An ERC-funded postdoctoral position is available in our Structural Biology laboratory at the Institute of Molecular Pathology (IMP) in Vienna to study novel mechanisms of how proteins are forwarded to proteasomal degradation.

In general, the lab is interested in better understanding the targeted degradation of proteins, both in prokaryotes and eukaryotes. We recently showed that Gram-positive bacteria utilize a special phosphorylation signal (phospho-arginine, pArg) to mark proteins for degradation by the ClpCP protease. The discovered pArg-ClpCP degradation system seems to represent a simple version of the ubiquitin-proteasome system, with the bacterial McsB acting as a "death-marking" kinase similar to E3 ubiquitin ligases. Now, we would like to reprogram the bacterial degradation system by small molecules to target specific client proteins, i.e. develop bacterial PROTAC (proteolysis targeting chimeras) compounds for basic and medical research. Likewise, we are interested in establishing novel eukaryotic PROTAC platforms by adding further E3 activities to the portfolio. To this regard, we focus our analysis on intricate E3 ubiquitin ligases that so far escaped a detailed structural analysis. Proteins of interest are of high medical relevance and offer challenges in terms of size, complexity, dynamicity, and targeting mechanism; i.e. represent exactly those targets every Structural Biologist is hoping to work with.

To characterize the bacterial/eukaryotic death-marking enzymes and develop novel PROTAC concepts, we are looking for a highly motivated postdoc candidate. The position will provide a unique and multi-disciplinary exposure to modern Structural Biology. Located at the IMP (https://imp.ac.at), a leading international research institute in one of the world's best cities, our lab has access to cutting-edge service facilities and benefits from the excellent research community at the Vienna Biocenter Campus (http://viennabiocenter.org).

Applicants are required to have a strong background in biochemistry and structural biology, documented by a first-author publication. We particularly welcome applications from candidates experienced in chemical biology, mass spectrometry or cryo-electron microscopy. Please send a letter of intent, your CV, and names of 3 referees to tim.clausen@imp.ac.at