# Invitation

On behalf of the Hamburg Center of Neural and Cognitive Systems (HCNS), we would like to invite you

to the

## 26th HCNS Lecture

**June 8th 2026 | 5.15 pm**

**UKE, lecture hall W30**

**We are looking forward to meeting you there!**

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# Prof. Marco Prinz

## Medical University Freiburg

## “The myeloid side of the brain”

All tissue-resident macrophages of the central nervous system (CNS)-including parenchymal microglia, as well as CNS-associated macrophages (CAMs1) such as meningeal and perivascular macrophages are part of the CNS endogenous innate immune system that acts as the first line of defence during infections or trauma. It has been suggested that microglia and all subsets of CAMs are derived from prenatal cellular sources in the yolk sac that were defined as early erythromyeloid progenitors. However, the precise ontogenetic relationships, the underlying transcriptional programs and the molecular signals that drive the development of distinct CAM subsets in situ are poorly understood. Here we show, using fate-mapping systems, single-cell profiling and cell-specific mutants, that only meningeal macrophages and microglia share a common prenatal progenitor. By contrast, perivascular macrophages originate from perinatal meningeal macrophages only after birth in an integrin-dependent manner. The establishment of perivascular macrophages critically requires the presence of arterial vascular smooth muscle cells. Together, our data reveal a precisely timed process in distinct anatomical niches for the establishment of macrophage subsets in the CNS.