



IEEE DEMOcon Research Summer School 2026

Experiences and Developments in Digital Education Ecosystems: Harnessing MOOCs, AI, and Micro-credentials

Sunday, 21 June

10:30 – 10:30	Registration <i>Location: Digital Education Department</i>
10:30 – 11:00	Tour of the UPT Labs – 360 Immersive Space, XR
11:00 – 12:00	Tour of the UPT Labs – Digital Education / Mentoring
14:00 – 15:30	free time in the city

Monday, 22 June

08:30	Registration <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
09:00 – 09:30	Summer School Opening: Acad.dr.ing. Liviu Marsavina, Vice-rector Research UPT, Prof.Em.Dr.Eng. Radu Vasii
09:30 – 10:30	Lecture - Prof.Em.Dr.Eng. Radu Vasii, Politehnica University Timisoara - Open Science The lecture explores the evolution of Open Publishing, its connection to Open Science and Open Access, and the role of frameworks such as DigComp and UNESCO's Open Science Recommendation, focusing on their role in shaping accessible, transparent, and collaborative research practices. It also examines the implications for researchers, institutions, and students in adopting open and responsible approaches to knowledge creation and sharing.
10:30 – 11:00	<i>Coffee Break</i> <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
11:00 – 12:00	Lecture - Dr.Eng. Diana Andone, Politehnica University Timisoara - The impact of AI in research The lecture explores the intersection of Generative Artificial Intelligence (AI) and Open Science, addressing opportunities and ethical challenges when integrating AI into research workflows. Learners are introduced to responsible use frameworks, UNESCO and EU guidelines on AI in research, and practical tools for data analysis, translation, and discovery. The session emphasizes both the potential of AI to accelerate Open Science and the importance of transparency, integrity, and fairness when adopting AI tools in academic and research practice.
12:00 – 13:00	Lecture - Prof.Dr.Eng. Carmen Holotescu, "Ioan Slavici" University in Timisoara - Blockchain in Education

13:00 – 14:00	The lecture explores the transformative potential of Blockchain in Education, specifically focusing on the implementation of Verifiable Credentials (VCs) within the EBSI (European Blockchain Services Infrastructure) framework. Drawing from pioneering projects developed at UPT, Professor Holotescu will demonstrate how decentralized identity and digital diplomas are redefining academic integrity and student mobility across Europe. <i>Lunch Break</i> <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
14:00 – 15:00	Lecture – Senior Lecturer Mark Frydenberg, Bentley University - Building a Socratic AI Tutor / Practical exercises / mentoring
15:30 – 16:00	<i>Coffee Break</i> <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
16:00 – 17:00	Practical exercises / mentoring

Tuesday, 23 June

08:30	Registration <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
09:00 – 10:30	Lecture – Prof.Dr. Arnold Pears, KTH Royal Institute of Technology, Sweden - Theory and Practice of Engineering Education Research This talk provides an holistic perspective on the conduct of research in disciplinary based educational research. The session covers key topics in the area, ranging from selecting a research focus, through the process of selecting research methods, and issues in linking to theoretical frameworks and interpreting empirical results. The talk draws on over 30 years of research experience in Computing and Engineering Education Research to provide guidance to PhD students at all levels.
10:30 – 11:00	<i>Coffee Break</i> <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
11:00 – 12:00	Lecture – Prof.Dr. Thomas Staubitz, German University of Digital Science - Rethinking Project-Based and Teamwork Assignments in the Age of AI The rapid advancement of generative AI systems—capable of producing valid and valuable solutions for assignments in project-based classes that sometimes are better than the solid work of students—poses significant challenges for education. Assignments are increasingly unreliable indicators of true understanding and learning. Proper assessment of such assignments becomes increasingly challenging. This is particularly important, in the context of online education, where there's no way of monitoring the students during the work on such tasks without severe privacy intrusions, but also in regular on-campus contexts, where students also often finish their projects at home rather than during their on-campus stays. Drawing from teaching experience, the session will explore effective strategies for assessing authentic projects and collaborative work, with special attention to distributed online classrooms. Key challenges to be addressed are, how to assess individual contributions within team projects, ways to evaluate learning when AI tools are ever-present, and designing assessments that focus on

12:00 – 13:00	processes rather than products. Lecture – Prof.Dr. Carlos Delgado Kloos, Universidad Carlos III de Madrid - Education in Times Profoundly Influenced by Artificial Intelligence The explosion of Generative AI in late 2022 has profoundly impacted society, industry, and education, demonstrating that human-made systems can master language eloquently, a feature that was thought to be unique to humans. This shift creates a fundamental challenge to educational institutions regarding what and how to teach and to evaluate. This raises four questions: what to teach (in order for the graduate to excel in a job that probably will use AI extensively), how to teach (using AI as a tool to support instructors and students in their teaching and learning efforts), how to evaluate (in order to avoid misconduct and fraudulent practices), and what to evaluate (what skills and knowledge should be assessed). No final recipes can be given, especially when the field is evolving at exponential pace. Prompts, guardrails, skills, agents, computer use, ..., new affordances emerge daily introducing an instability that makes planning very difficult. Given the current scarcity of established best practices, this presentation tries to identify some basic principles and ideas to navigate this environment, one that is both exciting and chaotic.
13:00 – 14:00	<i>Lunch Break</i> <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
14:00 – 15:30	Lecture - Ella Hamonic, Associate Programme Specialist in Learning Design and Innovation UNESCO - Leveraging AI for Role-Play and Simulations in Adult Learning In an age where artificial intelligence is reshaping how knowledge is produced, trusted, and used, teaching and learning specialists are being called to reassess their pedagogical foundations. “Agentic” AI systems can independently browse and take action without direct human input. The rise of synthetic research is straining peer review systems, and “ghost learners” are appearing in classrooms. Amid both excitement and concern, education leaders around the world face pressure to act quickly, often with limited evidence to guide their decisions. This keynote examines the frictions AI generates across curriculum, assessment, teaching and learning practices and governance, while highlighting the need to protect the public purpose of education. Drawing on the founding vision of MOOCs and open education, the keynote also considers new frontiers: from public interest AI and digital sovereignty to community-led and human-centred models of learning. Ultimately, it calls for planning education that is ethical and inclusive, where human agency remains the primary architect of educational transformation.
15:30 – 16:00	<i>Coffee Break</i> <i>Location: Digital Education Department, C401 Hall (the 4th level)</i>
16:00 – 17:00	Practical exercises / mentoring

Wednesday, 23 June

See IEEE DEMOcon Conference Programme