

Research topics: Brain Biochemistry

- Molecular **mechanisms/biomarkers** of Alzheimer disease
- Impact of **metabolic alterations/oxidative stress** on brain functions, aging neurodegeneration
- Molecular pathways of cognitive dysfunctions and neurodegeneration in **Down Syndrome**



Main methods:

Bioinformatics

Molecular biophysics/structural biology

Applied biochemistry and biotechnology

Biochemistry of cellular processes

Cellular proteomics and metabolomics



Laboratories:

Structural biology and biophysics Crystallography, calorimetry, spectroscopy, rapid and ultra-rapid kinetics, analytical ultracentrifugation

Chromatography and mass spectrometry analysis of proteins, peptides, metabolites and biological components

Protein factory Expression and purification of recombinant proteins

Metabolic analysis Cell metabolism analysis

