, Federico Carlucci, Andrea Satriano, Massimo Cesareo, Rossella Russo, Carlo Nucci (*Italy*)
- 217 F.024 Glaucoma and cardioprotective medication
Anna Horwitz, Marc Klemp, Jens Andreasen, Henrik Horwitz, Josefine Freiberg, Christian Torp-Pedersen, Miriam Kolko (*Denmark*)
- 233 F.025 Precision and agreement of individual and simultaneous volumetric measurements with optical coherence tomography in healthy and glaucoma subjects
Abinaya Venkataraman, Johan Hedström, Loujain Al-Soboh, Alberto Dominguez-Vicent (*Sweden*)
- 252 F.026 Association between parapapillary choroidal microvasculature and prognosis of optic neuritis
Hyoung Won Bae, Jihei Lee, Chan Yun Kim (*South Korea*)
- 287 F.027 Comparative evaluation of corneal characteristics in eyes of primary congenital glaucoma and Axenfeld-Rieger syndrome
Karthikeyan Mahalingam, Venkatesh Nathiya, Abhishek Singh, T.C. Nag, Seema Sen, Jeewan Titiyal, Viney Gupta, Shikha Gupta (*India*)



- 291 F.028 Comparative analysis between early and late onset primary angle closure glaucoma
Shikha Gupta, Shruti Sapkal, Tanuj Dada, Suresh Yadav, Viney Gupta (India)
- 296 F.029 Outcomes of newly referred patients with suspected angle closure: do we need to redefine the clinical pathways?
Akshay Narayan, Winnie Nolan, Aneela Raja, Neil Nathwani, Sergio Bordajandi Tur, Rachel Thomas, Andrew Scott, Alessandra Martins, Panayiota Founti (United Kingdom)
- 299 F.030 Biological processes and clinical variables affecting trabeculectomy surgery outcome
Janika Nättinen, Ulla Aapola, Praveena Nukareddy, Fabian Gielen, Anu Vaajanen, Hannu Uusitalo (Finland)
- F.031 Acute omega-3 fatty acid supplementation confers novel neurovascular-protective effects on the retinal and ophthalmic arterial proteome of Cyp2c44^{-/-} mice
Caroline Manicam, Anna Herfurth, Franz Grus, Norbert Pfeiffer, Natarajan Perumal (Germany)
- 302 F.032 Evaluation of intravitreal injection of blank microspheres in a new chronic glaucoma rat model
Alba Aragón, David García-Herranz, Maria Jesus Rodrigo, Manuel Subías Perié, Silvia Mendez-Martínez, Lorena Arias, Ines Munuera, Julián García-Feijoó, Luis E. Pablo, Elena Garcia-Martin, Rocío Herrero Vanrell, Irene Bravo-Osuna (Spain)
- 310 F.033 The effect of preserved glaucoma eye drops exposure on glaucoma surgery prevalence and surgical failure in a French nationwide study between 2009 and 2017
Chloé Chamard, Alain Bron, Fouad Faysoil, Eloi Debourdeau, Max Villain, Christophe Baudouin, Vincent Daen (France)
- 311 F.034 Analysis of glaucoma genes in Finnish patients with juvenile open-angle glaucoma
Perttu Liuska, Abdesallam Tadj, Pauliina Repo, Juho Hiltunen, Michael Backlund, Reetta-Stiina Järvinen, Eeva Ojanen, Anna Majander, Tero Kivelä, Mika Harju, Joni Turunen (Finland)
- 318 F.035 Uveal effusion after trabeculectomy: management challenges
Monia Cheour, Slim Nouri, Yosra Abid, Hela Sassi, Ouederni Meriem (Tunisia)
- 330 F.036 Respiratory comorbidities. Looking ahead to new glaucoma risk factors
Maria Dolores Pinazo-Duran, Nuria Sala-Grau, Elena Millá-Griñó, Irene Andrés-Blasco, Jose M. Bolarin-Guillen, Alex Gallego-Martinez, Jose J. Garcia-Medina, Javier Cruz-Espinosa, Javier Benitez-Del-Castillo, F. Javier Hernández-Martínez, Vicente Zanon-Moreno (Spain)
- 346 F.037 Association of visual acuity and vessel density in glaucoma patients with myopia
Seong Ah Kim, Chan Kee Park, Hae-Young Lopilly Park (South Korea)
- 355 F.038 The impact of anticoagulants on the risk of glaucoma: a nationwide retrospective study in the Danish population
Jens Rovelt Andreasen, Anna Horwitz, Christian Torp-Pedersen, Marc Klemp, Henrik Horwitz, Miriam Kolko (Denmark)
- 361 F.039 Macular and peripapillary microvascular changes in open angle glaucoma and ocular hypertension: a longitudinal study using optical coherence tomography angiography (OCT-A)
Maria del Mar Schilt-Catafal, Vicente T. Pérez-Torregrosa, Antonio M. Duch-Samper (Spain)
- 401 F.043 Acute bilateral glaucoma related to uveal effusion syndrome associated with topiramate
Carmen Miquel López, Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Maria Victoria Navarro Abellán, Celia Gómez Molina (Spain)
- 403 F.044 What are the parameters associated with the structural damagedifferences in open-angle glaucoma?
Sung Eun Park (South Korea)
- 406 F.045 "The glaucoma NO-ctail". The use of vasodilators and OCT-A in ischemic optic-nerve: case report
Dimitris Tsigkos, Chrisanthi Theodorou, Konstantina Gkogkou, Euthimios Zouzoulas, Vasileios Tsigkos (Greece)



- 423 F.047 Periosteal graft and conjunctival pedicle flap for re-exposed glaucoma drainage device tube
Rahajeng Anugraing Saldianovitta, Aulia Abdul Hamid, Debby Shintiya Dewi (*Indonesia*)
- 456 F.048 Plasma rich in growth factors as an adjuvant agent in non-penetrating deep sclerectomy
Pedro Pablo Rodriguez-Calvo, Ignacio Rodriguez-Una, Montserrat García, Hector Gonzalez-Iglesias, Andres Fernandez-Vega-Cueto, Jesus Merayo-Llodes (*Spain*)
- 458 F.049 Determination of the activation regions of three deep learning models in infrared images of glaucoma
Valentín Tinguaro Díaz-Alemán, Sandra Gómez Perera, Francisco José Fumero Batista, Silvia Alayón Miranda, Rafael Arnay del Arco, José Francisco Sigut Saavedra (*Spain*)
- 477 F.050 Modulation of retinal cytokine expression by Saffron in an experimental glaucoma model
José A. Fernández-Albarral, Miguel A. Martínez-López, Elena Salobrar-Garcia, Beatriz Martín-Sánchez, Diego San Felipe, Inés López-Cuenca, Eva M. Marco, Juan Jose Salazar, Rosa De Hoz, Jose Manuel Ramirez, Meritxell López-Gallardo, Ana Isabel Ramirez (*Spain*)
- 482 F.051 Retinal macroglial activation over time in an experimental glaucoma model
José A. Fernández-Albarral, José A. Matamoros, Lejing Chen, Elena Salobrar-Garcia, Inés López-Cuenca, Lidia Sanchez-Puebla, María Pilar Rojas Lozano, Rosa De Hoz, Jose Manuel Ramirez, Juan Jose Salazar, Ana Isabel Ramirez (*Spain*)
- 490 F.052 Do patient- and intervention-related characteristics determine the response to mindfulness meditation? A meta-analysis of the intraocular pressure change in 1119 glaucomatous eyes
Abdelaziz Abdelaal^{1,2}, Mohamed Fouda², Ali Monir², Mohame Elhabib², Abdul Rhman Hassan², Heba Fouda², Basant Katamesh², Basel Abdelazeem¹, Tanuj Dada³ (¹USA, ²Egypt, ³India)
- 540 F.053 Intraocular pressure changes at high altitude
India Mayhook-Walker, Jessica Westwood, Ciaran Simpkins, Eduardo Normando, Daniel Morris, Andrew Darby-Smith (*United Kingdom*)
- 546 F.054 Structure-function relationship between central visual field and macular parameters in glaucoma patients
Cristina Ye-Zhu, Laura Diez-Alvarez, Laia Jaumandreu, Fernando Huelin, Ana Diaz-Montealegre, Elisa González-Pastor, Alvaro Martin-Ares, Gema Rebolleda, Francisco Muñoz-Negrete (*Spain*)
- 556 F.055 Cross-sectional surface area of the nerve fiber layer in the optic nerve head in glaucomatous and non-glaucomatous individuals
Konstancija Kisonaite, Zhaohua Yu, Per Soderberg (*Sweden*)
- 560 F.056 Adeno-associated virus (AAV) knock-down of amyloid precursor protein attenuates retinal ganglion cell degeneration in experimental glaucoma
Angela Godinez, Rashi Rajput, Nitin Chitranshi, Vivek Gupta, Stuart Graham (*Australia*)
- 561 F.057 *rf* Optical coherence angiography of optic disc in eyes with primary open-angle glaucoma and normal tension glaucoma with equal levels of structural damage
Ioannis Halkiadakis, Elpida Kollia, Vasilis Tzimis, Michalis Tzakos (*United Kingdom*)
- 576 F.058 Loss of neuroserpin exacerbates retinal ganglion cell dysfunction in neuroserpin knockout mice following chronic increase in intraocular pressure
Rashi Rajput, Nitin Chitranshi, Angela Godinez, Kanishka Pushpitha, Devaraj Basavarajappa, Vivek Gupta, Stuart Graham (*Australia*)
- 579 F.059 Glaucoma management in pregnancy, how safe glaucoma medication are?
Leyla Ali Aljasim (*Saudi Arabia*)
- 593 F.060 Different behavior of Müller cells according to their location in the retina: possible relation with the differential susceptibility of retinal ganglion cells in glaucoma.
Xandra Pereiro¹, Noelia Ruzafa¹, António Francisco Ambrósio², Ana Raquel Santiago², Elena Vecino¹ (¹Spain, ²Portugal)
- 604 F.061 Pediatric glaucoma in central china
Qian Liu, Xiao Mei Feng, Changgeng Liu, Haijun Li, Xiaoyuan Yang, Yangzeng Dong, Wenjun Cheng (*China*)



