



KEMIJSKI INŠTITUT

Vabilo na Forum40 / Invitation to the Forum40

**Dr. Tjaša Goričan**

D01, Theory department

Četrtek / Thursday, 29. 02. 2024 ob / at 13:00

Velika predavalnica Kemijskega inštituta / Great Lecture Hall

WEBEX

<https://ki-ljubljana.webex.com/ki-ljubljana/j.php?MTID=m08e749dc976b6898424cbd5b1fd2b063>

Join by meeting number (access code): 2736 558 0533

Meeting password: 4bhQfJMBp92 (42473562 from video systems)

## **Allosteric regulation – the case of small-molecule hyperbolic inhibitors of cathepsins K and S**

Cathepsins K and S are enzymes of the papain-like peptidase family. Their increased activities contribute to the progression of numerous diseases. One of the possibilities for the regulation of their enzyme activities is by natural allosteric effectors glycosaminoglycans. Enzyme activity of cathepsin K can also be allosterically regulated by small-molecule synthetic effectors, which were characterized as hyperbolic inhibitors. This lecture will focus on design, synthesis and characterization of selective hyperbolic inhibitor of cathepsin S based on the succinimide scaffold of the selective hyperbolic inhibitor of cathepsin K. Apart from enzyme kinetics, studying protein-ligand interactions and allosteric regulation by NMR spectroscopy will also be presented.



Vljudno vabljeni / Kindly invited