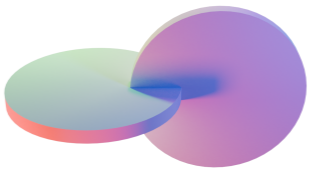

GIREP-EPEC
Transforming physics learning via Research & Practice
LEIDEN, 2025

Contribution ID: **302** Type: **Oral presentation**

Artificial Intelligence in Pre-Service STEM Teacher Training

Tuesday 1 July 2025 09:20 (20 minutes)

The rapid rise of generative AI offers new possibilities for teaching and learning in STEM education. Based on the DigCompEdu framework, our course integrates AI as a key module, providing pre-service STEM teachers with both practical skills and a conceptual understanding of AI models. Students engage with advanced prompting techniques and use AI to enhance their work as future teachers, e.g., to design innovative lessons. Through a three-year longitudinal study, we observed a significant improvement in lessons'quality. At the conference, we will present our study materials, student outputs, and findings on students'evolving perceptions of AI in education.

Education level

Pre-service and in-service teacher education

Physics topic

Other

Research focus

Artifical Intelligence

Research method

Other

Organizing preference criteria

Author: Prof. HANČ, Jozef (P. J. Safarik University)

Co-authors: BOROVSKÝ, Dominik (Pavol Jozef Šafárik University in Košice); HANCOVA, Martina (P.J. Safarik University in Kosice, Slovakia)

Presenter: Prof. HANČ, Jozef (P. J. Safarik University)

Session Classification: Parallel oral presentations

Track Classification: Physics teacher education & Professional learning (TEACH)