

# EADC Resident and Research Fellow Section (RRFS)

## Exchange through internship programs

### Name and location EADC hosting center

Name: Neurochemistry Research Group, Translational Metabolic Laboratory, Department of Neurology, Radboud University Medical Center, Donders Institute for Brain, Cognition, and Behaviour

Location: Nijmegen, The Netherlands

### Link to center's website

[Theme 3: Development and lifelong plasticity | Donders Institute \(ru.nl\)](#)

[Neurology - Radboudumc](#)

### PI of the EADC hosting center

Prof. dr. ir Marcel Verbeek

### Contact person of the EADC hosting center

*Give full coordinates of the person that can be contacted by the RRFS member for additional information*

Prof. dr. ir Marcel Verbeek [marcel.verbeek@radboudumc.nl](mailto:marcel.verbeek@radboudumc.nl)

### Description of the center

*Give a full description of main clinical and research activities*

We aim to obtain a closer understanding of the pathophysiological mechanisms of neurodegenerative disorders, specifically movement disorders (Parkinson's disease) and dementia syndromes (Cerebral Amyloid Angiopathy). We translate novel insights from pathophysiological studies such as aggregation, interaction with other proteins and cerebral cells, and clearance pathways of disease-related proteins into body fluid (cerebrospinal fluid) biomarkers of disease. In collaboration with the Parkinson Centre Nijmegen and the Radboud Alzheimer Centre and many (inter)national researchers, we develop and validate biomarkers for diagnosis and prognosis of these disorders.

### Internship program

*Give a description of the contents of an internship program at the hosting center. If desirable, give separate descriptions for clinicians and for researchers. Indicate the optimal duration of an internship program (preferably max 4 weeks)*

The intern will work with our team on ongoing research projects related to the detection and analysis of biomarkers associated with Cerebral amyloid angiopathy (CAA) in cerebrospinal fluid (CSF) and brain tissue samples. The intern will focus on techniques such as immunoassays, particularly ELISA, to identify and quantify biomarker levels in CSF. Simultaneously, these biomarkers can be further analyzed in human brain tissue samples from our cohort using immunohistochemistry

to assess their distribution and levels directly within cerebral tissue. Ongoing research, in which the EDAC RRFS member could participate, focuses on the development of blood brain barrier-(dysfunction) (BBB) and CAA subtype-specific (Type I and Type II) biomarkers. This work is essential for advancing diagnostic and prognostic methodologies for patients with CAA and potentially other neurodegenerative diseases