- 607 F.062 Calculations of mean ocular perfusion pressure before and after exercise are conditioned by the formula used
Javier Gene-Morales, Andrés Gené-Sampedro, Inmaculada Bueno-Gimeno, Juan C. Colado (Spain)
- 614 F.063 Three novel mutation in the membrane frizzled-related protein gene for a nanophthalmos and angle-closure glaucoma patient
Qian Liu, Wenjun Cheng, Ya Li, Changgeng Liu, Bo Lei (China)
- 615 F.064 Possibilities of monitoring intraocular pressure using easyton transpalpebral tonometer
María Ángeles Del Buey Sayas, Paula Casas Pascual, Nuria López Rodríguez, Sara Marco Monzon, Javier Ascaso, Elena Lanchares Sancho (Spain)
- 618 F.065 Different formulas to calculate mean blood pressure entail significantly different results
Javier Gene-Morales, Andrés Gené-Sampedro, Inmaculada Bueno-Gimeno, Carlos Babiloni-Lopez, Juan C Colado (Spain)
- 657 F.066 Repeated measures of coffee and tea consumption in relation to open-angle glaucoma risk and intraocular pressure regulation
Joëlle Vergoesen¹, Trudy Voortman¹, Caroline Klaver^{1,2}, Wishal Ramdas¹ (¹The Netherlands, ²Switzerland)
- 674 F.067 Correlation between Visual Field Index (VFI) and quality of life in glaucoma patients
Gemma Caterina Maria Rossi, Chiara Bosi, Lorenzo Savini, Annalisa De Silvestri, Giovanni Milano (Pavia)
- 680 F.068 12-month outcomes of trabecular microbypass iStent Inject W implantation combined with cataract surgery in open-angle glaucoma eyes
Ismael Bakkali El Bakkali, Pablo Cisneros Arias, Guillermo Pérez Rivasés, Eva Josefina Núñez Moscarda, Marta Orejudo De Rivas, Miguel Castillo Fernández, Julia Aramburu Clavería, Marta Suñer Martínez, Diana Pérez García, Javier Ascaso, Juan Ibañez (Spain)
- 709 F.069 Initial experience of Preserflo Microshunt surgery at a district general hospital in the UK
Thomas Hickman Casey, Julian Hickman Casey (United Kingdom)
- 710 F.070 miRNAs regulating gene expression/gene networks and its multifactorial pathways in open-angle glaucoma
Irene Andrés Blasco, Jorge Raga-Cervera, Jose M. Bolarin, Alex Gallego-Martinez, Javier Benítez-Del-Castillo Sánchez, Maria D. Pinazo-Durán, Vicente Zanón-Moreno (Spain)
- 718 F.071 Primary open-angle glaucoma prevalence in Europe: a systematic review and meta-analysis
Francesca Ceccarelli¹, Gabriele Gallo Afflitto^{1,2}, Francesco Aiello¹, Massimo Cesareo¹, Carlo Nucci¹ (¹Italy, ²USA)
- 734 F.072 Tear metabolomics. An outstanding approach to the molecular diagnosis of glaucoma
rf **Alex Gallego-Martinez, Mari Carmen Martinez-Bisbal, Irene Andres-Blasco, Marina Dolores Botello Marabotto, Francisco Javier Hernandez-Martinez, Ramon Martinez-Mañez, Maria Dolores Pinazo Duran (Spain)**
- 736 F.073 OMNI[®], the new surgical option in the treatment of glaucoma
Jacobo Yáñez Merino, Mario García Hermosín, Ines Munuera Rufas, Damian Garcia Navarro, Andres Biescas Merino, Blanca Ferrández Arenas, Jose Manuel Larrosa Poves (Spain)
- 741 F.074 Glaucoma detected as minimal cross section of the nerve fiber layer at the ONH, average thickness provides comparable specificity to integrated area when comparing subjects
Per Soderberg, Zhaohua Yu, Konstancija Kisonaite (Sweden)



- 742 F.075 Fungal blebitis due to aspergillus ustus. About the first case described in the literature
M^a Dolores Díaz-Barreda, Ana Boned-Murillo, Isabel Pinilla, Guillermo Pérez Rivasés, Miguel Castillo Fernández, Itziar Pérez, Elena Pardina, Diana Perez Garcia, Juana Martinez, Juan Ibañez (Spain)
- 801 F.076 Self-reported preference of eyedrops in the treatment of glaucoma – relation, symptoms, and quality of life
Arevak Saruhanian, Jens Rovelt Andreasen, Anne Toft Petersen, Maiken Korsgaard, Miriam Kolko (Denmark)
- 809 F.077 Investigating the potential neuroprotective effect of semaglutide in the mouse retina
Alexander von Spreckelsen (Denmark)

14:45-15:45

POS Poster Session LC

- 9 F.078 Exposure to subthreshold dose of UVR-B does not induce apoptosis in the rat lens in vivo during the first 24 hours
rf
Konstantin Galichanin, Lovisa Falkman, Zhaohua Yu (Sweden)
- 22 F.079 Capsular bag distension syndrome after uneventful DMEK for Fuchs corneal endothelial dystrophy
Adrian Weber, Aja Reinhold, Horace Massa, Konstantin Gugleta, Zisis Gatzioufas (Switzerland)
- 23 F.080 Menopausal hormone therapy and the risk of cataract in postmenopausal women in South Korea
Haeun Sim, Jeonga Jeong, Min Ji Kang, Jehyung Hwang (South Korea)
- 24 F.081 Hysterectomy for benign indication and risk of cataract in women in South Korea
Haeun Sim, Jeonga Jeong, Min Ji Kang, Jehyung Hwang (South Korea)
- 53 F.082 Performance evaluation of cataract surgery on a virtual reality simulator
rf
Zhaohua Yu, Alexandru Popa, Per Söderberg (Sweden)
- 142 F.083 Pupillary light responses after uncomplicated cataract surgery
rf
Juan Antonio Miralles De Imperial Ollero, Alberto López-Alacid, Pedro Esteban Quilez Franco, Maria Paz Villegas Perez (Spain)
- 168 F.084 Comparison of three types of scleral fixation of intraocular lens
Zeeyon Byun, Mingui Kong (South Korea)
- 262 F.085 Ocular biometry in adults from a population-based study in Germany
Ralph Michael, Kerstin Wirkner, Christoph Engel, Markus Loeffler, Toralf Kirsten, Franziska Rauscher (Germany)
- 340 F.086 Preliminary results obtained by a new intraocular lens based on accommodative technology for the treatment of cataract and presbyopia
Antonio Martínez-Abad, Jorge Alio, Pilar Yebana, Ana Belen Plaza Puche (Spain)
- 393 F.087 Cataract surgery with toric lens. Assessment through tomography and intraoperative aberrometry ORA
María Ángeles Del Buey Sayas, Paula Casas Pascual, Sofia Bielsa Alonso, Nuria López Rodríguez, Sara Marco Monzon, Miguel Castillo Fernández, Constanza Caramello Álvarez, Javier Ascaso (Spain)
- 412 F.088 Capsular bag transplantation
Amani Abbas Khoja, Fernando González del Valle, Javier Celis Sanchez, Maria Jose Dominguez Fernandez, Agustin Nuñez Sanchez, Encarnacion Asensio del Pozo, Laura Garcia Filoso Moraleda (Spain)



- 422 F.089 An analysis of posterior capsule rupture (PCR) rate and risk stratification within the National Health Services (NHS)
rf **Sammie Mak, Maha Noor, Hussein Almuhtaseb** (*United Kingdom*)
- 451 F.090 The role and clinical significance of intraoperative optical coherence tomography for cataract surgery
Melisa Öztekin, Erick Carlos Reyna, Susanne Binder, Knut Stieger, Lyubomyr Lytvnchuk (*Germany*)
- 500 F.091 Microspherophakia and megalocornea with or without secondary glaucoma: a case series
Yasmine Houmane, Ouederni Meriem, Yousra Falfoul, Yosra Abid, Imene Zeghal, Monia Cheour (*Tunisia*)
- 580 F.092 Numerical evaluation of intraocular lens decentration
Anabel Martínez Espert, Diego Montagud-Martínez, Vicente Ferrando, Salvador García-Delpech (*Spain*)
- 592 F.093 Chromatic characterization of a commercially available enhanced monofocal intraocular lens
Anabel Martínez Espert, Diego Montagud-Martínez, Vicente Ferrando, Juan A. Monsoriu, Walter D. Furlan (*Spain*)
- 606 F.094 Correlation between inflammatory profile in aqueous humor in patients who underwent cataract surgery using two techniques and cataract degree
Guillermo Rodríguez Iranzo, Ester Fernández López, María José Roig Revert, Cristina Peris Martínez (*Spain*)
- 613 F.096 Histopathological findings of anterior lens capsule in pediatric cataract patients
Pinar Bingöl Kızıltunç, Ferhad Özer, İrem İnanç, Belgin Can, Huban Atilla (*Turkey*)
- 621 F.097 Analysis of the effects of visual quality under different light conditions in different intraocular lenses: study pilot
Inas Baoud Ould Haddi, Vanesa Blázquez Sánchez, Cristina Bonnin Arias, Celia Sánchez Ramos, Emilio Dorrnzoro Ramírez (*Spain*)
- 689 F.098 Cataract management in a patient with nanophthalmos
Eva Josefina Núñez Moscarda, Marta Orejudo de Rivas, Pablo Cisneros Arias, Guillermo Pérez Rivasés, Ismael Bakkali El Bakkali, Marta Suñer Martínez, Julia Aramburu Clavería, Miguel Castillo Fernandez, María Angeles Del Buey Sayas (*Spain*)
- 698 F.099 The prevalence of cataract by vision screening in a belgium nursing home residents in 2021
Zahra Javdani Sanatgar Moghaddam, Robert Kuijpers, Frank Goes (*Belgium*)
- 745 F.100 Pupilar block after cataract surgery
Marta Suñer Martínez, Juan Ibañez Alperete, Pablo Cisneros-Arias, Julia Aramburu Claverías, Miguel Castillo Fernández, Eva Nuñez-Moscarda, Marta Orejudo-Rivas, Guillermo Pérez-Rivasés, Ismael Bakkali el Bakkali, Diana Pérez García (*Spain*)
- 749 F.101 Comparative analysis of corneal versus scleral tunnel incision implantation of anterior artisan aphakia intraocular lens
Rocío Vega Gonzalez, Jorge Ruiz-Medrano, Ignacio Flores-Moreno, Pablo García-Consuegra, Jose María Ruiz-Moreno (*Spain*)



