

## **RESTORATION OF VISION**

Recent advances in basic and clinical vision research have made ophthalmology one of the most exciting fields of technological and therapeutic innovations. This 10th annual Ri.MED symposium on the theme “Restoration of Vision,” jointly organized by the Ri.MED Foundation, the University of Pittsburgh School of Medicine, UPMC, and the Paris-based Institut de la Vision, will bring together renowned academic and industry experts to discuss recent breakthroughs in vision restoration therapies. The symposium will provide an overview of the latest advances in gene therapy, neuroprotection, visual prostheses, and stem cell treatments for currently incurable eye diseases. It will highlight the theoretical advances and emerging practical applications of visual information processing, optic nerve regeneration, and corneal transplantation. Special emphasis will be given to novel pathophysiological mechanisms and therapeutic targets for age-related macular degeneration.

The University of Pittsburgh School of Medicine and the Institut de la Vision-Sorbonne-Universités have already signed an agreement enabling collaborative programs between the two sites in the field of vision restoration. The Institut de la Vision is also working with the Ri.MED Foundation to translate its research findings into new treatments and products. We are hopeful that this symposium, which brings together some of the best and brightest minds in vision restoration, will catalyze new collaborations that advance integrative multidisciplinary research and expedite the evolution of laboratory discoveries into new diagnostic tools, medical devices, and therapies for patients.

## PROGRAMME

### Thursday, 26 October 2017

**11:30 Symposium Registration**

**12:00 Welcome and Introduction**

Camillo Ricordi, MD

Bruno Gridelli, MD

Alessandro Padova, PhD

**13:00 Lunch**

#### SESSION 1: REGENERATIVE THERAPIES FOR RESTORING VISION

**14:00 José-Alain Sahel, MD**

*From Cone Rescue to Optogenetics*

**14:30 Valeria Marigo, PhD**

*Neuroprotective Approaches for Retinitis Pigmentosa*

**14:30 Masayo Takahashi, MD, PhD**

*Retinal Cell Therapy Using iPS Cells*

**15:00 Alberto Auricchio, MD, PhD**

*Large gene delivery to the retina with AAV vectors*

**15:30 Graziella Pellegrini, PhD**

**16:00 Coffee Break**

#### SESSION 2: CORNEA

**16:30 Flavio Mantelli, MD, PhD**

**17:00 Alain Chédotal, PhD**

*New Strategies for the Analysis of Axonal Regeneration in the Cornea and Optic Nerve*

**17:30 Vishal Jhanji, MD**

*The Role of MDM2/p53 in Pterygium Pathogenesis*

**18:00 Final Discussion**

**Friday, 27 October 2017**

8:30 Symposium Registration

**SESSION 3: VISUAL INFORMATION PROCESSING AND VISUAL PROSTHESES**9:00 **Serge Picaud, PhD***Visual Restoration by Retinal Prostheses and Optogenetic Therapy: Preclinical Validation in Non-Human Primates*9:30 **Fabio Benfenati, MD, PhD***A Fully Organic Retinal Prosthesis Restores Vision in a Rat Model of Degenerative Blindness*10:00 **Matthew A. Smith, PhD***A Brain-Computer Interface for Visual Attention*10:30 **Botond Roska, MD, PhD***Targeting human retinal cell types to restore vision*

11:00 Coffee Break

**SESSION 4: AGE-RELATED MACULAR DEGENERATION**11:30 **Florian Sennlaub, MD, PhD***The Pathogenic Role of Chronic Inflammation in Age-Related Macular Degeneration*12:00 **Michel Paques, MD, PhD***Cellular-Scale, Time Lapse In Vivo Imaging in the Human Eye*12:30 **Chiara M. Eandi, MD, PhD***Biomarkers and new treatments for AMD*

13:00 Lunch

**SESSION 5: DEGENERATIVE EYE DISEASES**14:00 **Debasish Sinha, PhD***The Crucial Impact of Lysosomes in Age-Related Macular Degeneration*14:30 **GM Tosi, MD, PhD***Age-Related Macular Degeneration Biomarkers in the Aqueous Humor*15:00 **Stephen Moss, PhD***Novel approaches to the treatment of retinal vascular disease***15:30 Final Discussion & Symposium Conclusion**

## **SPEAKERS**

**Alberto Auricchio, MD, PhD**

Principal Investigator, Molecular Therapy Program Coordinator, and Head, Vector Core Telethon Institute of Genetics and Medicine (TIGEM)

Associate Professor of Medical Genetics Department of Translational Medicine, University of Naples "Federico II"

**Fabio Benfenati, MD, PhD**

Director, Center for Synaptic Neuroscience and Technology Italian Institute of Technology

Professor of Neurophysiology and Head, Laboratory of Molecular and Cellular Neurophysiology, University of Genova Medical School

**Alain Chédotal, PhD**

Group Leader, Role of Axon Guidance Molecules, Institut de la Vision

**Chiara M. Eandi, MD, PhD**

Professor of Ophthalmology, Department of Surgical Sciences, Eye Clinic, University of Torino

**Bruno Gridelli, MD**

Vice President, Ri.MED Foundation

Executive Vice President, UPMC International

Director, UPMC Italy

Professor of Surgery, University of Pittsburgh

**Vishal Jhanji, MD**

Professor of Ophthalmology, University of Pittsburgh School of Medicine

**Flavio Mantelli, PhD**

Chief Medical Officer, Dompé Ophthalmology Division

**Valeria Marigo, PhD**

Associate Professor of Molecular Biology, Department of Biomedical Sciences, University of Modena and Reggio Emilia

**Stephen Moss, PhD**

Norman Ashton Professor of Biomedical Research Institute of Ophthalmology, University College London

**Michel Paques, MD, PhD**

Professor of Ophthalmology

Group Leader, Retinal Degeneration and Microvascular Remodeling, Institut de la Vision

**Alessandro Padova, PhD**

CEO, Ri.MED Foundation

**Graziella Pellegrini, PhD**

Professor of Cell Biology

Director, Cell Therapy Program, Center for Regenerative Medicine Stefano Ferrari, University of Modena and Reggio Emilia

**Serge Picaud, PhD**

Group Leader, Visual Information Processing, Institut de la Vision

**Camillo Ricordi, MD**

President, Ri.MED Foundation

Stacy Joy Goodman Professor of Surgery

Distinguished Professor of Medicine

Professor of Bioengineering, of Microbiology, and of Immunology

Director, Cell Transplant Program and Diabetes Research Institute

Leonard M. Miller School of Medicine

University of Miami

**Botond Roska, MD, PhD**

Senior Group Leader, Friedrich Miescher Institute for Biomedical Research

Professor of Medicine, University of Basel

**José-Alain Sahel, MD**

Eye and Ear Foundation Professor and Chair of Ophthalmology

University of Pittsburgh School of Medicine

Director, UPMC Eye Center

Director, Institut de La Vision

**Florian Sennlaub, MD, PhD**

Group Leader, Ocular Inflammation and Degeneration, Institut de la Vision

**Debasish Sinha, PhD**

Salvitti Professor of Ophthalmology, University of Pittsburgh School of Medicine

**Matthew A. Smith, PhD**

Assistant Professor of Ophthalmology, University of Pittsburgh School of Medicine

**Masayo Takahashi, MD, PhD**

Project Leader, RIKEN Center for Developmental Biology, Kobe City Medical Center General Hospital

**GM Tosi, MD, PhD**

Ophthalmology Unit, Department of Medicine, Surgery, and Neuroscience, University of Siena