



FKKT

UNIVERZA V LJUBLJANI
Fakulteta za kemijo in kemijsko tehnologijo

VABILO NA PREDAVANJE
V OKVIRU DOKTORSKEGA ŠTUDIJA
KEMIJSKE ZNANOSTI / INVITATION TO THE
LECTURE WITHIN DOCTORAL PROGRAMME IN
CHEMICAL SCIENCES

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z naslovom / title:

**Biocatalysis in cascades, for amide
formation and stereoselective oxidation
using H₂O₂**

v sredo, 26. 11. 2025 ob 15. uri
v predavalnici 1 v 1. nadstropju Fakultete za kemijo
in kemijsko tehnologijo, Večna pot 113 /
on Wednesday, 26. 11. 2025 at 15.00
in lecture room 1, 1st floor at the Faculty of
Chemistry and Chemical Technology, Večna pot 113

Vljudno vabljeni! / Kindly invited!

Abstract:

Using biocatalysts in organic synthesis is a continuously increasing field. Reasons for that are the mild reaction conditions often using water as solvent as well as the outstanding stereo- and regioselectivity of the catalyst; furthermore, the easy preparation of the catalysts from renewables and the biodegradability of the catalyst represents another aspect of sustainable catalysis.

In the lecture examples of are given on cascades enabling the regio- and stereoselective reductive amination of di- and tri-ketones combined with imine reduction [1,2].

Furthermore, amide formation is a significant challenge in pharma industry. We investigated various biocatalytic amide formation approaches in an aqueous [3,4] as well as non-aqueous [5] environment to prepare different amides.

Peroxygenases offer an efficient method for oxidation reactions like (a) the C-H oxidation achieving hydroxylation [5-7] including regioselective hydroxylation of fatty acids [8] as well as (b) oxidation of alcohols and aldehydes [9] and (c) epoxidation as well as (d) anti-Markovnikov oxidation of alkenes [10].

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