14:45-15:45

POS

Poster Session NSPH

Friday
14 October 2022

- 12 *rf* F.102 Dyschromatopsia in multiple sclerosis reflects diffuse chronic neurodegeneration beyond anatomical landmarks
Antonio Barreiro González, Maria T. Sanz, Sara Carratalà-Boscà, Francisco Pérez-Miralles, Carmen Alcalá, Enrique España-Gregori, Bonaventura Casanova (Spain)
- 27 F.103 Visual prognosis after transsphenoidal surgery for pituitary adenoma and its relationship with retinal nerve fiber layer thickness
Pablo Cisneros-Arias, Ismael Bakkali El Bakkali, Eva Nuñez Moscarda, Marta Orejudo, Julia Aramburu, Miguel Castillo Fernandez, Marta Suñer, Guillermo P. Rivasés, Javier Mateo Gabás, Javier Ascaso Puyuelo, Ana Boned-Murillo, María Dolores Díaz Barreda, Luca Bueno Borghi (Spain)
- 45 *rf* F.104 Correlations between visual function and inner retinal structure in OPA1 autosomal dominant optic atrophy
Berthold Pemp, Johannes Schrittwieser, Karl Kircher, Wolfgang Schmidt, Andreas Reitner (Austria)
- 52 *rf* F.105 Assessment of visual function and the neuroretina in subjects diagnosed with color blindness
Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordon Ciordia, María José Vicente Altabás, Maria Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Inés Munuera, María Isabel Fuertes, Elena Garcia-Martin (Spain)
- 60 F.106 Longitudinal neuroretinal analysis in patients with fibromyalgia
María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordon Ciordia, Maria Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Inés Munuera, Maria Satue, Elena Garcia-Martin (Spain)
- 74 F.107 Evaluation of severity and time disease using new optical coherence tomography tool in multiple sclerosis patients
Beatriz Cordon Ciordia, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Elisa Viladés Palomar, Maria Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Ines Munuera, Maria Satue, Elena Garcia-Martin (Spain)
- 80 *rf* F.108 Long-term efficacy and safety of idebenone in patients with Leber's hereditary optic neuropathy (LHON) in the chronic phase: Results from the prospective, natural history-controlled LEROS study
Patrick Yu-Wai-Man¹, Valerio Carelli², Livia Tomasso², Thomas Klopstock³, on behalf of the LEROS study group³ (¹United Kingdom, ²Italy, ³Germany)
- 94 *rf* F.109 COVID-19 vaccination and vision loss in three older male individuals homoplasmic for m.14484T>C mutation in the ND6 gene
Marcela Votruba (United Kingdom)
- 102 F.110 Structural and functional analysis of binocularity after surgery for long-standing strabismus
Victor Mallen, Elisa Viladés Palomar, Beatriz Cordon Ciordia, María José Vicente Altabás, Alvaro Tello, Manuel Subías Perié, Lorena Arias Campo, Ines Munuera, Luisa Castro-Roger, Elena Garcia-Martin, Maria Jesus Rodrigo (Spain)
- 120 *rf* F.111 Combining retinal neuronal and microvascular measurements improves discriminative power for multiple sclerosis patients without previous optic neuritis
Jacqueline Chua¹, Mihai Bostan², Yin Ci Sim¹, Inna Bujor², Leopold Schmetterer¹, Alina Popa-Cherecheanu² (¹Singapore, ²Romania)



- 163 F.112 Analysis of RNFL and GCL in patients with multiple sclerosis and fibromyalgia
Elisa Viladés Palomar, Beatriz Cordón Ciordia, María José Vicente Altabás, Alvaro Tello, Luisa Castro-Roger, Victor Mallen, Maria Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Inés Munuera, Maria Satue, Elena Garcia-Martin (Spain)
- 169 F.113 Case report of a large, right, temporal arteriovenous malformation in the brain manifested by a progressive visual field defect
Caterina Hall, Anca Marinescu (United Kingdom)
- 184 F.114 Role of optical coherence tomography in diagnosis of Alzheimer's disease
Luisa Castro-Roger, Victor Mallen, Elisa Viladés Palomar, Beatriz Cordón Ciordia, María José Vicente Altabás, Alvaro Tello, Maria Jesus Rodrigo, Manuel Subías Perié, Lorena Arias Campo, Inés Munuera, Elena Garcia-Martin (Spain)
- 226 F.115 The Phase 3 REFLECT trial: efficacy and safety of bilateral gene therapy for leber hereditary optic neuropathy (LHON)
rf
Patrick Yu-Wai-Man¹, Nancy Newman², Prem Subramanian², Mark Moster², An-Guor Wang³, Sean Donahue², Bart Leroy⁴, Valerio Carelli⁵, Valérie Biousse², Catherine Vignal-Clermont⁶, Alfredo Sadun², Robert Sergott², Gema Rebolleda Fernández⁷, Bart Chwalisz², Rudrani Banik², Eric Cox⁶, Michel Roux⁶, Magali Taiel⁶, José-Alain Sahel^{2,6} (¹United Kingdom, ²USA, ³Taiwan, ⁴Belgium, ⁵Italy, ⁶France, ⁷Spain)
- 254 F.116 How ready is Artificial Intelligence (AI) for clinical use?
rf
Rosina Zakri, Nigel Davies (United Kingdom)
- 272 F.117 Role of the hematological phenotype as a predictive biomarker of retinopathy of prematurity development
rf
Mariza Fevereiro Martins, Ana Carolina Santos, Filipa Teixeira, Rita Rosa, Pedro Barros, Ricardo Parreira, Susana Teixeira, Mafalda Mota, Madalena Monteiro, Mário Alfaiate, Renato Silva, Jorge Breda, Hercília Guimarães, Carlos Marques-Neves, Manuel Bicho (Portugal)
- 304 F.118 Horizontal diplopia with right abducens palsy and gaze evoked nystagmus due to pontine lesion in human immunodeficiency virus related cerebral toxoplasmosis
Hidris Damanik, Lely Retno Wulandari, Wino Vrieda Vierlia (Indonesia)
- 362 F.119 Orbital sarcoidosis. Case report
Julia Pérez Martínez, Gemma Ortega Prades, Amparo Lanuza García, Francisca García Ibor, Antonio Miguel Duch-Samper (Spain)
- 363 F.120 Long-term efficacy and safety of idebenone in patients with Leber's hereditary optic neuropathy (LHON) in the subacute/dynamic phase: Results from the prospective, natural history-controlled LEROS study
rf
Patrick Yu-Wai-Man¹, Valerio Carelli², Livia Tomasso², Thomas Klopstock³, on behalf of the LEROS Study Group⁷ (¹United Kingdom, ²Italy, ³Germany)
- 367 F.121 Retinal vascular abnormalities in children with neurofibromatosis type 1
Romain Touzé, Marc Abitbol, Dominique Bremond-Gignac, Matthieu Robert (France)
- 385 F.122 Assessing the impact of long-term idebenone treatment on various visual acuity outcomes in Leber's hereditary optic neuropathy (LHON): Results, according to disease stage, from the prospective, natural history-controlled LEROS study
rf
Livia Tomasso¹, Valerio Carelli¹, Patrick Yu-Wai-Man², Thomas Klopstock³, on behalf of the LEROS Study Group³ (¹Italy, ²United Kingdom, ³Germany)
- 378 F.123 Assessing the impact of long-term idebenone treatment on various visual acuity outcomes in Leber's hereditary optic neuropathy (LHON): Results, according to primary mitochondrial DNA mutation, from the prospective, natural history-controlled LEROS study
rf
Livia Tomasso¹, Valerio Carelli¹, Patrick Yu-Wai-Man², Thomas Klopstock⁴ on behalf of the LEROS Study Group (¹Italy, ²United Kingdom, ³Germany)
- 463 F.124 Successful outcome of pediatric cytomegalovirus optic neuritis treated with combined steroid and valganciclovir : a case report
Lydia Margaretha, Seskoati Prayitnaningsih, Lely Retno Wulandari (Indonesia)



- 465 F.125 Refractive management of a bilateral lens subluxation case in Marfan syndrome patient
Syarah Nandya Dinnarwika, Lely Retno Wulandari, Triana Budi Sulistya, Nanda Wahyu Anandita
(Indonesia)
- 471 F.126 Incomitant strabismus as a form of presentation of neurolymphomatosis
Irene Gil Hernández, Javier Garulo Nicolas, Raul Martinez Belda, Noemi Ruiz Del Rio, Antonio M. Duch-Samper (Spain)
- 475 F.127 Systemic and ocular manifestations of anti-MOG disease in Canada
Melanie Lalonde¹, Alexis O'Neil¹, Hong-An Nguyen¹, Carolina Rush¹, Stuart Coupland¹, Rustum Karanjia^{1,2} (¹Canada, ²USA)
- 492 F.128 Validation of postnatal growth and retinopathy of prematurity (G-ROP) criteria for retinopathy of prematurity in a Spanish tertiary care hospital with an advanced neonatal intensive care unit
rf **Carlos Cauto Picazo, Isabel Pascual Camps, Lorena Azorín Pérez, Marta Solaz Ruiz, Laura Fernández García, Ester Torres Martínez, Amparo Ortiz Seller, Inmaculada Almor Palacios, Ana Rodrigo Hernández, Honorio Barranco González, Enrique España Gregori** (Spain)
- 495 F.129 The retina in amblyopic subjects: controversy of the scientific literature
Carlos Javier Hernández-Rodríguez, Henar Albertos-Arranz, David P. Piñero-Llorens (Spain)
- 505 F.130 Conjunctival tumor as an acute myeloblastic lymphoma presentation in a pediatric patient
F. Alarcón-Correcher, Sergio Maugard Tepper, Yolanda Cifre Fabra, Maria Amparo Lanuza García (Spain)
- 524 F.131 Surgical management of exotropia-hypotropia complex in high myopia
Marta Orejudo de Rivas, Guillermo Pérez Rivasés, Eva Núñez Moscarda, Pablo Cisneros Arias, Ismael Bakkali el Bakkali, Julia Aramburu Claveria, Marta Suñer Martinez, Miguel Castillo Fernandez, Diana Pérez García (Spain)
- 525 F.132 Bilateral optic nerve glioma in a pediatric patient with neurofibromatosis type 1
Eva Josefina Núñez Moscarda, Marta Orejudo Derivas, Pablo Cisneros-Arias, Ismael Bakkali El Bakkali, Guillermo Pérez Rivasés, Marta Suñer Martínez, Julia Aramburu Clavería, Miguel Castillo Fernández, Diana Pérez García (Spain)
- 535 F.133 Characterization of Charles Bonnet syndrome in Leber hereditary optic neuropathy patients
rf **Hong-An Nguyen¹, Mohammad Kreimeh¹, Lissa Poincenot¹, Melanie Lalonde^{1,2}, Rustum Karanjia^{1,2}**
(¹Canada, ²USA)
- 549 F.134 Is the anatomy of the macula different in individuals with dyslexia?
rf **José Javier García Medina, Nieves Bascuñana-Mas, Celia Gómez Molina, Elena Rubio Velázquez, Vicente Zanón-Moreno, Maria Dolores Pinazo Duran, Paloma Sobrado-Calvo, Monica Del-Rio-Vellosillo** (Spain)
- 629 F.135 Macular choroidal thickness: a valid biomarker in multiple sclerosis patients
Marta Cerdà-Ibáñez, José Miguel Vilaplana Mora, Laura Manfreda Domínguez, Antonio M. Duch-Samper (Spain)
- 681 F.136 Ocular manifestations in Arnold Chiari syndrome
Racem Choura, Jihene Sayadi, Dhouha Gouider, Manel Mekni, Haythem Raihan, Nourhene Aidi, Imene Zeghal, Ines Malek, Leila Nacef (Tunisia)
- 694 F.137 Visual manifestations as the first symptomatology of subacute infective endocarditis
Manuel Almarcha Menargues, Juan Antonio Sánchez Perea, Carmen Miquel López, Maria Victoria Navarro Abellán (Spain)
- 706 F.138 Multimodal imaging in persistent fetal vasculature
Dhouha Gouider, Jihene Sayadi, Racem Choura, Haythem Raihan, Manel Mekni, Nourhene Aidi, Imene Zeghal, Ines Malek, Leila Nacef (Tunisia)



