



Friday, June 26, 2026



13.30 o'clock



Inselspital, Kursraum
Neurologie
INO B118, Entrance 34
Rosenbühlgasse 25 3010 Bern



[Link here](#)

The good, the bad, and the therapeutic: innate immunity in neurodegeneration

Prof. Nicole Coufal

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Brain-resident microglia are increasingly recognized as central regulators of neurodevelopment and aging brain health and are attractive targets for emerging cell-based therapies in broad pediatric and adult neurodegenerative diseases. However, the extent to which peripheral hematopoietic-derived myeloid cells can acquire microglial identity and function after entering the brain remains a critical unanswered question. In this presentation, I will discuss recent studies using human stem cell- and blood-derived myeloid cells transplanted into the developing brain to investigate how developmental origin and the brain environment jointly shape myeloid cell fate. Although peripheral myeloid cells adopt many features of resident microglia, they retain distinct transcriptional and functional programs that influence neuroinflammation, interferon signaling, and neuronal health. These findings reveal fundamental species-specific differences between microglia and peripheral myeloid cells that have important implications for understanding neurodegenerative disease mechanisms and for the development of microglial replacement and other myeloid cell-based therapeutic strategies.

Chair: Prof. Antoine Adamantidis

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