Nobel Mini-Symposium 55:
The Dark Side of the Brain

Myelinating Glia in Central and Peripheral Nervous Systems

Organizers: Gonçalo Castelo-Branco and Roman Chrast, Karolinska Institutet

WEDNESDAY 9th October 2019

08:50 - 09:00 **WELCOME ADDRESS GONÇALO CASTELO-BRANCO**

Session I

09:00 - 09:30 **The saga of oligodendrocyte precursor cells – whence and whither**
AKIKO NISHIYAMA, University of Connecticut, USA

09:30 – 10:00 **Oligodendrocyte precursor cells become heterogeneous with age and region: different functional cell states?**
THORA KARADOTTIR, University of Cambridge, UK

10:00 - 10:30 **Glial progenitor cell-based modeling and treatment of myelin disease**
STEVEN GOLDMAN, University of Copenhagen, Denmark

10.30 - 11.00 **Coffee break**

Session II

11.00 - 11.30 **Oligodendroglial progenitors as environmental biosensors.**
PATRIZIA CASACCIA, Mount Sinai Medical School, New York, USA

11.30 - 12.00 **Epigenetic control of myelination and functional regeneration**
QING RICHARD LU, Cincinnati Children's Hospital Medical Center, USA

12.00 - 12.30 **Increase myelinating cell plasticity to improve regeneration**
CLAIRE JACOB, University of Mainz, Germany

12:30 - 13.00 **Signaling pathways regulating myelination**
WENDY MACKLIN, University of Colorado, USA

13.00 -14.00 **Lunch**

Session III

14.00 - 14.30 **Intrinsic and extrinsic regulation of myelin sheath shape and number in the CNS**
CHARLES FFRENCH-CONSTANT, University of Edinburgh, UK

14.30 - 15.00 **Endothelin-1 as a developmental signal in the SVZ**
VITTORIO GALLO, Children's National Medical Center, Washington, USA

15.00 - 15.30 **Role of phagocytes in remyelination of the CNS**
MIKAEL SIMONS, LMU, Munich, Germany

15.30 - 16.00 **Molecular and genetic mechanisms of myelin development and repair**
KELLY MONK, Washington University, St. Louis, USA

16.00 - 16.30 **Coffee break**

Session IV

16.30 - 17.00 **Using zebrafish to study myelinated axons and neural circuit function**
DAVID LYONS, University of Edinburgh, UK

17.00 - 17.30 **Oligodendrocyte dynamics in cortical circuits**
DWIGHT BERGLES, Johns Hopkins Medical School, USA

17.30 - 18.00 **The node of Ranvier in Health and Disease**
DAVID ATTWELL, University College of London, UK

18.00 – 18.30 **Myelinating memories**
WILLIAM RICHARDSON, University College of London, UK

THURSDAY 10th October 2019

Session V

08:30 - 09:00 **Axoglial adhesion molecules in myelination**
ELIOR PELES, Weizmann Institute, Israel

09:00 - 09:30 **Novel functions of myelinating oligodendrocytes in axonal energy metabolism: impact on neurodegenerative disease**
KLAUS ARMIN NAVE, Max Planck Institute, Göttingen, Germany

09:30 - 10:00 **Prohibitin 1 and 2 in Schwann cells: welcome to the mitochondria machine**
LAURA FELTRI, University at Buffalo, USA

10.00 - 10.30 **Coffee break**

Session VI

10.30 - 11.00 **Myelin plasticity in cognition and cancer**
MICHELLE MONJE, Stanford University, USA

11.00 - 11.30 **Ageing and the biology of adult CNS progenitors**
ROBIN FRANKLIN, University of Cambridge, UK

11.30 - 12.00 **Uncovering the intrinsic properties of human oligodendroglia**
ANNE BARON-VAN EVERCOOREN, Pierre and Marie Curie University, France

12.00 - 12.30 **Cell generation dynamics in the adult human brain**
JONAS FRISEN, Karolinska Institutet, Stockholm, Sweden

12.30- 13.15 **DISCUSSION PANEL: FRONTIERS IN MYELINATING GLIA**

13.15-13.20 **CONCLUDING REMARKS, ROMAN CHRAST**

13.20- 14.20 **Lunch and departure**