



**Retina
4Future**



Retina4Future 1st Scientific Meeting

COST Action 24105

***Uniting science and solutions: accelerating
translation in retinal research***

12th and 13th March

NOVA Medical School

Rua Câmara Pestana, 6, 1150-082

Lisboa, Portugal



PROGRAM

DAY 1 - Thursday, 12th March

- 13:00 – 14:00** Registration
- 14:00 – 14:10** **Welcoming remarks**
Sandra Tenreiro, Chair, and Francisco Diaz-Corrales, Co-Chair
- 14:00 – 15:50** **Session 1: Models and Tools**
Chairs: Gulcin Cakan-Akdogan, Türkiye, and Ana Sofia Falcão, Portugal
- 14:10 – 14:25** **O.01 | Highlight talk: Modeling Human Eye Development and Disease Using Stem Cell–Derived Organoids**
Tomas Barta, Masaryk University, Czech Republic
- 14:25 – 14:40** **O.02 | Highlight talk: CRX Gene-Based Therapy: A Multi-Indication Strategy for Inherited Retinal Degenerations**
Jerome E Roger, CNRS - Retina France, France
- 14:40 – 14:50** **O.03 | Experimental Ophthalmology Group (Murcia): Animal Models and Research Areas**
Marta Agudo-Barriuso, Universidad de Murcia, Spain
- 14:50 – 15:00** **O.04 | Development of novel anti-VEGF scFv antibodies for treatment of AMD and an integrated pipeline for *in vivo* zebrafish testing**
Gulcin Cakan-Akdogan, Izmir Biomedicine and Genome Center, Türkiye
- 15:00 – 15:10** **O.05 | Minipig Models of Retinopathies and Their Potential for Gene and Cell Therapy Testing**
Zdenka Ellederová, Czech Academy of Sciences, Czech Republic
- 15:10 – 15:20** **O.06 | Discovery of Retina-Protective Compounds and Development of Single-Cell Methods for Subcellular Proteotoxic Stress**
Jiří Voller Affiliation, Palacký University, Czech Republic
- 15:20 – 15:30** **O.07 | Deciphering USH2A retinitis pigmentosa in human *in vitro* model**
Dunja Lukovic, Universidad Cardenal Herrera-CEU, Spain
- 15:30 – 15:40** **O.08 | Mathematical modeling of epithelial gap closure and wound healing: general setting and RPE**
Luís Almeida, Sorbonne Université, France

- 15:40 – 15:50** **O.09 | From Genetic Discovery to Functional and Translational Validation: An Integrated Platform for Genetic Diseases**
Özlem Yalçın Çapan, Tekirdağ Namık Kemal University, Türkiye
- 15:50 – 16:00** **O.10 | BestPracticePig: Application of Single-Eye Cell Cultures for Marine Based Therapy Development for Retinal Diseases**
Philipp Dörschmann, Kiel University, Germany
- 16:00 – 16:30** Coffee break and **Poster Session**
- 16:30 – 18:00** **Session 2: AI, Retina imaging**
Chairs: Hrvoje Bogunovic, Austria and Ivan Merdzo, Bosnia and Herzegovina
- 16:30 – 16:45** **O.11 | Highlight talk: Artificial Intelligence in Retina – Opportunities within WG1**
Hrvoje Bogunovic, Medical University of Vienna, Austria
- 16:45 – 17:00** **O.12 | Highlight talk: Non-invasive *in vivo* retinal imaging and functional assessment as translational tools in neurodegenerative disease**
Ines López-Cuenca, Complutense University of Madrid, Spain
- 17:00 – 17:10** **O.13 | Finding potential novel biomarkers for the early diagnosis of diabetic retinopathy based on texture analysis of OCT-derived retinal images: evidence from animal models of diabetes**
António Francisco Ambrósio, Univ Coimbra, Portugal
- 17:10 – 17:20** **O.14 | Recent Advances in Eye Monitoring Based upon Laser Secondary Speckle Analysis**
Yevgeny Beiderman, Holon Institute of Technology, Israel
- 17:20 – 17:30** **O.15 | Towards Safe Posterior Segment Surgery: Remote Center of Motion Control and Axial Locking in a Robot-Assisted iOCT System**
*Karol Karnowski
International Centre for Translational Eye Research, Poland*
- 17:30 – 17:40** **O.16 | Neuroimaging in patients with Diabetic Retinopathy**
Dimitrova Galina, City General Hospital “September 8th”, North Macedonia
- 17:40 – 17:50** **O.17 | The influence of physical activity and fitness level on retinal microcirculation**
Ivan Merdžo, Univeristy of Mostar School of Medicine, Bosnia and Herzegovina
- 17:50 – 18:00** **O.18 | Fundus Autofluorescence and OCT Correlation in Retinal Drusen: Insights from Clinical Cases**
Vesna Jaksic, University of Belgrade Faculty of Medicine, Serbia

