PhD in Biomedical Science with a focus on Neurochemistry and Neuropharmacology.
The main goal of my research is to increase our understanding of the brain function and dysfunction to ultimate contribute to develop therapeutic strategies for patients with neurodegenerative diseases.
My main scientific focus areas 1) to investigate energy and amino acid metabolism in the mammalian brain, mainly centered on glia, and its impact on major neurodegenerative disorders such as Alzheimer´s disease and Frontotemporal dementia.
2) Neuropharmacology of neurodegenerative disorders. 3) Recently, our research is focused on microglia cells and their immunometabolic and neurochemical interactions with astrocytes and neurons.
We take advantage of cultures of astrocytes, microglia and neurons derived from mouse models or humans (cell-based model systems such as human induced pluripotent stem cells); transgenic animal models; high-output biochemical methodologies including dynamic metabolic mapping, mass spectrometry (GCMS) and liquid chromatography (HPLC).