- 708 F.139 Correlation between standard automated perimetry, short wavelength perimetry, and optic coherence tomography parameters in ADOA patients
Marco Lombardo, Ernesto Di Marco, Francesco Aiello, Raffaele Mancino, Carlo Nucci, Massimo Cesareo (Italy)
- 728 F.141 Tomography features of the lamina cribrosa and its scleral canal in different types and stages of the diabetic optic neuropathy
rf **Maryna Karlychuk, Serhii Pinchuk, Pavel Bezditko (Ukraine)**
- 767 F.142 Prevention campaign for amblyopia and other eye disorders among schoolchildren
Carmen Miquel López, Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Maria Victoria Navarro Abellán, Ester Mainar Andreu (Spain)

14:45-15:45

POS Poster Session PBP

- 18 F.143 Biosimilars of anti-vascular endothelial growth factors for ophthalmic disease - clinical trial status 2022
James McFadyen, Marcela Votruba, Michael Muenzberg, Paul Cornes (United Kingdom)
- 88 F.144 Retinal blood flow and oxygen saturation in patients previously infected with COVID-19
Theresa Lindner, Nikolaus Hommer, Martin Kallab, Andreas Schlatter, Clemens Nadvornik, Patrick Janku, Victoria Kauer, Benedikt Rumpf, Helmuth Haslacher, Gerhard Garhöfer, Doreen Schmidl (Austria)
- 191 F.145 MFSD2a, the transporter of the omega-3 fatty acid DHA, is expressed in the neural retina
María José Ruiz Pastor, Henar Albertos-Arranz, Xavier Sanchez Saez, Victoria Maneu, Pedro Lax, Nicolas Cuenca (Spain)
- 225 F.146 Administration of minocycline reduces microglia and Caspase-3 activation but does not mitigate retinal ganglion cell loss after ocular hypertension in mice
rf **Francisco Javier Valiente-Soriano, María Cielo Sánchez-Migallón, Johnny Di Pierdomenico, Alejandro Gallego Ortega, Diego García-Ayuso, Manuel Vidal-Sanz, Marta Agudo-Barriuso (Spain)**
- 230 F.147 The intra-cameral level of 2% ganciclovir eye drops, following topical application for cytomegalovirus (CMV) anterior segment infection
Samanthila Waduthantri, Lei Zhou, Soon Phaik Chee (Singapore)
- 243 F.148 Neuroprotective effects of ITH-IB6 against excitotoxicity-induced retinal injury
rf **Johnny Di Pierdomenico, María Norte Muñoz, Alejandro Gallego Ortega, María Boluda Ruiz, Jose Manuel Bernal Garro, Maria Paz Villegas Perez, Cristobal De Los Rios, Manuel Vidal-Sanz (Spain)**
- 245 F.149 Vision loss, third and fourth nerve palsy and non-responsive midriasis after contralateral retrobulbar anesthesia
Ines Artola, Nuria Ramirez Lillo, Manuel Morales, Eduardo Conesa, Manuel Moriche (Spain)
- 286 F.150 Therapeutic window and neuroprotection with 7,8-Dihydroxyflavone in degenerating retinal ganglion cells after excitotoxic damage
Caridad Galindo-Romero, Javier Asís-Martínez, Manuel Angel Salinas Navarro, Johnny Di Pierdomenico, María Norte Muñoz, Jose M. Bernal-Garro, Alejandro Gallego Ortega, Beatriz Vidal-Villegas, Maria Paz Villegas Perez, Manuel Vidal-Sanz (Spain)
- 305 F.151 Development of a biocompatible allogenic extra cellular matrix (MEC) for gradual dispensation of active substances
Laurence Barnouin, Florine Grossetete (France)



- 429 F.152 Microglial activation and retinal pigment epithelium alteration in a model of focal LED-induced phototoxicity. Neuroprotection afforded by bFGF and minocycline
Juan Antonio Miralles De Imperial Ollero, Alejandro Gallego Ortega, María Norte Muñoz, Johnny Di Pierdomenico, Francisco Javier Valiente-Soriano, Manuel Vidal-Sanz (*Spain*)
- 459 F.153 Tlr4 gene deletion accelerates retinal degeneration in rd10 and P23H/+ murine models of retinitis pigmentosa
Mateo Pazo González, Alonso Sánchez Cruz, Enrique J. De La Rosa Cano, Pedro De La Villa, Catalina Hernández Sánchez (*Spain*)
- 601 F.154 Chaperone-mediated autophagy is a cytoprotective response of photoreceptors during aging and retinal diseases
rf
Raquel Gómez-Sintes^{1,2}, Ana Maria Cuervo², Patricia Boya¹ (¹*Spain*, ²*USA*)
- 644 F.155 Dopamine is involved in regulating vascular tone in retinal arterioles
rf
Thor Eysteinnsson, Andrea García-Llorca (*Iceland*)
- 652 F.156 Mapping of the ocular surface enzymes in healthy subjects
Murat Akkurt Arslan, Karima Kessel, Christophe Baudouin, Françoise Brignole-Baudouin (*France*)
- 691 F.157 Administration of dutasteride in animal models of retinitis pigmentosa
rf
María Miranda Sanz, Antolin Cantó, Teresa Olivar, Rosa López-Pedrajas, Javier Martínez-González, Vicente Hernández-Rabaza, Inmaculada Almansa (*Spain*)
- 699 F.158 Does taurine have a role in the phagocytic function of the retinal pigment epithelium?
Ana Martínez Vacas¹, Johnny Di Pierdomenico¹, Francisco Javier Valiente-Soriano¹, Serge Picaud², Manuel Vidal-Sanz¹, Maria Paz Villegas Perez¹, Diego García-Ayuso¹ (¹*Spain*, ²*France*)
- 701 F.159 Exercise-induced changes in optic nerve and choroidal thickness
Adam Wylegala, Bogusława Orzechowska-Wylegala (*Poland*)
- 724 F.160 Microglial alterations as a possible treatment target in retinitis pigmentosa
Inmaculada Almansa, María Miranda Sanz, Amparo Sánchez-Fideli, Carmen Trull (*Spain*)
- 727 F.161 Evaluation of tear film osmolarity in glaucomatous and ocular hypertensive patients under topical therapies: a real life experience of a glaucoma unit
rf
Teresa Rolle, Andrea Ghilardi, Lorenza Malinverni, Tommaso Tibaldi, Michele Reibaldi (*Italy*)
- 766 F.163 Optic nerve sheath diameter changes at altitude
Ciaran Simpkins, Jessica Westwood, India Mayhook-Walker, Andrew Darby-Smith, Eduardo Maria Normando, Daniel Morris (*United Kingdom*)
- 797 F.164 In vitro and in vivo characterization of BIO203, a new amide norbixin conjugate with improved pharmacokinetic profile. Potential for oral treatment of age-related retinal degeneration
rf
Valérie Fontaine, Serge Camelo, Christine Balducci, Laurence Dinan, Elodie Monteiro, Thinhinane Boumedine, Vincent Nguyen, Mylene Fournié, Justine Clatot, Mathilde Latil, Stanislas Veillet, René Lafont, Pierre Dilda (*France*)



Poster Session 3

Moderators: **Konstantin Kotliar** (*Germany*), **Nikolas Pontikos** (*United Kingdom*), **Rossella Russo** (*Italy*), **Doreen Schmidl** (*Austria*), **Paris Tranos** (*Greece*)

10:15-11:15

POS Poster Session MBGE

- 7 *rf* S.001 Prevalence and risk factors of corneal abnormalities in 60 years and older; Tehran Geriatric Eye Study
Abbas Ali Yekta, Mehdi Khabazkhoob, Hassan Hashemi, Reza Pakzad, Mohamadreza Aghamirsalim, Mohamadreza Moniri, Hadi Ostadimoghadda, Reihaneh Yekta, Yeganeh Yekta (*Tehran*)
- 37 *rf* S.002 Association of age-related macular degeneration on Alzheimer or Parkinson disease
Donghyun Jee (*South Korea*)
- 46 S.003 Association of transforming growth factor beta induced mutations with congenital and juvenile onset open angle glaucoma
Viney Gupta, Arnav Panigrahi, Bindu Somarajan, Shikha Gupta, Koushik Tripathy, Abhishek Singh, Anshul Sharma, Krishna Kishore, Dibyabhaha Pradhan, Arundhati Sharma (*India*)
- 59 S.004 Juvenile glaucomas and multi locus disease causing genomic variations
Viney Gupta, Bindu Somarajan, Shikha Gupta, Abhishek Singh, Karthikeyan Mahalingam, Arundhati Sharma (*India*)
- 141 S.005 Mitfmi/+ as a new mouse model of cone dystrophy
Andrea Garcia Llorca, Knútur Haukstein Ólafsson, Arnór Thorri Sigurdsson, Thor Eysteinnsson (*Iceland*)
- 162 S.006 The relationship between outdoor exposure and myopia on university students, measured by conjunctival ultraviolet autofluorescence (CUVAF)
Sergio Recalde, Valentina Bilbao, Maria Hernandez, Jorge Gonzalez-Zamora, Miriam De La Puente, Elena Escriche, Pablo Ruiz, Jaione Bezunartea, Ainara Mariezkurrena, Elena Alonso, Manuel Saenz De Viteri, Jesús Barrio, Alfredo García Layana, Patricia Fernandez-Robredo (*Spain*)
- 181 S.007 Novel phenotype-genotype correlation with PEX6 gene in Saudi patients with Heimler syndrome
Basamat Almoallem (*Saudi Arabia*)
- 183 S.008 Interplay between autophagy and mitochondrial metabolism in retinal pigment epithelium cells obtained by differentiation of induced pluripotent stem cells generated from wet AMD patients
Janusz Blasiak¹, Koskela Ali², Tuomainen Tomi², Skottman Heli², Tavi Pasi², Kaarniranta Kai² (¹*Poland*, ²*Finland*)
- 187 S.009 Corneal neovascularization associated with a novel PDGFRB gene variant: Implications for precision medicine treatment
Titas Gladkauskas¹, Ove Bruland¹, Leen Safieh², Edward Deepak^{1,3}, Eyvind Rødahl¹, Cecilie Bredrup¹ (¹*Norway*, ²*Saudi Arabia*, ³*USA*)
- 215 S.010 Assessment of compliance with current driving legislation in Spanish patients with visual disturbances
Pedro Esteban Quílez Franco, Juan Antonio Miralles de Imperial Ollero, Alberto López Alacid, Inmaculada Sellés Navarro (*Spain*)
- 223 S.011 Incidence and prevalence of pediatric noninfectious uveitis in South Korea
Bo Hee Kim¹, In Beom Chang¹, So Young Lee², Baek-Lok Oh², In Hwan Hong¹ (¹*South Korea*, ²*USA*)
- 283 S.012 Novel biallelic AHR splice site mutation cause isolated foveal hypoplasia in Saudi patient
Basamat Almoallem (*Saudi Arabia*)

