

Charlotte Teunissens research mission is to cure dementia disorders through development of body fluid biomarkers. The studies of her research group cover the entire spectrum of biomarker development. The studies start with biomarker identification, hypothesis based as well as by proteomics methods, including mass spectrometry and array-based proteomics technologies. The group puts strong effort in analytical and clinical validation for diagnostic use of the most promising biomarkers by immunoassays. The lab is experienced in state of the art technologies, such as Quanterix ultrasensitive Simoa technology, Mesoscale technology and in vitro diagnostic technologies for clinical routine lab analysis. These studies are all based on the availability of a well-characterised biobanks of >5000 paired CSF and serum samples of dementia patients (a.o. Alzheimer, Frontotemporal, Lewy Bodies) as well as Multiple Sclerosis patients (n=200) that visit the outpatient clinics of the VU University Medical Center Amsterdam. To ensure the quality of biosamples, Teunissen has taken the lead in guideline development for CSF biomarker study methodology. Teunissen has always collaborated strongly in the field, as she thinks that this is a prerequisite for performing high quality biomarker studies, visible in her lead in the BioMS network, the Society for Neurochemistry and clinical CSF analysis, and the Alzheimer Association-global biomarker standardization consortium.