18:15 **Guided visit to NMS Faculty building**

DAY 2 - Friday, 13th March

09:00 – 10:50 Session 3: Advanced therapies

Chairs: *Estefanía Caballano-Infantes, Spain, and Marie-Agnès Bringer, France*

09:00 – 09:15 O.19 | **Highlight talk: Towards personalized antisense oligonucleotide treatment for Stargardt disease: from rare to ultrarare deep-intronic ABCA4 variants using human *in vitro* models**

Alejandro Garanto, Radboud University Medical Center, Nijmegen, The Netherlands, Netherlands

09:15 – 09:30 O.20 | **Highlight talk: Piceid Octanoate (PIC-OCT) as a Potent Modulator of the SIRT1/PARP1 Axis for Retinoprotection in Models of Retinitis Pigmentosa**

Francisco J. Díaz-Corrales, CABIMER, Spain

09:30 – 09:40 O.21 | Manifestations of epithelial biomechanics during normal and pathological scarring of the retinal pigment epithelium: an experimental and clinical study

Michel Paques, Sorbonne Université, France

09:40 – 09:50 O.22 | Therapeutic Soft Contact Lenses for Advanced Ocular Drug Delivery

Ana Paula Serro, Instituto Superior Técnico, Lisbon, Portugal

09:50 – 10:00 O.23 | The Nutritional Gut–Retina Axis: A New Avenue for Retinopathy Prevention

Marie-Agnès Bringer, Université Bourgogne Europe, CNRS, France

10:00 – 10:10 O.24 | PIEZO1 Mechanosensing and Microglia Modulation in Glaucoma: Impact of Elevated Hydrostatic Pressure

Ana Raquel Santiago, University of Coimbra, Portugal

10:10 – 10:20 O.25 | Uncovering a mutation-independent therapeutic strategy against Inherited Retinal Diseases: development of epigenetic modulators for the treatment of Retinitis Pigmentosa

Gabriele Carullo, University of Siena, Italy

10:20 – 10:30 O.26 | Inhibition of intracellular calcium and cAMP signaling as a therapeutic target in retinal degeneration

Henri Leinonen, University of Eastern Finland, Finland

10:30 – 10:40 O.27 | Functional Assessment of an EYS Splice-Site Mutation and Prime Editing Strategy Development

C. Henrique Alves, University of Coimbra, Portugal

10:40 – 10:50 O.28 | Variants in three genes encoding subunits of the AP-5 complex as a cause of recessive lysosomal macular dystrophy

Karolina Kaminska, University of Basel, Switzerland

10:50 – 11:30 Coffee break and **Poster Session**

11:30 – 13:00 Session 4: clinical translation; Clinical research

Chairs: Karolina Kaminska, Switzerland and Dimitrova Galina, North Macedonia

11:30 – 11:45 O.29 | Highlight talk: Molecular genetics of inherited retinal diseases: from individual mutations to population dynamics

