



Department of Molecular Biology and Nanobiotechnology

OPEN POSITION FOR A POSTDOC IN STRUCTURAL BIOLOGY

The **National Institute of Chemistry** is a scientifically excellent, established and breakthrough research institution based in Central Europe. Through our cutting-edge research, we enrich the global body of knowledge by solving society's most pressing challenges, including: health, sustainable energy, climate change, circular economy and safe food. Our research goals push the boundaries of science and create new value. We successfully transfer knowledge to industry and support the long-term role of science in the development of society. The Institute builds its scientific excellence by collaborating with the best global research institutions, groups and individuals. We are members of international multidisciplinary research networks. We provide a stimulating environment and an open learning space where young researchers can develop their curiosity and realise their research creativity. In doing so, we ensure that future generations benefit from the profession. More here:

<https://www.ki.si/en/>

A postdoctoral position is available in the Department of Molecular Biology and

Nanobiotechnology. We are looking for an individual with excellent expertise in cryo-electron microscopy (especially in SPA, but cryo-ET and/or microED are a bonus) to contribute to our ongoing projects. The department focuses on biochemical, biophysical and structural studies of biological molecules and their interactions to understand molecular mechanisms of action. Research topics in the department range from the study of molecular mechanisms of lipid membrane disruption induced by pore forming proteins, development of protein nanopores for their application in biotechnology and medicine, structure-function and mechanism of action of virulence factors of the pathogenic bacterium *Listeria monocytogenes*, structural insights into the pathogenicity of filamentous plant viruses and the synthetic biology of virus-like particles, to the mechanism of DNA-repair and the role of ribosomes in disease states. More on Department:

<https://www.ki.si/en/departments/d11-department-of-molecular-biology-and-nanobiotechnology/>

Start date and duration: ideally May 1, 2021, negotiable. The position is initially for 1 year with the possibility of extension. During this time, the candidate will be expected to contribute to ongoing projects and will have the opportunity (and be strongly encouraged) to apply for their own fellowship/grant to continue research in the department after this first year, with help on proposals provided by the Institute's highly experienced grant office.

Requirements: PhD in biochemistry/biophysics or structural biology. Excellent knowledge and practical experience in cryo-electron microscopy (especially SPA; cryo-ET, micro-ED or X-ray crystallography is a bonus). In accordance with the given career stage, the candidate should demonstrate creativity, independence and scientific quality as well as provide evidence on published articles in the relevant field. Good English language – spoken and written is required, and motivated individuals with collaborative mindset.



Available infrastructure and working atmosphere: The Department has the state-of-the-art equipment in the fields of molecular biology, protein and lipid biochemistry and biophysics, structural and cell biology. Structural biology at the Department includes X-ray crystallography and cryo-EM. The Department has been operating the cryo-EM facility since November 2019, with a Glacios 200 kV microscope with Falcon 3 EC detector, Volta Phase Plate and a sample preparation room with Vitrobot as well as excellent computational support. The microscope is running successfully non-stop and currently reaching resolutions beyond 2.5 Å. There is the possibility of access to 300 kV cryo-TEMs at external institutions if/when required. In the case of X-ray crystallography: proteins are crystallized at the Department and data collected at the EU-based synchrotrons.

The Department comprises many young scientists and promotes excellence and a healthy working environment through meetings such as journal clubs, departmental seminars, weekly project meetings, annual retreats, informal meetings and social gatherings. We encourage collaboration among department members as well as with other groups at the Institute, as well as collaborations with external (international) research groups.

Location: National Institute of Chemistry is located in Ljubljana, just a few minutes' walk from the City centre. Ljubljana is the capital and largest city of Slovenia and is the cultural, educational, economic, political and administrative centre. Ljubljana has become a very popular tourist destination, as well as the whole of Slovenia with its breathtaking nature and beautiful, lively towns and villages. More: <https://www.visitljubljana.com/en/visitors/> and <https://www.slovenia.info/en>

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We might be a small institute in a small country – but we think big!