

## **Marcel M. Verbeek Biography:**

I am an Associate Professor in Neurochemistry of Neurodegeneration, at the department of Neurology of the Radboud university medical center, Nijmegen, The Netherlands. Besides, I am principal investigator at the Donders Institute for Brain, Cognition and Behaviour.

My research is focused on the neurochemistry of neurodegenerative disorders, specifically movement disorders (e.g. Parkinson's disease, and related disorders, including parkinsonism and pediatric movement neurotransmitter movement disorders) and dementia syndromes (e.g. cerebral amyloid angiopathy [CAA], Alzheimer's disease and related disorders). In my research I aim to obtain a closer understanding of the pathophysiological mechanisms of neurodegenerative disorders. I aim to translate novel insights from pathophysiological studies into biomarkers of disease. Novel candidate biomarkers are identified through screening techniques (such as proteomics and metabolomics) or from new insights into the underlying pathophysiology. The biomarkers mainly comprise proteins, enzymes and metabolites that each have a specific relation to a disease. Therefore, I work on the development and validation of biomarkers in body fluids (especially cerebrospinal fluid) for diagnosis and prognosis of these disorders; I collaborate with clinicians within the Parkinson Centre Nijmegen, the Expertise Center of Inherited Movement Disorders, and the Radboud Alzheimer Centre to reach this goal as well as with many (inter)national researchers. I established a large biobank with cerebrospinal fluid and blood samples from patients with many different types of neurological disorders has been established to support this research. I also lead the national reference centre for specialized CSF diagnostics. This allows me to immediately translate and implement novel biomarker assays in the routine diagnostic work-up of neurological disorders and offer these to clinicians at other institutes. These biomarkers will create personalized value for diagnostic or prognostic purposes. Novel insights into disease mechanisms may also lead to the development of tailor-made therapies, that can be monitored using biomarkers, and therefore, my approach of the combination of basic and translational neurosciences contributes to personalized health care.

I have acquired a total of €8.38million externally funded grant money, have published 260 publications with an h-index of 47 and more than 7000 citations. I have completed the supervision of 16 PhD candidates and I am the current supervisor of 10 PhD students and 2 post-docs.