Carlo Rivolta, University of Basel, Switzerland

11:45 – 12:00 O.30 | Highlight talk: Cell replacement in the retina - iPSC-derived photoreceptor and RPE transplantation in rodent models of retinal degeneration

Marius Ader, Center for Regenerative Therapies Dresden, Germany

12:00 – 12:10 O.31 | From eye banks a new scaffold for macular hole surgery: decellularized Descemet's membrane

Stefania D'Agostino, Fondazione Banca degli Occhi del Veneto ETS, Italy

12:10 – 12:20 O.32 | Tissue engineering based on human pluripotent stem cells for the treatment of Retinitis Pigmentosa and Age-related macular degeneration: a journey from preclinical to first clinical data

Karim Ben M'Barek, Université Paris-Saclay, France

12:20 – 12:30 O.33 | The retinal pigment epithelium as active immune barrier in health and disease

Olaf Strauß, Charité University Medicine Berlin, Germany

12:30 – 12:40 O.34 | Experimental Therapies for inherited and acquired retinal diseases

Knut Stieger, Justus-Liebig-University Giessen, Germany

12:40 – 12:50 O.35 | Novel nanostructures incorporating hBest1 protein: therapeutic prospects for Bestrophinopathies

Jordan Doumanov, Sofia University, Bulgaria

- 12:50 – 13:00** **O.36 | From Autophagy Failure to Vision Loss: Investigating Lysosomal Dysfunction in Aging and Disease**
Miguel Seabra, NMS|UNL, Portugal
- 13:00 – 14:30** Lunch and **Poster Session**
- 14:30 – 15:15** **Session 5: Translation to the market; industry**
Chairs: Araceli Lara López, Spain and Anđelka Račić, Bosnia and Herzegovina
- 14:30 – 14:45** **O.37 | Highlight talk: From Nature to Bench and Bedside: Identifying Potent Modulators of proteostatic pathways and NRF2 Activity in Natural Products**
Ioannis P. Trougakos, GenCell-TSBiotech, Greece
- 14:45 – 15:00** **O.38 | Highlight talk: May A3R Activation Promote Neurite Outgrowth and Vision Restoration in Glaucoma?**
Raquel Boia, VectorB2B, iCBR, Portugal
- 15:00 – 15:15** **O.39 | Highlight talk: MP-004, a Novel FKBP12 Ligand, Preserves Retinal Function and Structure in Models of Retinitis Pigmentosa and Stargardt Disease**
Javier Ruiz-Ederra, Miramoon Pharma S.L., Spain
- 15:15 – 16:30** Coffee break and **Poster Session**
- 16:30 – 17:45** **Session 6: Patient advocacy challenges**
Chairs: Vanessa Ferreira, Portugal and Karol Karnowski, Poland
- 16:30 – 16:45** **O.40 | Highlight talk: Patient-led readiness for translational retinal research: lessons from a scoping study to establish Usher syndrome data infrastructure in Ireland**
Carol Brill, Usher Syndrome Ireland, Ireland
- 16:45 – 17:00** **O.41 | Highlight talk: Integrating the Patient Perspective to Accelerate Translation in Retinal Research: The Role of Macula Retina Association**
Silvia Izquierdo Rodríguez, Asociación Mácula Retina, Spain
- 17:00 – 17:15** **O.42 | Highlight talk: Hidden impacts of inherited retinal degenerations: Implications for clinical trial endpoints and care pathways**
Nabin Paudel, Retina International, Ireland

- 17:15 – 17:45 Workshop**
Nothing About Us Without Us—In Practice: Co-Creating Patient and Public Involvement and Engagement (PPIE) with the Retinal disease Community
Vanessa Ferreira, Cristina Barrigas, Alfonso Ramos, Sónia Santos
Humanized Solutions, Portugal
- 17:45 – 18:00 Concluding Remarks**
Chair: *Prof. Sandra Tenreiro, Portugal*
- 20:00 Gala Dinner**