

JOINT EUFEPS/ÖPhG Meeting 2025

Pharmaceutical Sciences in the Heart of Europe

February 19 – 21, 2025

in Vienna, Austria

	therapeutic protein following oral administration	work today while building tomorrow	therapy-resistant cancer: insights from functional multiomics
10:00-10:20	**Ozbej Zupancic** Comparing low-dose carvedilol manufacturing by solid and liquid feeding in Self-Emulsifying Delivery systems via hot melt EXtrusion (SEDEX)	**Mukaddes Altinbay** Discovery of Anti-CRISPR Plant Metabolites	**Moe Elbadawi** Artificial intelligence generates novel 3D printing formulations
10:20-10:40	**Isidoro Caraballo** Development of sustained-release systems from a biodegradable aliphatic copolyester: Ultrasound-assisted compression vs Semi-solid extrusion	**Elise Slob** Genotype-guided asthma treatment reduces exacerbations in children: meta-analysis of two RCTs	**Nico Kraus** Targeted Inhibition of HSD17B13 - a new therapeutic option in steatotic liver disease?
10:40-11:00	**Helena Rouco** Thermosensitive hydrogels for local drug delivery in osteoarthritis management	***EJPS best paper Award*** **Farzin Pourfarzad** Enhancing Drug Safety and ADME Assessment with Organoids	**Laureta Gashi** Novel insights into sex differences in central amygdala function in alcohol use disorder
11:00-11:30	**Coffee break**		
11:30-12:30	**PhD´s Competition (lecture hall H8)** *See detailed program below*		
	Parallel sessions VI		
12:30-14:00	**Session 15 (lecture hall H8)** **Model-informed precision dosing – *German Pharmaceutical Society*** **Chairs:** Ulrich Jaehde, Lea Ann Dailey	**Session 16 (lecture hall H7)** **Lipid nanoparticles – *ÖPhG*** **Chairs:** Zeynep Teksin, Christoph Rademacher	**Session 17 (lecture hall H5)** **The One Health Concept: Progress and news from the side of Veterinary Medicine – *EUFEPS Veterinary Medicines Network*** **Chairs:** Ivo Schmerold, Nina Schützenmeister
12:30-13:00	**Sebastian Wicha** From Therapeutic Drug Monitoring to Model-informed Precision Dosing	**Heinrich Haas** Next-generation mRNA pharmaceutical technologies: LNPs and beyond	**Gabriel Beechenor** Artificial Intelligence in the development of veterinary medicines
13:00-13:20	**Fatma Kir** Minimal Physiologically Based Pharmacokinetic Modeling of Atenolol and Metoprolol in Malnourished Rats	**Ammar Darwish** Silver-lipid nanoparticles shaped for targeted tumor therapy	**Fatma Zerrin Saltan** Artificial Intelligence-Based Prediction of Treatment Areas with Tannic Acid-Based Hydrogel Properties
13:20-13:40	**Ana Santoveña-Estévez** Innovation in paediatric drug	**Tiago E. Coutinho** Factorial design of solid lipid	**Andrea Szabó** Appearance of the One Health

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Artificial Intelligence-Based Prediction of Treatment Areas with Tannic Acid- Based Hydrogel Properties

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Tannic acid (TA) (penta-m-digalloyl-glucose) is a natural polyphenolic compound that is frequently used in pharmacy, medicine, and biomedical applications, especially due to its antibacterial, antimicrobial, antioxidant, cross-linking properties and is registered in Pharmacopoeias [1-3].
This study aimed to predict the treatment areas through artificial intelligence (AI) based on the methods used to prepare hydrogels and polymers with TA, hydrogel/polymer types, basic properties such as cross-linkers and the obtained products' content. The dataset used in the study was created from detailed information obtained from different hydrogel designs and biomedical applications. Decision trees, artificial neural networks, and clustering methods, which are artificial intelligence algorithms, were used for the prediction process [4]. The decision tree descriptively modeled the effects of hydrogel components on treatment areas. Artificial neural networks have effectively analyzed complex and nonlinear relationships, while clustering methods have supported the classification of treatment areas by grouping hydrogels with similar properties in the dataset.
The results show that tannic acid mass and cross-protective species play a crucial role in the accurate prediction of treatment. Model evaluations offered high accuracy rates and proved that these methods are a powerful tool for analyzing the effect of tannic acid-based hydrogels in biomedical applications The study highlights the potential of AI-supported approaches in biomaterial design.

References
[1] F.Türkan, P.Taslimi, F. Z. Saltan. J Biochem Mol Toxicol. 2019, 33, e22340.
[2] F.Z.Saltan, H.S.Canbay, A.Üvez, M. Konak, E.İ. Armutak, FABAD J. Pharm. Sci. 2019, 44,197.
[3] A. Baldwin, B.W. Booth, J. Biomater. Appl. 2022, 36, 1503.
[4] Y.Uzun, F.Z.Saltan, J.Essential Oil Bear. Pl. 2024, 27, 1302.

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CERTIFICATE OF ATTENDANCE

The Organizing Committee certifies that

Fatma Zerrin Saltan, Prof. Dr.

attended the Joint EUFEPS / ÖPhG Meeting 2025

Vienna, Austria, February 19 - 21, 2025

MARIA BLANCO PRIETO
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