



# GIREP-EPEC

Transforming physics learning via Research & Practice  
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Type: **Oral presentation**

## Development and Validation of a Performance-Based AI Literacy Assessment Test for High-School Students Enabling Predictions of their Performance in Tasks Involving AI Tools

*Wednesday 2 July 2025 09:00 (20 minutes)*

AI literacy is pivotal for students navigating AI-driven environments. This research introduces a novel performance-based AI literacy assessment test targeting high-school students (16–19). Built on foundational AI literacy conceptualisations, the tool aims to predict students' proficiency in using AI tools effectively. Validation employs Classical Test Theory and Item Response Theories, eventually linking test outcomes with performance in AI interactions. Initial findings from trials conducted at CERN Science Gateway will be presented. Ultimately, the results will inform AI-themed physics education interventions, enhancing students' critical thinking, input creation, and reflective abilities within AI contexts.

### Education level

Age 15-18 (Secondary education)

### Physics topic

Interdisciplinary topics

### Research focus

Evaluation & Assessment

### Research method

Mixed method (qualitative & quantitative)

### Organizing preference criteria

Track

**Author:** TRECZOKS, Tobias Patrick (Ludwig Maximilians Universitat (DE))

**Co-authors:** KUHN, Jochen (University of Munich); Dr SCHMELING, Sascha (CERN); Dr KÜCHEMANN, Stefan (Ludwig-Maximilians-Universität München)

**Presenter:** TRECZOKS, Tobias Patrick (Ludwig Maximilians Universitat (DE))

**Session Classification:** Parallel oral presentations

**Track Classification:** Artificial Intelligence (AI)