Saturday
15 October 2022



- 284 S.013 A CYP1B1 associated irido-trabeculodysgenesis
Shikha Gupta, Arnav Panigrahi, Karthikeyan Mahalingam, Abhishek Singh, Viney Gupta (India)
- 324 S.014 Germline variants in cancer predisposition genes in patients with uveal melanoma
Pauliina Repo, Eveliina Salminen, Reetta-Stiina Järvinen, Juho Hiltunen, Rana'a Al-Jamal, Martin Täll, Virpi Raivio, Tero Kivelä, Joni Turunen (Finland)
- 335 S.015 Pathogenic Variant c.61G> C in NLRP3 lowers NLRP3 inflammasome activation threshold in patients with keratitis fugax hereditaria
Sabita Kawan, Michael Backlund, Annamari Immonen, Tero Kivelä, Joni Turunen (Finland)
- 364 S.016 Genetic findings in over 600 individuals with inherited retinal disorders in Finland
Julia Krootila¹, Maria Kaukonen², Eeva-Marja Sankila¹, Maarjaliis Paavo¹, Sanna Seitsonen¹, Pauliina Repo¹, Michael P. Backlund¹, Anna Majander¹, Päivi Lindahl¹, Kristiina Vasara¹, Kristiina Avela¹, Eveliina Salminen¹, Robert E. MacLaren², Tero T. Kivelä¹, Joni A. Turunen¹ (¹Finland, ²United Kingdom)
- 457 S.017 BAP1 UCH-domain enzymatic activity
Aleksandra Staskiewicz, Pauliina Repo, Michael Backlund, Tero Kivelä, Joni Turunen (Finland)
- 555 S.018 Main ophthalmological manifestations in patients diagnosed with ocular syphilis attended at Instituto Nacional de Rehabilitacion
Francisco Javier Sanchez Arevalo, Martha Cinthia Fuentes Cataño (Mexico)
- 559 S.019 Ocular symptoms in confirmed COVID-19 patients: a local survey of mid and South Essex Trust, England
rf **Muhammad Saad Asghar, Haseeb Akram, Aman Chandra (United Kingdom)**
- 582 S.021 LINE-1 insertion in the RP1 gene in a family with retinitis pigmentosa
rf **Michael Backlund, Pauliina Repo, Eeva-Marja Sankila, Maarjaliis Paavo, Kirmo Wartiovaara, Joni Turunen (Finland)**
- 616 S.022 Characterising a novel retinal organoid model of Oculocutaneous albinism and optic nerve misrouting
Philip Wagstaff, Reinier Bakker, Eszter Emri, Anneloor ten Asbroek, Arthur Bergen (The Netherlands)
- 624 S.023 Establishment and measurement of myopia in mice with ON-bipolar cell defects
Wilmet Baptiste¹, Duvoisin Robert², Callebert Jacques¹, Goulet Ruben¹, Tourain Christophe¹, Michiels Christelle¹, Degardin Julie¹, Frederiksen Helen¹, Cesar Quenol¹, Manuel Simonutti¹, Olivier Marre¹, José-Alain Sahel^{1,2}, Isabelle Audo¹, Serge Picaud¹, Christina Zeitz¹ (¹France, ²USA)
- 639 S.024 Hand grip strength and ocular associations: the Ural eye and medical study
Jost Jonas, Rinat Zainullin, Timur Gilmanshin, Ellina Iakupova, M. Gyulli, Songhomitra Panda-Jonas, Azaliia Tuliakova, Albina Fakhretdinova, Gilemzyanova Leisan, Bikbov Mukharram (Russian Federation)
- 670 S.025 The long and short-'sightedness' of BMP3 in eye development
rf **Amy Findlay, Chloe Stanton, Camilla Drake, Ian Jackson, Veronique Vitart (United Kingdom)**
- 700 S.027 Unusual genotypic and phenotypic presentation in a patient with nail-patella syndrome
Josep Rosinés Fonoll, Saray Catalán Coronado, Elena Milla (Spain)
- 717 S.028 Improvement of hydroxychloroquine retinopathy monitoring by informatic systems
rf **Alberto López Alacid, Pedro Esteban Quílez Franco, Juan Antonio Miralles De Imperial Ollero, Andres López Jiménez (Spain)**



10:15-11:15

POS

Poster Session RV

- 11 *rf* S.030 Surgical removal of dexamethasone implant (Ozurdex) accidentally injected inside crystalline lens
Efstratios Parikakis, Loukas Kontomichos, Georgios Batsos, Vasileios Peponis, Nikolaos Mpouratzis, Anastasios Mpisoukis, Dimitrios Karagiannis (Greece)
- 16 *rf* S.031 Quantitative analysis of neovascular activity in age-related macular degeneration using optical coherence tomography angiography
Mariia Kovalevskaia (Russian Federation)
- 17 S.032 Acquired night blindness due to rod dysfunction after long-term hemodialysis
Rhizlane Abdi (Morocco)
- 25 S.033 Signal shadowing during intraoperative optical coherence tomography assisted vitreoretinal surgery: a systemic analysis
Erick Carlos Reyna, Melisa Öztekin, Susanne Binder, Knut Stieger, Lyubomyr Lytvynchuk (Germany)
- 34 S.034 Longitudinal analysis of Irvine-Gass syndrome using Swept source optical coherence tomography
Rym Maamouri, Safa Ben Aoun, Ouederni Meriem, Nafaa Fehmy, Hela Sassi, Monia Cheour (Tunisia)
- 36 S.035 Analysis of retinal displacement by wide-field retinography in combined vitreoretinal surgery at the Urduliz Hospital
Felipe Costales-Mier, Estibaliz Ispizua Mendivil, Gotzone Barbarias Salinas, Iker Otxoa, Concepción Hernaez Ortega (Spain)
- 43 S.036 Metallic intraocular foreign body removal assisted through the extrusion line
Felipe Costales-Mier, Alicia Traveset Maeso, Marta Cuesta-Lasso, Javier Aguayo (Spain)
- 93 S.037 Evaluating the challenges in implementation of the Royal College of Ophthalmologists (RCOphth) 2020 Guidelines on Hydroxychloroquine Retinopathy Screening at Rochdale Eye Unit, United Kingdom
Maha Noor, Rehna Khan, Suresh Kafle (United Kingdom)
- 105 S.038 Nanofibrous scaffolds with ex vivo cultured human iPSC-derived RPE cells for transplantation into porcine eyes
Taras Ardan¹, Slaven Erceg^{1,2}, Ana Artero-Castro², Hana Studenovská¹, Brigitte Mueller³, Knut Stieger³, Štěpán Popelka¹, Lyubomyr Lytvynchuk³, Zbyněk Straňák¹, Lucie Tichotová¹, Zdeňka Ellederová¹, Jana Čížková¹, Jana Juhásová¹, Jan Motlík¹, Goran Petrovski⁴ (¹Czech Republic, ²Spain, ³Germany, ⁴Norway)
- 106 S.039 Geographic atrophy in AMD - prognostic factors based on long-term follow-up
Luca Cedro¹, Laura Hoffmann², Hatz Katja¹ (¹Switzerland, ²Germany)
- 108 S.040 Analysis of progression rate of idiopathic macular hole and optimal cut-off for baseline minimum linear diameter and base diameter
Joo Young Kim, Raeyoung Kim, Mirinae Kim, Young Gun Park, Young-Hoon Park (South Korea)
- 111 S.041 Efficacy and safety of preoperative intravitreal dexamethasone implants for cataract surgery in patients with uveitis with persistent inflammation
Seo-Yeon Hong, Raeyoung Kim (South Korea)

Saturday
15 October 2022



- 118 S.042 Inner retinal layers' thickness changes in relation to age in healthy eyes
Melisa Remis-Gonzalez, Carolina Moreira-Esteban, María Puell, Juan Cedrun-Sanchez (Spain)
- 130 S.043 Leber congenital amaurosis and early onset severe retinal dystrophy in the Czech Republic: mutational spectrum and clinical findings
Marie Vajter, Bohdan Kousal, Jana Moravikova, Monika Chylova, Lubica Dudakova, Daniela Stankova, Arpad Boday, Vera Krutilkova, Petra Liskova (Czech Republic)
- 144 S.044 Assessment of silicone oil emulsification by OCT in patients undergoing pars plana vitrectomy
Francisco Javier Valentín Bravo, Eduardo Valentín Bravo, Ricardo Usategui Martín, Cristina Andrés Iglesias, Salvador Pastor Idoate (Spain)
- 150 S.045 From difficult to general - a new approach to the ROP neovascularization system
Maria Kovalevskaya, Oxana Pererva (Russian Federation)
- 152 S.046 Cardiovascular risk prediction by artificial neural networks using dye-based angiography and OCT angiography data
Rodolphe Vallée, Dilsah Korpe, Georgios N. Tsiropoulos, Enrico Meduri, Daniella Gallo Castro, Ambresin Aude (Switzerland)
- 157 S.047 Influence of scan direction on subfoveal choroidal vascularity index using optical coherence tomography
Yung-Hwi Kim, Hyung-Nam Jin, Hyun-Ji Kim, Jong-Hoon Lee, Yong-Sok Ji (South Korea)
- 179 S.048 A systematic literature review of disease progression in RPGR-associated X-linked retinitis pigmentosa
Nan Li, Mahmoud Hashim, Hendrik Scholl, Byron Lam (USA)
- 199 S.049 Tomographic prognostic factors for visual improvement after pars plana vitrectomy for epiretinal membrane
Slim Nouri, Saloua Ben Amor, Mouna Rekik, Omar Ayedi, Amira Trigui (Tunisia)
- 200 S.050 Retinal damage following ocular hypothermia during vitreoretinal surgery in rabbits
Oleg Zadorozhnyy, Volodymyr Naumenko, Eduard Maltsev, Rudolph Nazaretyan, Nataliya Pasychnikova (Ukraine)
- 201 S.051 Swept-source optical coherence tomography angiography in toxoplasmic retinochoroiditis
Meryem Doukh, Imen Ksaa, Hager Ben Amor, Nesrine Abroug, Bechir Jelliti, Sana Khochteli, Moncef Khairallah (Tunisia)
- 202 S.052 Intraocular foreign bodies imaging by transpalpebral near-infrared transillumination
Oleg Zadorozhnyy, Mykhailo Kogan, Andrii Korol, Nataliya Pasychnikova (Ukraine)
- 212 S.053 Effect of photobiomodulation in suppression of oxidative stress on retinal pigment epithelium
Yejin Lee, Jongmin Kim, Jae Yon Won (South Korea)
- 218 S.054 Therapeutic approach in non-proliferative diabetic retinopathy using antioxidant supplementation
Helena Cristina Campos-Borges¹, Maria Dolores Pinazo-Duran¹, Irene Andres-Blasco¹, Jose Javier Garcia-Medina¹, Vicente Zanon-Moreno¹, Alex Gallego-Martinez¹, Jose Manuel Salgado-Borges², Lilianne Duarte², Cristina Prudêncio² (¹Spain, ²Portugal)
- 219 S.055 Evaluation of the effect of cigarette smoking on retina and choroid: an optical coherence tomography angiography study
Hela Sassi, Safa Ben Aoun, Khawla Fekih, Slim Nouri, Khadija Mzoughi, Monia Cheour (Tunisia)
- 220 S.056 Choroidal vascularity index : an emerging useful metric for choroidal structure assesement in pachychoroid spectrum disease
Hela Sassi, Yosra Abid, Ouederni Meriem, Slim Nouri, Monia Cheour (Tunisia)
- 221 S.057 Pigment epithelium and choroid changes in pachychoroid pigment epitheliopathy : a descriptive study
Yosra Abid, Hela Sassi, Karim Chaabouni², Meriem Ouederni, Rim Maamouri, Monia Cheour (Tunisia)



