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

Contribution ID: **92** Type: **Oral presentation**

STEM Investigations: Integrating Interdisciplinary Learning to Solve Real-World Problems

Wednesday 2 July 2025 10:00 (20 minutes)

STEM Investigations is a new subject designed for upper secondary school students (aged 17–18) to address real-world problems through interdisciplinary inquiry. Building on knowledge from mathematics, physics, chemistry, biology, geography, and computer science, students engage in activities that integrate scientific methods with digital tools. Example topics include diving safety, UV radiation risks, Earth's climate system, and others emphasizing the connections between science and everyday life. The subject combines guided and open inquiry, encouraging critical thinking, collaboration, and creativity. By promoting problem-solving across disciplines, STEM Investigations prepares students for STEM careers and equips them with essential skills for addressing complex challenges.

Education level

Age 15-18 (Secondary education)

Physics topic

Interdisciplinary topics

Research focus

Active learning

Research method

Educational design research (Qualitative research)

Organizing preference criteria

Author: JESKOVA, Zuzana

Co-authors: GUNIŠ, Ján (Faculty of Science, Pavol Jozef Šafárik University in Košice); ŠNAJDER, Ľubomír (Faculty of Science, Pavol Jozef Šafárik University in Košice); MIŠIANIKOVÁ, Anna (Faculty of Science, Pavol Jozef Šafárik University in Košice)

Presenter: JESKOVA, Zuzana

Session Classification: Parallel oral presentations

Track Classification: Interdisciplinary topics (INTER)