Tripsianes group at CEITEC-MU, Czech Republic, synthesizes ideas and techniques from fields as diverse as biochemistry, molecular biophysics and computer science to characterize protein disordered sensors and folded actuators in functional context to better understand their communication (coupling, interactions, conformational changes, phase separation properties). The group integrates structural biology (NMR, SAXS, X-ray, MS-HDX) and biophysical techniques (FRET, ITC, BLI) with kinetic readouts to decipher complex multisite phosphorylation mechanisms in larger systems across the order-disorder continuum, including kinase autophosphorylation and its consequences on substrate specificity and enzyme activity.

Tripsianes group has great experience with the expression and purification of target proteins, labeling strategies for NMR studies, and a broad spectrum of biophysical techniques for analyzing physiological interactions involving proteins, nucleic acids, and small compounds. The biochemistry laboratory is adequately equipped for recombinant protein production (an ultra-sound homogenizer, a set of table and large-volume centrifuges, shakers, UV spectrophotometers, PCR machines, electrophoresis and electroblotting equipment, two AKTA M2 FPLC purifiers, and other small equipment). As part of CEITEC, Tripsianes group has **priority access** to core facilities for: high-field NMR (500 MHz, 600 MHz, 2 × 700 MHz, 850 MHz, and 950 MHz equipped with high-sensitivity cryogenically cooled probeheads), and biointeractions (SPR, ITC, DSC, MST, DSF, AUC, CD).