- 222 S.058 Are choroidal vascularity parameters influenced by age, hypertension and visual acuity in pachychoroid spectrum diseases?
Yosra Abid, Hela Sassi, Meriem Ouederni, Slim Nouri, Karim Chaabouni, Monia Cheour (*Tunisia*)
- 240 S.059 Intravitreal panitumumab for prevention of myopic axial elongation in highly myopic adult eyes with myopic macular degeneration: phase 1 study on safety
Jost Jonas¹, M. Gyullli¹, Frank Holz¹, Songhomitra Panda-Jonas¹, Gilemzyanova Leisan², Dinar A. Khakimov Dinar², Bikbov Mukharram² (¹*Germany*, ²*Russian Federation*)
- 259 S.060 Gene editing strategy for development of an inherited retinal dystrophy model based on iPSC-derived photoreceptors with mutation in the PROM1 gene
Ivan Fernandez-Bueno, Kevin Puertas-Neyra, Leticia Hernández-Rodríguez, Dino Gobelli, Maria Simarro, Ricardo Usategui-Martín, Rosa Coco, Miguel Angel de la Fuente (*Spain*)
- 278 S.061 GPx4 reduces laser-induced choroidal neovascularization by inhibiting ferroptosis
Sichang Qu, Franz Grus (*Germany*)
- 285 S.062 Retinal vascular study using OCTA in subjects at high genetic risk of developing Alzheimer's disease
Inés López-Cuenca, Elena Salobrar-Garcia, Lidia Sanchez-Puebla, Eva Espejel, Lucia García Del Arco, María Pilar Rojas Lozano, Lorena Elvira-Hurtado, José A. Fernández-Albarral, Juan Jose Salazar, Federico Ramírez-Toraño, Ana Barabash, Rosa De Hoz, Jose Manuel Ramirez, Ana Isabel Ramirez (*Spain*)
- 289 S.063 Synchrotron radiation-based infrared micro-spectroscopy characterization of different types of epiretinal proliferations
Sofija Andjelic¹, Martin Kreuzer², Marko Hawlina¹, Xhevat Lumi¹ (¹*Slovenia*, ²*Spain*)
- 292 S.064 Retinal maculo-papillary OCT and hippocampal and others cerebral areas MRI in subjects with a family history of Alzheimer's disease and allelic characterisation for ApoE ε4
Lidia Sanchez-Puebla, Inés López-Cuenca, Elena Salobrar-Garcia, Lorena Elvira-Hurtado, José A. Fernández-Albarral, María Pilar Rojas Lozano, Ana Isabel Ramirez, Juan Jose Salazar, Aberto Marcos-Dolado, Miguel Yus Fuertes, Ana Barabash, Federico Ramírez-Toraño, Rosa De Hoz, Jose Manuel Ramirez (*Spain*)
- 320 S.065 Implementation of a virtual screening service for hydroxychloroquine and chloroquine retinopathy: one-year results
Catarina Ferreira, Joana Fernandes, Eduardo Saraiva, Sofia Fonseca (*Portugal*)
- 326 S.066 Relationship of APOE ε4 allele and BDNF Val66Met polymorphism to retinal structural and vascular OCTA parameters in aging cohort: optic nerve decline and cognitive change study
Samran Sheriff, Ting Shen, Danit Saks, Nitin Chitranshi, Angela Schulz, Stuart Graham, Vivek Gupta (*Australia*)
- 328 S.067 Choroidal neovascularization (CNV) due to non age-related macular degeneration (AMD) causes: multimodal imaging and treatment outcome in a retrospective case series
Stamatina Kabanarou, Nikolaos Bitzanakis, Vasiliki Mamareli, Sophia Ioanna Makryllou, Christina Garvanou-Xirou, Ilias Gkizis, Tina Xirou (*Greece*)
- 332 S.068 Retinal pigment epithelium (RPE) cells carrying the complement factor H (CFH) Y402H polymorphism show an altered phenotype and cause retinal degeneration in a novel co-culture model for age-related macular degeneration (AMD)
Angela Armento¹, Inga Sonntag¹, Simon Clark¹, Berta De La Cerda Haynes², Marius Ueffing¹ (¹*Germany*, ²*Spain*)
- 333 S.069 Ambra1 haploinsufficiency results in metabolic alterations and exacerbates age-associated retinal degeneration
Beatriz Villarejo-Zori, Ignacio Ramírez-Pardo, Juan Ignacio Jiménez-Loygorri, Elena Sierra-Filardi, Sandra Alonso-Gil, Raquel Gómez-Sintes, Patricia Boya (*Spain*)



- 356 S.070 Quantification of vascular pathology in the retina through probability distributions of central artery and vein width equivalent
Asmae Igalla El Youssefi, Juan Cedrun-Sanchez, María Puell, José Manuel López Alonso (*Spain*)
- 369 S.071 Brain-derived neurotrophic factor-mimetic compounds in biodegradable microspheres as novel neuroprotective approaches for retinal diseases
rf **Marco Brugnera¹, Flavia Messina², Alison Reynolds², Niall O'Reilly², Giedrius Kalesnykas³, Rocío Herrero-Vanrell¹, Breandán Kennedy², Irene Bravo-Osuna¹** (*¹Spain, ²Ireland, ³Finland*)
- 373 S.072 Managing recurrent macular holes with ready-to-use freeze-dried disks of human amniotic membranes
rf **Thibaud Mathis¹, Marc De Smet², Laurence Barnouin¹, Kodjikian Laurent¹** (*¹France, ²Switzerland*)
- 375 S.073 Characterization of retinal ganglion cells subtypes in the rat retina
Noelia Ruzafa, Patricia Villegas, Laura Prieto, Xandra Pereiro, Elena Vecino (*Spain*)
- 376 S.074 The relationship of retinal vessel calibers with cardiovascular risk factors in apparently healthy young eyes
Asmae Igalla El Youssefi, Beatriz Hidalgo-Saiz, Juan Cedrun-Sanchez, José Manuel López Alonso, María Puell (*Spain*)
- 377 S.075 The stiffness of the substrate affects Müller cell survival, morphology and reactivity
rf **Laura Prieto, Xandra Pereiro, Patricia Villegas, Noelia Ruzafa, Elena Vecino** (*Spain*)
- 380 S.076 Retinal tissue oxygenation differs between eye fundus regions, but not with age, sex, and intraocular pressure in non-human primates
rf **Cléophaçe Akitegetse, Jasmine Poirier, Nicolas Lapointe, Éric Hamel, Joannie Desroches, Natasha Dargis, Roberta Palmour, Maurice Ptito, Jean-François Bouchard** (*Canada*)
- 394 S.077 Changes in retinal thickness assessed by optical coherence tomography after successful rhegmatogenous retinal detachment surgery in one year follow up
Miguel Castillo Fernández, Isabel Bartolomé Sesé, Ismael Bakali el Bakali, Pablo Andrés Cisneros Arias, Marta Orejudo de Rivas, Eva Josefina Núñez Moscarda, Julia Aramburu Clavería, Marta Suárez Martínez, Guillermo Pérez Rivasés, Javier Ascaso Puyuelo, Isabel Pinilla Lozano (*Spain*)
- 396 S.078 A rare case of a combined retinal artery and vein occlusion in a young patient
Eunice Goh, Tun Hang Yeo, Yan Yee Hah (*Singapore*)
- 399 S.079 Clinical features of inflammatory vitreous hemorrhage: a comparative study between children and adults
Meryem Doukh, Nesrine Abroug, Tarek Dridi, Yassine Belghith, Aida Jallouli, Sonia Attia, Moncef Khairallah (*Tunisia*)
- 409 S.080 Changes in choroidal and retinal thickness assessed by optical coherence tomography in Type 2 diabetes mellitus patients with moderate diabetic retinopathy
Guisela Fernández-Espinosa, Elvira Orduna-Hospital, Ana Boned-Murillo, María Dolores Díaz-Barreda, Sofía Bielsa-Alonso, María Sopeña-Pinilla, Ana Sánchez-Cano, Isabel Pinilla (*Spain*)
- 413 S.081 An evaluation of patients with neovascular age-related macular degeneration (nAMD) and receipt of the first intravitreal injection at Rochdale Eye Unit, United Kingdom
Maha Noor, Sammie Mak, Hussin Hussin (*United Kingdom*)
- 414 S.082 Healing features of outer retinal layers on SS OCT in VKH disease
Safa Ben Aoun, Dhouha Nefzi, Zeineb Salem, Meriem Doukh, Imen Ksaa, Moncef Khairallah (*Tunisia*)
- 424 S.083 Bilateral uveitis following nivolumab and ipilimumab treatment for mesothelioma
Theodora Stavropoulou¹, Andreas Theodorakis¹, Areti Papazacharia¹, Konstantinos Papadedes² (*¹United Kingdom, ²Greece*)



