

# **28th International Conference on Multimedia in Physics Teaching and Learning (MPTL'28)**

**Thursday, September 4, 2025 - Saturday, September 6, 2025**

## **Scientific Program**

## **Multimedia and Artificial Intelligence in Personalized Physics Learning**

Focuses on AI-driven adaptive learning tools and personalized teaching strategies in physics.

## **Mixed Reality for Enhanced Conceptual Understanding in Physics**

Discusses the use of augmented and virtual reality to help students visualize and interact with abstract physics concepts.

## **Multimedia in AI-Enhanced Simulations and Modelling**

Examines how AI-based simulations can improve the understanding of complex models in physics and facilitate deeper learning.

## **The Role of Multimedia in Mixed Reality Physics Labs**

Looks at integrating multimedia content in MR labs to enrich experimental learning, combining real and virtual elements.

## **AI in Multimedia-Based Physics Assessment and Feedback**

Explores how artificial intelligence can improve assessments and provide personalized, multimedia-based feedback in physics education.

## **Simulations and Modelling in Physics: Bridging Multimedia and AI**

Focuses on multimedia tools for creating sophisticated simulations and models powered by AI to support physics teaching.

## **Mixed Reality as a Tool for Collaborative Learning in Physics**

Explores how MR technologies facilitate collaborative multimedia environments where students can solve physics problems together, both onsite and remotely.

## **Challenges and Ethical Considerations in the Use of AI and MR in Physics Education**

Investigates the ethical issues, accessibility concerns, and challenges in implementing AI and MR technologies in multimedia-based physics education.

## **Modern Equipment and Technology to Improve Physics Teaching and Learning**

Discusses the integration of cutting-edge technology, like digital tools and sensors, in physical labs and classrooms to enhance student learning.

## **Visual Representations in Physics Education**

Explores the role of diagrams, graphs, and animations in helping students understand complex physics concepts.

## **Game-Based Learning in Physics and Physics Education**

Investigates how gamification and digital games can be used as tools for engaging students in physics learning.

## **Multimedia and Collaborative Learning in Physics**

Focuses on how multimedia tools support group projects and collaboration, enhancing peer learning in physics education.

## **Simulations in Physics Teaching and Learning**

Examines the role of computer simulations to model physical phenomena and teach abstract concepts in physics.

## **Multimedia in Teaching and Learning Quantum Physics**

Dedicated to exploring how multimedia helps students grasp the complexities of quantum mechanics, from animations to interactive models.

## **Multimedia Tools for Developing Physics Problem-Solving Skills**

Investigates how multimedia approaches (videos, animations, and interactive content) can help students develop stronger physics problem-solving abilities.

## **Virtual and Remote Labs in Physics Education**

Discusses how multimedia technologies support the creation and implementation of virtual and remote labs for hands-on physics experimentation from anywhere.