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## Basic, preclinical and translational research

GREEN gathers basic, preclinical and translational research teams focusing on several neurodegenerative diseases (NDs) such as Alzheimer's disease (AD), Huntington's disease (HD), Multiple Sclerosis (MS), Parkinson's disease (PD), and transversal research.

This approach spans from the chemical screening of A $\beta$  self-aggregation and/or tau misfolding inhibitors to the synthesis of fluorescent imaging agents of amyloid deposits, to better understand AD and PD pathophysiology, HD and MS-causing agents on cytoskeletal structures, intracellular trafficking, synapse functions and inflammatory response. Preclinical research in animals involves the study of complex behaviors such as anxiety, depression, cognition and behavioral aspects in rodent models of NDs. The final goal would be the identification of drugs of therapeutic interest. GREEN teams are also strongly involved in the development of new stimulation technologies for brain survival and function such as Near InfraRed. Research in GREEN teams benefits from large instruments such as the synchrotron facility at ESRF that allows Synchrotron X-ray microspectroscopy for assessing the role of metals in PD, access to state-of-the-art MRI systems dedicated to small animals (IRMaGe facility), and institutes of excellence nearby like the EMBL structure, Institute of Structural Biology (IBS) and CEA LETI for the development of microfluidic devices for cell biology of neurodegeneration GREEN develops innovative research on cognitive processes in AD and PD *via* multidisciplinary approaches (LPNC lab). GREEN will also benefit from the knowledge in the cell and developmental biology of HD as a model of neurodegeneration.

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