- 426 S.085 Anatomical changes in the retinal capillary plexuses assessed by optical coherence tomography angiography in diabetic patients
Guísela Fernández-Espinosa, Elvira Orduna-Hospital, Ana Boned-Murillo, María Sopena-Pinilla, María Dolores Díaz-Barreda, Sofía Bielsa-Alonso, Isabel Bartolomé-Sesé, Isabel Pinilla (Spain)
- 428 S.086 Unilateral neuroretinitis as manifestation of syphilitic disease
Marta Suñer Martínez, Julia Aramburu Clavería, Miguel Castillo Fernández, Marta Orejudo Derivas, Eva Josefina Núñez Moscarda, Pablo Cisneros Arias, Ismael Bakkali El Bakkali, Guillermo Pérez Rivasés, Javier Ascaso (Spain)
- 433 S.087 Vascular parameters after vitrectomy for rhegmatogenous retinal detachment, an optical coherence tomography angiography study
George Bontzos, George Smoustopoulos, Ilias Gkizis, Evgenia Kontou, Christina Garnavou-Xirou, Stamatia-Tina Xirou (Greece)
- 441 S.089 Optical coherence tomography angiography findings in patients with essential hypertension
Monia Cheour, Safa Ben Aoun, Slim Nouri, Khadija Mzoughi, Hela Sassi (Tunisia)
- 442 S.090 Paracentral acute middle maculopathy secondary to retinal artery macroaneurysm elucidates anatomy and physiology of retinal capillary plexus
Eunice Goh, Wei Kiong Ngo (Singapore)
- 443 S.091 Optic disc pit macular serous detachment recurrence. A surgical approach using ILM autograph
rf **Efstratios Parikakis, Aspasia Diafa, Loukas Kontomichos, Georgios Batsos, Theodora Gianni, Nikolaos Mpouratzis, Evangelos Spanos, Dimitrios Karagiannis (Greece)**
- 445 S.092 Closure of large macular holes
rf **Oksana Ilyuk (Ukraine)**
- 446 S.093 Multimodal imaging features in chorioretinitis sclopetaria
Molka Ferchichi, Rym Maamouri, Slim Nouri, Hela Sassi, Monia Cheour (Tunisia)
- 447 S.094 Ultra-wide field fluorescein angiography in intermediate and posterior uveitis: a retrospective study
Theodora Stavropoulou¹, Andreas Theodorakis¹, Konstantinos Papadedes² (¹United Kingdom, ²Greece)
- 449 S.095 Optical coherence tomography angiography reveals retinal microvascular changes in patients with multiple sclerosis without optic neuritis
Alina Popa-Cherecheanu¹, Mihai Bostan¹, Jacqueline Chua², Yin Ci Sim², Bingyao Tan², Inna Bujor¹, Gerhard Garhofer³, Leopold Schmetterer^{2,3,4} (¹Romania, ²Singapore, ³Austria, ⁴Switzerland)
- 467 S.096 Retinal vascular abnormalities in a patient with an overgrowth syndrome
Miriam Montserrat Sancho Romero, Alicia Traveset Maeso, Anna Serret Camps, Felipe Costales Mier, Fernando Paredes Carmona (Spain)
- 472 S.097 ATN grading system in a dome-shaped macula and ridge shaped macula highlymyopic cohort
María García-Zamora, Ignacio Flores-Moreno, Jorge Ruiz-Medrano, Mariluz Puertas, Elena Almazan-Alonso, Rocio Vega-Gonzalez, Lucia Gonzalez-Buendia, Jose M. Ruiz-Moreno (Spain)
- 473 S.098 The effect of sodium glucose transporter 2 inhibitor in diabetic macular edema. A pilot study
Irene Gil Hernández, Delia Hernandez Perez, Maria Jesus Puchades Montesa, Jose Luis Gorriz Teruel, Antonio M. Duch-Samper (Spain)
- 478 S.099 Swept source optical coherence tomography and optical coherence tomography angiography for diagnosis and follow-up of type 2 macular telangiectasia
Khawla Fekih, Meriem Ouederni, Rim Maamouri, Safa Ben Aoun, Hela Sassi, Monia Cheour (Tunisia)



- 486 *rf* S.100 Systemic lupus erythematosus purtscher like retinopathy optical coherence tomography angiography assessment implications
Enrique Garcia-Soler¹, Clara Martínez Rubio¹, Marc Dominique De Smet², Patricia Udaondo Mirete¹, David Salom Alonso¹ (¹Spain, ²Switzerland)
- 488 S.101 Inner limiting membrane bridges within Bruch's membrane defects in pathological myopia
Rahul Jonas¹, Jost Jonas^{1,2}, Gerd Auffarth¹, Songhomitra Panda-Jonas¹ (¹Germany, ²Switzerland)
- 494 *rf* S.102 Comparative study of lipid profile influence on foveal avascular central zone
Safa Ben Aoun, Hela Sassi, Khawla Fekih, Slim Nouri, Khadija Mzoughi, Monia Cheour (*Tunisia*)
- 509 S.103 Autofluorescence imaging for diagnosis and follow-up of serpiginous choroiditis
Maria Victoria Navarro Abellán, Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Carmen Miquel López, Elisa Foulquié Moreno, Celia Gómez Molina, Jose Javier Garcia-Medina (*Spain*)
- 518 S.104 Distinguishing clinical and etiological profile of occlusive retinal vasculitis in a referral center in Tunisia, North Africa
Issam Eddine Malouch, Nesrine Abroug, Molka Khairallah, Yassine Belghith, Sonia Attia, Moncef Khairallah (*Tunisia*)
- 522 S.105 Large macular hole surgery using an inverted flower internal limiting membrane flap technique
Diana Chichur (*Ukraine*)
- 527 S.106 Structural and functional exploration of the retinal vasculature in HANAC syndrome associated with a novel intronic COL4A1 mutation
Céline Faure, Cindy Castrale, Anaïs Benabed, Pauline Cognard, Romain Lezé, Marion Gérard, Céline Louapre, Michel Paques (*France*)
- 529 *rf* S.107 Expression and activation of MMP10 in retinal pigment epithelium cell lines and plasma levels in age related macular degeneration patients
Jorge Gonzalez-Zamora, Maria Hernandez, Jaione Bezunartea, Sergio Recalde, Idoia Belda Zuazu, Maite Moreno Orduña, Patricia Fernandez-Robredo, Alfredo García Layana (*Spain*)
- 534 S.108 Genetic variability of inflammation and oxidative stress genes in retinal detachment patients with and without proliferative vitreoretinopathy
Xhevat Lumi¹, Filippo Confalonieri², Metka Ravnik-Glavač¹, Katja Goričar¹, Tanja Blagus¹, Vita Dolžan¹, Goran Petrovski², Marko Hawlina¹, Damjan Glavač¹ (¹Slovenia, ²Norway)
- 538 S.109 Correlation between systemic and ocular pressure-related factors with anatomic parameters in patients with diabetes
Galina Dimitrova, Ivana Petkovska, Dushan Kemera, Natasha Nedeska Minova, Hasan Taner, Antonela Ljubic, Lidija Lazarevska (*Macedonia*)
- 541 S.110 Decreasing laquer cracks in high myopia: a case series
Rahul Jonas¹, C.C. Wei², Jonas Jost^{1,3}, Yaxing Wang² (¹Germany, ²China, ³Switzerland)
- 550 *rf* S.111 Vogt-Koyanagi-Harada disease following a serology-proven Bartonella henselae retinitis : a case report
Khawla Fekih, Hager Ben Amor, Mahjoub Ahmed, Slimen Meriem, Khochtali Sana, Sonia Attia, Imen Ksaa, Moncef Khairallah (*Tunisia*)
- 552 S.112 Intermediate uveitis associated with Cogan's syndrome
Amina El Mayel, Hager Ben Amor, Ilhem Sellem, Rahma Mesfar, Sana Khochtali, Imen Ksaa, Moncef Khairallah (*Tunisia*)
- 558 S.113 Perfusion index, vascular density and foveal avascular zone in superficial retinal capillary plexus using Zeiss Angioplex in diabetic macular edema pre and post application of ranibizumab
Ricardo Hayashi-Mercado (*Mexico*)
- 564 S.114 The safety of ranibizumab and bevacizumab on senescent retinal pigment epithelial cells
Jeongah Shin, Gyudeok Hwang (*South Korea*)



- 565 S.115 Idiopathic macular hole surgery using inverted temporal internal limiting membrane flap technique
Don Il Ham (*South Korea*)
- 567 S.116 Considerations for the management of low vision in retinitis pigmentosa with tunnel vision: a case series
Latifah Latifah, Nadia Dewi, Sulistiyowati Anny (*Indonesia*)
- 573 S.117 Patterns of sclero-uveitis in a referral center in Tunisia, North Africa
Issam eddine Malouch, Nesrine Abroug, Yassine Belghith, Meriem Haj Slimene, Sonia Attia, Moncef Khairallah (*Tunisia*)
- 584 S.118 Central serous chorioretinopathy complicated by neovascularization following panretinal photocoagulation for diabetic retinopathy
Slim Nouri, Hela Sassi, Nafaa Fehmy, Wafa Hadrich, Monia Cheour, Ouederni Meriem (*Tunisia*)
- 586 S.119 Ex vivo model for the measurement of intraocular pressure and force of injection during the administration of hollow microneedles in porcine sclera
Katie Glover, Deepakkumar Mishra, Raj Thakur (*United Kingdom*)
- 589 S.120 Focal laser photocoagulation treatment in polypoidal choroidal vasculopathy: long-term follow-up
Yasmine Houmane, Ouederni Meriem, Rym Maamouri, Hela Sassi, Monia Cheour (*Tunisia*)
- 590 S.121 Myopic maculopathy and posterior staphyloma. Correlation with atn classification and severe pathological myopia
rf
María García-Zamora, Ignacio Flores-Moreno, Jorge Ruiz-Medrano, Mariluz Puertas, Elena Almazan-Alonso, Rocio Vega-Gonzalez, Jose M. Ruiz-Moreno (*Spain*)
- 595 S.122 Multilayered premacular hemorrhage associated with central retinal vein occlusion
Faten Cherif, Ouederni Meriem, Gharbi Zaienb, Nafaa Fehmy, Monia Cheour (*Tunisia*)
- 597 S.123 Evaluation of contrast sensitivity and color vision in patients with diabetic retinopathy
Stavroula Almpnidou, Diamantis Almaliotis, Theodosios Chatziballis, Anna Nikolaidou, Persefoni Talimtz, Vasileios Karampatakis (*Greece*)
- 598 S.124 Anatomical and functional outcomes of retinotomy on primary inferior rhegmatogenous retinal detachment
Sofia Teixeira, Catarina Ferreira, Lígia Ribeiro, Miguel Bilhoto (*Portugal*)
- 599 S.125 Neuronal and vascular segregation reveals the impact of systemic hypertension on peripapillary RNFL thickness in diabetic patients without diabetic retinopathy
Leopold Schmetterer, Damon Wong, AiPing Yow, Bingyao Tan, Rahat Hussain, Jacqueline Chua (*Singapore*)
- 608 S.126 Re-audit of the preoperative, intraoperative and postoperative management of patients with diabetes undergoing cataract surgery within the National Health Services (NHS), United Kingdom (UK)
Sammie Mak, Arpita Jain (*United Kingdom*)
- 609 S.127 Morphology-structural software: Interests for AMD drusenoid deposits "L", lipid type, density, structural, volume analysis and evolution. 5 years follow-up
rf
Corinne Gonzalez (*France*)
- 622 S.128 Atypical venous vasculitis as a complication of venous thrombosis
rf
Juan Antonio Sánchez Perea, Manuel Almarcha Menargues, Carmen Miquel López, Maria Victoria Navarro Abellán (*Spain*)
- 630 S.129 Myopic macular Bruch's membrane defects
Jost Jonas, Songhomitra Panda-Jonas, Rahul Jonas (*Germany*)
- 631 S.130 Choroidal thickness in exudative age-related macular degeneration and influence of intravitreal anti-VEGF treatment
Rita Rodrigues, Ana Moleiro, Ângela Carneiro, Manuel Falcão (*Portugal*)



