
PROGRAMME OF THE WORKSHOP

Sunday, November 17

Arrival and Registration

18.00 - WELCOME DRINK AND FOOD

Monday, November 18

Session 1

Chaired by: Uwe Wolfrum, Elvir Becirovic

8.25 - 8.30

Opening: Jan Motlik, Institute of Animal Physiology and Genetics CAS, Liběchov, Czech Republic

8:30 - 9:15

Keynote Lecture:

Juliane Schott, Hannover Medical School, Department of Experimental Hematology, Germany

"Engineering lentiviruses for use in gene therapy"

Lectures:

9:15 - 9:35

Elvir Becirovic, University of Zurich, Department of Ophthalmology, Switzerland

"mRNA trans-splicing dual AAV vectors for treatment of Stargardt disease and Usher syndrome type 1B"

9:35 – 9:55

Tobias Wimmer, Justus-Liebig University Giessen, Clinic for Eye Diseases, Germany

"Correction of the porcine ABCA4 p.V1965Gfs19 with Prime Editing"*

9:55 – 10:15

Antonia Schuster, Technical University Munich, Germany

“Approaching deleterious gene editing therapies for dominant negative monogenic vision loss”

10.15 – 10.40 - COFFEE BREAK

Session 2

Chaired by: Knut Stieger, Aziz El-Amraoui

10:40 – 11:00

Aziz El-Amraoui, Institute Pasteur Paris, Progressive Sensory Disorders, Pathophysiology and Therapy Laboratory, France

“Mouse and pig models for the Usher syndrome: Sound of harmony”

11:00 – 11:20

Stylianos Michalakis, Department of Ophthalmology, LMU University Hospital Munich, Germany

“Engineering the AAV capsid to modify tropism and efficiency”

11:20 - 11:40

Brigitte Muller, Justus-Liebig-University Giessen, Germany

“AAV based gene transfer in porcine retina following intravitreal and subretinal injection of new vector”

11:40 - 12:00

Maria Weller, Justus-Liebig-University Giessen, Germany

“AAV based gene transfer in the porcine organotypic retina culture”

12.00 – 13.00 – LUNCH TIME, POSTERS

Session 3

Chaired by: Slaven Erceg, Lars Eide

Keynote Lecture:

13:00 - 13:45

Kapil Bharti, National Eye Institute Bethesda, USA

“RPE Replacement Therapies – autologous vs allogeneic – which, when, where?”

Lectures:

13:45 – 14:05

Ruchi Sharma, National Eye Institute Bethesda, USA

“ Phenotypic Characterization of iPSC-Derived RPE Cells from Ciliopathy Patients Reveals Mutation-Specific and Mutation-Agnostic Phenotypes”

14:05 – 14:25

Lars Eide, University of Oslo, Department of Medical Biochemistry, Norway

“ Extracellular biomarkers for Retinal Pigment Epithelial Cells ”

14:25 – 14:45

Lucie Casalta, Technical University Munich, Germany

„Establishing porcine retinal explants as a test system for therapeutic gene editing“

14:45 – 15:05

Sven Schnichels, Tübingen University, Eye Clinic, Germany

“ Update on CpG-loaded DNA nanoparticles as a potential treatment for neovascular diseases”

15:05 – 15:25

Goran Petrovski, University of Oslo, Department of Ophthalmology and Center of Eye Research, Norway

“ Inflammation-related biomarkers on optical coherence tomography and beyond ”

15:25 – 15:45

Yaroslav Nemesh, Institute of Animal Physiology and Genetics, CAS, Czech Republic

„Development of a Cell Model for Studying Dry Age-Related Macular Degeneration (AMD) and Hydroxyapatite Accumulation in Retinal Pigment Epithelium“

15:45 – 16:05

Simon Petersen-Jones, Michigan State University, Veterinary Medical center, USA

„Dog and cat spontaneously inherited retinal degenerations: Opportunity for translational therapy development“

16.05 – 16.35 - COFFEE BREAK, POSTERS

Session 4

Chaired by: Zdenka Ellederová, Tomáš Bárta

16:35 - 16:55

Dáša Bohačiková, Medical Faculty of Masaryk University, Department of Embryology and Histology, Brno, Czech Republic

