

Dr. Kristyna Pluhackova, began her scientific career early in her studies in Prague as a quantum chemist. During and after her PhD study in Erlangen, Germany, the grant focus of her work concentrated on developing force field parameters and novel methodologies for molecular dynamics simulations of complex biomembranes at different levels of spatial resolution. One year ago, she received a grant from the German Scientific Foundation to work as an independent PostDoc at the ETH Zürich at the Department of Biosystems Science and Engineering in the group of Prof. Daniel J. Müller in Basel, Switzerland. Complementing the atomic force microscopy experiments performed in the group, she simulates the process of assembly and disassembly of arrestins and G protein-coupled receptors in different post-translationally modified states. The overall goal is to better understand the mechanisms of modulation of signal transduction from cell exterior to the interior of the cell and the influence of post-translational modifications and membrane composition thereon.