



GIREP-EPEC

Transforming physics learning via Research & Practice
LEIDEN, 2025

Contribution ID: 303

Type: **Panel discussion**

PER: looking back; looking forward

Monday 30 June 2025 10:00 (1 hour)

The first publications in physics education research can be traced to the early 20th Century. However, intense research and development has occurred primarily over the last 50 years. This panel discussion on the evolution of Physics Education Research (PER) over the past 50 years will focus on some key developments since about 1970.

Panel members will share some of their most prominent personal experiences, frustrations, successes and failures while having been active for these 50 years in our field.

By doing this, we will also trace some of the field's development from its nascent stages, focusing on key milestones and influential studies that have shaped our understanding of physics learning. The panel will delve into the shift from traditional instruction to more student-centered, active learning pedagogies, including the role of conceptual change, problem-solving strategies, and the use of technology in the classroom. The panel will also look towards the future and briefly discuss emerging efforts, such as artificial intelligence, and their potential influence on PER.

The panel session aims to provide (younger) PER members some valuable lessons we learned the hard way.

Education level

All ages

Physics topic

Full curriculum

Research focus

Other

Research method

Other

Organizing preference criteria

Other

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Presenters: ZOLLMAN, Dean; MICHELINI, Marisa; ELLERMEIJER, Ton

Session Classification: Opening ceremony

Track Classification: Other research in Physics Education (OTHER)