



Predavanje / Lecture

New Developments in Cryo-Electron Microscopy: Pushing Boundaries for Structural Determination

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Sreda / Wednesday, 7.2.2024, ob 11.00 / at 11 am

Velika predavalnica, 1.nadstropje / Great Lecture Hall, 1st floor

Over the last decade, cryo-electron microscopy (cryo-EM) has become the method of choice for structural characterization of proteins and protein complexes, revolutionising our understanding of molecular architecture. Currently, there are three main driving forces propelling technological development in cryo-EM.

The first is the ever-present need to expand the limits of throughput and resolution, making data acquisition a more time and cost-efficient process. To this end, significant progress has been made in both software and hardware, exemplified by advancements in new cameras and energy filters. Simultaneously, there is an urge to improve accessibility to cryo-EM which seeks to simplify instrument design and operation, facilitating many projects by providing access to in-house facilities and fostering inclusivity in the cryo-EM community. Finally, there is a growing emphasis on examining samples within their native cellular context, which has more recently become possible by the adoption of cryo-electron tomography (cryo-ET) coupled with focused ion beam (FIB) milling. This presentation will provide an overview of how these challenges are being addressed by the latest technological developments in EM and how they are creating new avenues for elucidating molecular structures and their functional implications.

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Vljudno vabljeni / Kindly invited