UNIVERSITÄT
BERN

Faculty of Medicine

Department for BioMedical Research

Benoît Pochon Prize

The Benoît Pochon Prize was established in honour of the memory of Mr. Benoît Pochon, a former PhD student in the Radio-Oncology research group of the DBMR. The prize is awarded yearly to a doctoral student of the Department for BioMedical Research in recognition of the high quality and productivity of their research work.

Benoît Pochon Prize 2022

At DBMR Day for BioMedical Research on July 5, PD. Dr. Michaela Medova announced the winner of the Benoît Pochon Prize 2022.

The prize went to:

Dr. Jana Remlinger

Supervisor: PD Dr. med. Anke Salmen, Co-advisor Prof. Dr. Volker Enzmann.

Title of the PhD thesis:

"Investigation of Antibody-driven Central Nervous System Autoimmunity with Focus on Involvement of the Visual Pathway".

The DBMR congratulates Dr. Remlinger!

Lay Summary:

Neuromyelitis optica spectrum disorder (NMOSD) and MOG-associated disorder (MOGAD) are inflammatory autoimmune diseases of the central nervous system. In both diseases, antibodies against distinct CNS structures play a pathologic role. Their involvement eventually leads to damage to the nerve fiber insulation sheath and the nerve fiber itself, resulting in neurodegeneration. Patients suffer from neurological symptoms such as numbness, weakness, and visual impairment.

Although these diseases are recognized, their differences and similarities are still not completely understood. To improve treatment strategies for each disease entity, further investigation and differentiation of disease processes is crucial.

In animal models adapted to mimic processes of NMOSD and MOGAD, we compared disease manifestations in the spinal cord and visual system, the two mainly affected structures. Indeed, we found differences in the severity of disease symptoms and the occurrence of inflammatory signs over the course of the disease. This showed that our animal models mimic important aspects of the human diseases MOGAD and NMOSD. This allows further analysis of the pathology and might lead to the characterization of new treatment strategies.

Furthermore, we investigated a treatment option to lower the pathogenic antibodies in the circulation of MOGAD model animals. This treatment ameliorated the disease symptoms and visual function and might thus translate into a promising therapy of MODAG.

Lastly, we developed a physiologically relevant cell culture system of the retina to allow further studies of the direct effects of the disease-associated antibodies in more detail.

Published articles:

Remlinger J. et al. Modelling Mog Antibody-Associated Disorder and Neuromyelitis Optica Spectrum Disorder in Animal Models: Spinal Cord Manifestations. SSRN Feb 2023. DOI: 10.2139/ssrn.4356442

Remlinger J. et al. , Antineonatal Fc Receptor Antibody Treatment Ameliorates MOG-IgG–Associated Experimental Autoimmune Encephalomyelitis. Neurol Neuroimmunol Neuroinflamm Mar 2022, 9 (2) e1134; DOI:10.1212/NXI.0000000000001134

Remlinger J. et al., Modeling MOG Antibody–Associated Disorder and Neuromyelitis Optica Spectrum Disorder in Animal Models Visual System Manifestations. Neurol Neuroimmunol Neuroinflamm Sep 2023, 10 (5) e200141; DOI: 10.1212/NXI.0000000000200141