

Use of heterobifunctional constructs in chemical biology and materials

Summary

Networks and their architectures are central to the mathematical and computer sciences as well as to systems biology and systems medicine. This proposal aims to transcend the concepts of network science onto synthetic chemistry and materials science. From the outset, we have identified that the concept of networks in chemistry should be divided into two separate, however, strongly intertwined research streams. We will design cell-permeable heteromultifunctional constructs to probe intracellular networks using small molecules that typically go beyond Lipinski's rule. We will also build molecular networks (materials) by using single-precursor/fused hybrid linker-based approach and will apply them as electrocatalysts and in heterogeneous catalysis for large-scale applications.

Research field:	Chemistry and biotechnology
Supervisor:	Dr. Pavel Starkov
Availability:	This position is available.
Offered by:	School of Science Department of Chemistry and Biotechnology
Application deadline:	Applications are accepted between June 01, 2020 00:00 and July 03, 2020 23:59 (Europe/Zurich)

Description

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Responsibilities and tasks

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Qualifications

A good standing MSc degree or equivalent in Chemistry or Natural Sciences from a recognized university should be obtained or awarded by August 01, 2020.

Other requirements

- The candidate should have prior lab experience in synthetic chemistry, medicinal chemistry, biochemistry, materials science, or chemical biology.
- This PhD studentship does not carry EU/Estonia-residency requirements.
- The intended start is in September 2020.
- Candidates from outside the EU (excluding the UK) will need to go through formal procedures to verify the degrees (at both BSc and MSc level) prior to joining the PhD program.



- For further informal enquiries, please contact pavel.starkov@taltech.ee and attach your up-to-date CV, cover letter, and contact details of two referees.



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