„Studying mechanisms behind Alzheimer's disease using human pluripotent stem cells.“

16:55 - 17:15

Martin Horák, Institute of Experimental Medicine, Czech Academy of Sciences, Czech Republic

„Regulation of NMDA Receptors by Disulfide Bonds and a Novel Open-Channel Blocker“

17.15 – 19.00 – POSTER SESSION

19.00 – 22.30

EVENING PROGRAM - DINNER AND MUSIC

Tuesday, November 19

Session 5

Chaired by: Stilianos Michalakis, Marius Ader

Keynote Lecture

8:30 – 9:15

Antje Grosche, Ludwig-Maximilians-Universität München, Department of Physiological Genomics, BioMedical Center – BMC, Germany

“ Translational pig models to study the role of glia cells in retinal pathologies “

Lectures:

9:15 – 9:35

Dunja Lukovic, Universidad CEU Cardenal Herrera, Valencia, Spain

„Dissecting Usher syndrome retinitis pigmentosa in iPSC-derived retinal models“

9:35 – 9:55

Marius Ader, CRTD - Center for Regenerative Therapies Dresden, Center for Molecular and Cellular Bioengineering (CMCB), Technische Universität Dresden, Germany

„Differential integration of iPSC-derived human photoreceptors into rodent models of retinal degeneration“

9:55 – 10:15

Tomáš Bárta, Medical Faculty of Masaryk University, Department of Embryology and Histology, Brno, Czech Republic

„Photostimulation of Retinal Organoids Improves Differentiation of Retinal Cells“

10.15 – 10.45 - COFFEE BREAK

Session 6

Chaired by: Goran Petrovski, Kerstin Nagel-Wolfrum

10:45 – 11:05

Kerstin Nagel-Wolfrum: Johannes-Gutenberg University Mainz, Institute of Molecular Physiology and Developmental Biology and Neurobiology, Germany

„Retinal organoids and RPE cultures derived iPSCs to dissect pathomechanisms underlying the human Usher syndrome type I“

11:05 – 11:25

Slaven Erceg, Principe Felipe Research Center Foundation, Valencia, Spain

“High-throughput screening method for inducers of phagocytosis in hiPSc derived RPE cells”

11:25 – 11:45

Hana Studenovská, Institute of Macromolecular Chemistry, CAS Prague, Department of Biomaterials and Bioanalogous Systems, Czech Republic

„Ultrathin polylactide-based nanofibrous membranes in tissue engineering of the eye“

11:45 – 12:00

Sebastian Rausch, Heidelberg Engineering GmbH

„The Power of Flexibility: Advanced Ocular Imaging for Animals of All Shapes and Sizes“

12.00 – 13.00 – LUNCH TIME

Session 7

Chaired by: Erwin van Wijk, Nikolai Klymiuk

13:00 – 13:20

Uwe Wolfrum, Johannes-Gutenberg University Mainz, Institute of Molecular Physiology, Germany

„Transcriptome of the humanized USH1C^{R31} pig retina reveals new insights into the pathomechanisms underlying USH1C“*

13:20 – 13:40

Yesim Tütüncü, Johannes-Gutenberg University Mainz, Institute of Molecular Physiology, Germany

„Müller glia cell defects in the humanized USH1C^{R31} pig“*

13:40 – 14:00

Merel Stemerdink, Radboud University Medical Centre Nijmegen, Department of Otorhinolaryngology, Netherland

„A multifunctional humanized porcine model for Usher syndrome type 2c: bridging proof-of-concept in zebrafish to advanced therapeutic evaluation“

14:00 – 14:20

Jessie Hendricks, Radboud University Medical Centre Nijmegen, Department of Otorhinolaryngology, Netherland

„Actigraphy-based assessment of circadian rhythmicity and sleep in patients with Usher syndrome type 2a“

14:20 – 14:40

Josep M. Cambra, Technical University Munich, Germany

„Characterizing cell stress and deterioration in genetically encoded vision loss in pig models“

14:40 – CLOSING REMARKS AND COFFEE BREAK