- **NEURODEGENERATION mechanisms in Alzheimer's and Parkinson's diseases**

The research in our laboratory investigates mechanisms involved in neurodegeneration relevant to Alzheimer's (AD) and Parkinson's (PD) diseases. Recently, the focus of the lab is on drug repurposing for AD. In collaboration with colleagues at Hunter College, we test the efficacy of existing drugs used for other disorders, on their potential to treated AD. Our approach involves in vitro studies with neuronal and glial cell lines, as well as in vivo studies with a transgenic rat model of AD. The most promising drugs are further investigated to identify potential novel targets and mechanisms suitable for anti-AD therapeutics and preclinical development.

Our research has also focused on mechanisms affected by impairment of the ubiquitin/proteasome pathway and inflammation, as it is well established that AD and PD are characterized by two related pathological hallmarks:

(1) the accumulation of ubiquitinated proteins in disease specific neuronal inclusions, and

(2) signs of chronic neuroinflammation at the sites of neuronal damage.