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:

Chitosan Permeation Enhancers for Transdermal Drug Delivery: from experiments to modelling

v sredo, 27. 5. 2026 ob 15. uri
v predavalnici 1 v 1. nadstropju Fakultete za kemijo in kemijsko tehnologijo, Večna pot 113 ***/***
on Wednesday, 27. 5. 2026 at 15.00
in lecture room 1, 1st floor at the Faculty of Chemistry and Chemical Technology, Večna pot 113

Vljudno vabljeni! / Kindly invited!

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Abstract:

Hand osteoarthritis (HOA) is one of the most common and disabling musculoskeletal disorders, affecting approximately 15% of women and placing a significant burden on healthcare systems worldwide. Despite its prevalence, effective localized treatment options remain limited, highlighting the urgent need for innovative drug-delivery technologies that can improve therapeutic outcomes while minimizing systemic side effects.

This lecture explores the development of a novel localized drug-delivery platform designed to enhance the bioavailability of active pharmaceutical ingredients within hand joint tissues. Initially optimized for a specific API, the technology demonstrates broad adaptability for multiple pharmacological agents, positioning it as a scalable and commercially attractive platform technology rather than a single-product solution. By enabling targeted delivery directly to affected tissues, the system has the potential to significantly improve treatment efficacy and patient safety.

The presentation will also highlight formulation studies conducted in collaboration with Primex, focusing on polymer compatibility, formulation aesthetics, and transdermal delivery performance. Using Franz diffusion cell studies, researchers demonstrated that selected chitosan derivatives can enhance drug diffusion and sustain release through skin tissue. Results showed that low-molecular-weight chitosan products significantly improved drug permeation through pig skin ($p < 0.05$), although diffusion coefficients did not always correlate with total drug release. These findings reveal promising physicochemical properties for further investigation and future therapeutic applications.