DBMR Research Conference

Langhans Hörsaal Pathologie
Murtenstrasse 31, 3008 Bern

Date December 2, 2019, 5 pm – 6 pm

Title Photoreceptor transplantation into the mammalian retina

Speaker Prof. Dr. Marius Ader
Technische Universität Dresden, Center for Molecular and Cellular Bioengineering (CMCB), Center for Regenerative Therapies Dresden, DE

Biosketch
With a background in neurobiology and stem cells, Marius Ader is dedicated to the development of cell-based treatment strategies for incurable retinal degenerative diseases. Following his PhD work at the ETH Zürich and University of Hamburg he continued studies on cell transplantation into the retina as a postdoc at Trinity College Dublin, before becoming a group leader at the Center for Regenerative Therapies Dresden (CRTD) at the Technische Universität Dresden, where he is since 2018 Professor for Cell Replacement in the Mammalian Retina. His team pioneered proof-of-concept studies for retinal repair by photoreceptor and retinal pigment epithelium transplantation in pre-clinical animal models using primary and pluripotent stem cell-derived donor cells generated in 3D retinal organoids.

Abstract
Human vision depends on light-sensing photoreceptors in the retina and their degeneration results in permanent vision impairment and blindness. In mammals, photoreceptors do not regenerate endogenously and, therefore, strategies are currently explored to regain visual function via photoreceptor transplantation. While photoreceptor replacement represents a promising approach in late-stage retinal degenerative diseases, we also observed the transfer of cytoplasmic material between donor and host photoreceptors that might represent a potential new route for retinal therapy development. Furthermore, 3D retinal organoids derived from pluripotent stem cells have been established for the generation of high numbers of transplantable mouse and human photoreceptors. In my talk, I will present our recent data about the generation of stem cell-derived human cone photoreceptors, sorting systems for photoreceptor enrichment, and their transplantation into mouse models of retinal degeneration.

Prof. Dr. Marius Ader has been invited by Prof. Dr. Volker Enzmann, Universitätsklinik für Augenheilkunde, Inselspital, Bern University Hospital.

Next DBMR Research Conference February 3, 2020
Speaker and title to be announced

The DBMR Research Conference takes place from 5 pm – 6 pm and will be followed by an apéro.