- 634 S.131 Photoreceptor density in dependence of axial length and retinal location in human eyes
Songhomitra Panda-Jonas, Jost Jonas, Rahul Jonas (Germany)
- 643 S.132 Adaptive optics scanning laser ophthalmoscopy characterization of cone photoreceptor reflectivity perturbation by drusen and subretinal drusenoid deposits
Yuhua Zhang¹, Xiaolin Wang¹, Ruixue Liu¹, Sujin Hoshi^{1,2} (¹USA, ²Japan)
- 653 S.133 New model of complete retinal degeneration: a good tool for therapeutic essays?
Víctor Paleo, Santiago Milla, Francisco Germain, Pedro de la Villa (Spain)
- 658 S.134 Uveitis in the elderly: clinical and demographic characteristics
rf **Amina El Mayel, Hager Ben Amor, Marwa Romdhane, Hichem Aoun, Sonia Attia, Moncef Khairallah (Tunisia)**
- 662 S.135 Generation and characterization of human USH2A retinal disease model
rf **Ana Flores, Belen García, Gema Garcia, Noelia Pimentel Mayordomo, Maria Esther Gallardo, Carmen Ayuso Garcia, Jose Maria Millán, Dunja Lukovic (Spain)**
- 663 S.136 Metabolic effects of the retina in a murine model of AD (TgSwDI)
Mariana Yolotzin García-Bermúdez, Rupali Vohra, Kristine Freude, Maj Schneider Thomsen, Blanca Irene Aldana, Miriam Kolko (Denmark)
- 666 S.137 Surgical management of disc pit maculopathy: a case report
Miguel Castillo Fernández, Guillermo Pérez Rivasés, Ismael Bakkali El Bakkali, Eva Josefina Núñez Moscarda, Marta Orejudo de Rivas, Pablo Andrés Cisneros Arias, Marta Suñer Martínez, Julia Aramburu Clavería, María Olivia Esteban Floria, Isabel Bartolomé Sesé, Javier Ascaso Puyuelo, Isabel Pinilla Lozano (Spain)
- 676 S.138 P2X7R and TNFR1 antagonism neuroprotects rodent retinal ganglion cells in a sepsis model
Kristy Tatiana Rodríguez Ramírez, Francesco Calzaferrri, Cristobal De Los Rios, Manuel Vidal-Sanz, Marta Agudo-Barriuso (Spain)
- 684 S.139 Autophagy modulation in organotypic retinal cultures exposed to high glucose
rf **Annagrazia Adornetto, Maria Luisa Laganà, Andrea Satriano, Giacinto Bagetta, Rossella Russo (Italy)**
- 688 S.140 Traumatic acute retrobulbar hemorrhage complicated with central retinal artery occlusion
Dhouha Gouider, Jihene Sayadi, Racem Choura, Nourhene Aidi, Haythem Raihan, Manel Mekni, Imene Zeghal, Ines Malek, Leila Nacef (Tunisia)
- 693 S.141 Changes in retinochoroidal vascularization evaluated by OCTA in long time evolution DM1 patients
rf **Isabel Pinilla, Maria Sopeña-Pinilla, Ana Boned-Murillo, M^a Dolores Díaz-Barreda, Guisela Fernández-Espinosa, Isabel Bartolome, Javier Acha, Elvira Orduna Hospital (Spain)**
- 705 S.142 Long-term follow up of macular perfusion evaluated by optical coherence tomography angiography after rhegmatogenous retinal detachment surgery
Isabel Pinilla, Isabel Bartolome, M^a Dolores Díaz-Barreda, Ana Boned-Murillo, Guisela Fernández-Espinosa, Maria Sopeña-Pinilla, Elvira Orduna Hospital (Spain)
- 711 S.143 Multimodal imaging of tuberculous serpiginous-like choroiditis
Nourhene Aidi, Jihene Sayadi, Rym Saidani, Racem Choura, Dhouha Gouider, Manel Mekni, Haythem Raihan, Olfa Fekih, Imene Zeghal, Ines Malek, Leila Nacef (Tunisia)
- 719 S.144 Eight years follow-up of two choroideremia patients with a new mutation of the choroideremia gene
rf **M^a Dolores Díaz-Barreda, Ana Boned-Murillo, Isabel Bartolome, Elvira Orduna Hospital, Guisela Fernández-Espinosa, María Sopeña, Isabel Pinilla (Spain)**
- 721 S.145 AMD drusenoid deposits "L", lipid type, AMD atrophy complication lipidomics profile: characteristics, links-correlations
Corinne Gonzalez (France)



- 747 S.146 Retinal pigment epithelial (RPE) tears after serous pigment epithelial detachment (PED) in wet AMD: a retrospective study of 23 patients
Nicolas Skalicky, Luca Cedro, Hatz Katja (Switzerland)
- 756 S.147 Fluocinolone acetonide intravitreal implant for the treatment of macular edema: long-term outcomes from a single tertiary hospital
Leyre Sanz Gallén, Noemi Ruiz Del Rio, J.M. Vilaplana-Mora, F. Alarcón-Correcher, Sonia Andreu Natividad, F. García Ibor, Antonio M. Duch-Samper (Spain)
- 757 S.148 Vitreo-retinal injuries in the practice of padel, a problem on the rise
Andrés Biescas Merino, Jacobo Yañez Merino, Mario Garcia Hermosín, Inés Munuera Rufas, Damián García Navarro (Spain)
- 761 S.149 Retinal vascular changes in response to hypoxia
Jessica Westwood, Ciaran Simpkins, India Mayhook-Walker, Eduardo Maria Normando, Daniel Morris, Andrew Darby-Smith (United Kingdom)
- 762 S.150 Morphological changes of eye tissues after the influence of high-frequency electric current welding with suprachoroidal approach to induce chorio-retinal adhesion
Omar Saoud¹, Andrii Sergiienko¹, Anatoliy Korol¹, Mykola Umanets¹, Goran Petrovski², Matus Rehak³, Lyubomyr Lytvynchuk¹ (¹Ukraine, ²Norway, ³Germany)
- 768 S.151 Evaluation of choroidal thickness in AMD: a 10-year follow-up study
Ana Filipa Moleiro, Rita Rodrigues, Ângela Carneiro, Manuel Falcão (Portugal)
- 770 S.152 Repeatability of retinal thickness measurements in children using spectral domain optical coherence tomography
rf
Ana Boned-Murillo, Diana Perez Garcia, Maria Dolores Diaz, Ana Sánchez Cano, Leon Remon, Elvira Orduna Hospital, Guisela Fernández-Espinosa, Maria Sopeña Pinilla, Guillermo Pérez Rivasés, Isabel Pinilla Lozano (Spain)
- 775 S.153 Fundus autofluorescence pattern in different cases of cone inherited macular dystrophies
Ana Boned-Murillo, Maria Dolores Diaz, Isabel Bartolome, Elvira Orduna Hospital, Javier Mateo Gavas, Guisela Fernández-Espinosa, Maria Sopeña Pinilla, Isabel Pinilla Lozano (Spain)
- 785 S.154 Age- and sex-based evaluation of the association between refractive error and age-related macular degeneration in the Korean population
rf
Donghyun Jee (South Korea)
- 787 S.155 Effect of olfactory ensheathing glia clone TEG3 on neuroprotection, microglial activation and gene expression profile of allotransplanted retina with and without immunosuppression
María Norte Muñoz, María Portela-Lomba, Paloma Sobrado-Calvo, Johnny Di Pierdomenico, Manuel Vidal-Sanz, María Teresa Moreno-Flores, Marta Agudo-Barriuso (Spain)
- 790 S.156 Cardiovascular risk factors and characterization of retinal drusen by OCT in subjects with genetic risk for the development of Alzheimer disease
rf
Elena Salobar-Garcia, Lidia Sánchez-Puebla, Ines Gil-Salgado, Lorena Elvira-Hurtado, José A. Fernández-Albarral, Jose A. Matamoros, Jose Manuel Ramirez, Ana I. Ramirez, Federico Ramirez-Toraño, Ana Barabash, Juan Jose Salazar, Rosa De Hoz (Spain)
- 811 S.157 Spontaneous resolution of treatment-resistant foveal capillary macroaneurysms in retinal diseases
Imene Zhioua Braham (France)
- 816 S.158 Efficacy and safety of pneumatic vitreolysis for management of vitreomacular traction syndrome
Imene Zhioua Braham (France)



13:15-14:30 | CALATRAVA 2

CIS Industry Sponsored Symposium

Ocular surface: revisiting the past to realise a new future

Chair: Jesus Merayo Lloves (*Spain*)

Ocular surface & perio-ocular skin problems: management plan
Konstadinos Boboridis (*Greece*)

Dry eye and cytokines production: how to regulate
Franz Grus (*Germany*)

Assessment & management of dry eye flare
Elisabeth Messmer (*Germany*)

MGD and cataract surgery
Alina Cantemir (*Romania*)





12:30-13:30 | CALATRAVA 1



Industry Sponsored Symposium



LHON: new insights for a clinical challenge

Chairs: **Francisco Muñoz Negrete** (*Spain*), **Alfredo Sadun** (*USA*)

Chairs' introduction

Francisco Muñoz Negrete (*Spain*), **Alfredo Sadun** (*USA*)

LHON: from clinical suspicion to differential diagnosis

Lorena Castillo Campillo (*Spain*)

Beyond LHON: pathophysiology and therapeutic window

Marcela Votruba (*United Kingdom*)

Present and future of LHON treatment

Patrick Yu Wai Man (*United Kingdom*)

Discussion co-chairs & speakers

Friday
14 October 2022



Acknowledgements

SIS G-59 - Updates on neuroprotective approaches in glaucoma (EGS SIG)

Organized with the unconditional support of Santen

JM PBP-222 - The retina, a surrogate to study neuroprotection in the central nervous system

Joint Meeting EVER - ARVO

Organized with the unconditional support of VISUfarma

SIS MBGE-38 - The origin of myopia - epidemiology, visual control and signaling pathways SIS

Organised with the unconditional support of Essilor

JM RV-206 - Update in degenerative eye diseases and neuroprotection

Joint Meeting EVER - Universidad de Valencia

Organized with the unconditional support of Universitat de Valencia

SIS G-204 - The lifespan of glaucoma - from zero to hundred SIS

Organized with the unconditional support of Thea

SIS G-228 - In vivo identification of angle dysgenesis: implications for management SIS

Organized with the unconditional support of Heidelberg Engineering



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LHON
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LHON: new insights for a clinical challenge

Chiesi Symposium

23rd European Association for Vision and Eye Research (EVER) Congress
14th October 2022 | 12.30 | Calatrava 1

5 mins	Chairs' introduction <i>Alfredo Sadun & Francisco Muñoz Negrete</i>
15 mins	LHON: from clinical suspicion to differential diagnosis <i>Lorena Castillo Campillo</i>
15 mins	Beyond LHON: pathophysiology and therapeutic window <i>Marcela Votruba</i>
15 mins	Present and future of LHON treatment <i>Patrick Yu Wai Man</i>
10 mins	Discussion <i>Co-chairs & speakers</i>

LHON = Leber's hereditary optic neuropathy.

This industry-sponsored educational symposium is organised and funded by CHIESI FARMACEUTICI S.p.A. and is intended for healthcare professionals only.
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let's open our eyes

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