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Editorial

Preface: The 8th Eurasian Conference on Educational Innovation 2025 (ECEI 2025) †

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This volume presents the proceedings of the 8th Eurasian Conference on Educational Innovation 2025 (ECEI 2025). ECEI 2025 represents the culmination of collaborative efforts between the University Negeri Malang (UM), the International Institute of Knowledge Innovation and Invention (IIKII), the Institute for Research Excellence in Learning Sciences, National Taiwan Normal University, The Gandhigram Rural Institute (GRI), and IEEE Tainan Section Sensors Council (IEEE TSSC). The goal of the conference was to foster interdisciplinary collaboration and international networking among educators, engineers, and technologists through the sharing of ideas and discussions about emerging technologies and innovations in education. Various activities were also provided for the generation of new ideas, collaboration, and business opportunities.

ECEI 2025 was a hybrid event, with both on-site and online presentations and a forum for the exchange of ideas (Figure 1). Attendees were provided substantial time for discussions that went beyond the formal presentations, facilitating connections and realizing potential for future collaboration. The conference featured two distinguished keynote speeches that presented the breadth and depth of the topics discussed.



Figure 1. Group photo at the opening ceremony of ECEI 2025.

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Chair Professor Sheng-Tzong Cheng from National Taitung University, Taiwan, shared his view on "Meta-versity", an innovative digital learning platform (Figure 2). This forward-looking platform combines digital technology and artificial intelligence (AI) to create an immersive, personalized, and intelligent environment for digital learning and health management. Professor Cheng detailed the platform's four core components: a Digital Nutritionist, a Digital Indigenous Community, an Intelligent Learning Assistant, and Digital Precision Sports. He explained how each component was developed using AI models and integrated into a comprehensive platform supporting effective digital learning and health management for students on the campus. The keynote speech highlighted the application of technologies such as Natural Language Processing (NLP), Virtual Reality (VR), Augmented Reality (AR), a new lightweight GPT model, Zero-Shot Learning, and Multimodal Learning for efficient operation across various devices. Through the integration of various technologies and interdisciplinary collaboration, the platform "Meta-University" enables an immersive, personalized, and intelligent approach to campus life at National Taitung University, Taiwan. The platform has presented efficient operation and enhanced operability in health management, cultural preservation, and intelligent digital learning.

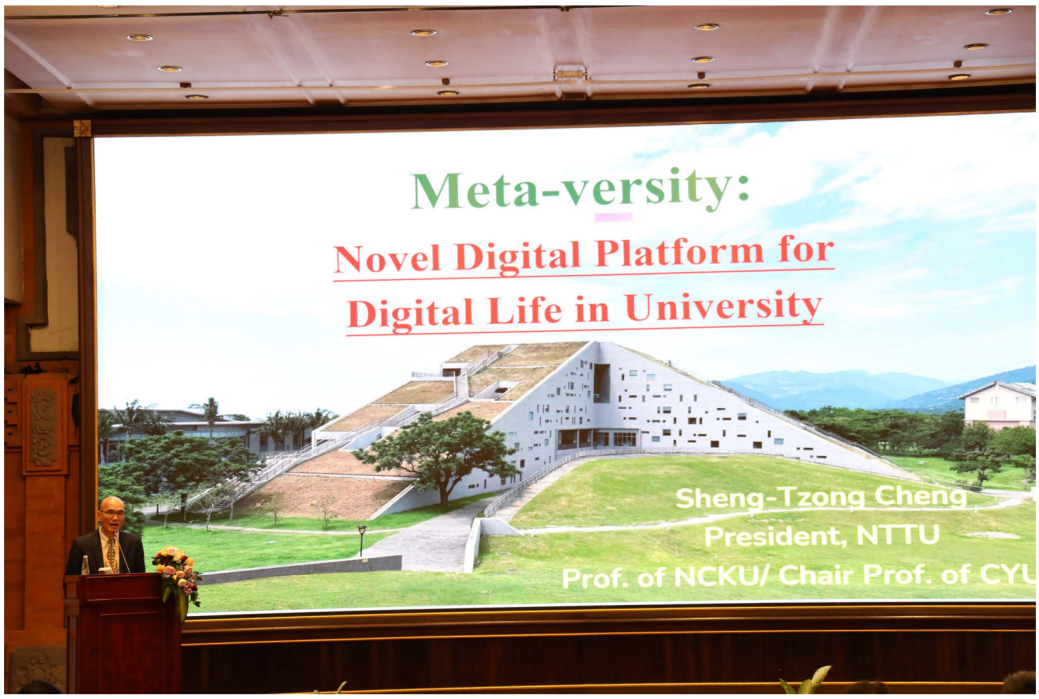


Figure 2. The first keynote speech at ECEI 2025.

In his keynote address, "Socio-Scientific Issues as Contexts for STEM Teaching & Learning," Professor Bevo Wahono of the University of Jember, Indonesia, emphasized the vital role of education in confronting global challenges, including climate change, biodiversity loss, and antibiotic resistance (Figure 3). He proposed the use of Socio-Scientific Issues (SSIs) as a robust framework for STEM education to enable students to engage with complex, real-world problems that have political, ethical, and economic implications. Professor Wahono's speech clarified how an SSI-based approach fosters scientific literacy and critical thinking. His approach enables the exploration of contemporary issues so that students can examine how STEM concepts inform societal solutions and develop essential scientific skills, such as data analysis, modeling, explanation, and argumentation. His research, which investigated SSI teaching and learning using scientific models, demonstrated that the SSI-based method also helps students to understand complex concepts, such as natural selection in antibiotic resistance. This method improves students' modeling practices and

enhances their ability to critically analyze SSI by engaging in essential science practices, including data interpretation and argumentation. The keynote speech underscored the potential of SSI-based instruction to enrich STEM curricula and equip students to navigate and address pressing global issues.



Figure 3. The second keynote speech at ECEI 2025.

ECEI 2025 received a total of 242 submissions, and after a thorough review process, 152 papers were selected and presented by researchers from 12 countries and regions, including Bulgaria, China, the Czech Republic, Germany, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, Taiwan, and Thailand. These papers, covering a wide range of topics in educational innovation and emerging technologies, were organized in 27 regular sessions and 3 invited sessions. Figures 4 and 5 show photographs from the on-site and online oral presentation sessions of ECEI 2025.

The enthusiastic participation and the prominent results shared at ECEI 2025 were inspiring. From the collection of the presented results, 35 excellent papers relevant to the fields of engineering and education were selected through a rigorous peer-review process for publication in this volume of *Engineering Proceedings* (ISSN: 2673-4591, indexed by Scopus). These proceedings serve as a valuable resource for researchers and practitioners, accelerating interdisciplinary collaboration among science and engineering technologists in both academic and industrial contexts.



Figure 4. Presentation at an on-site session of ECEI 2025.

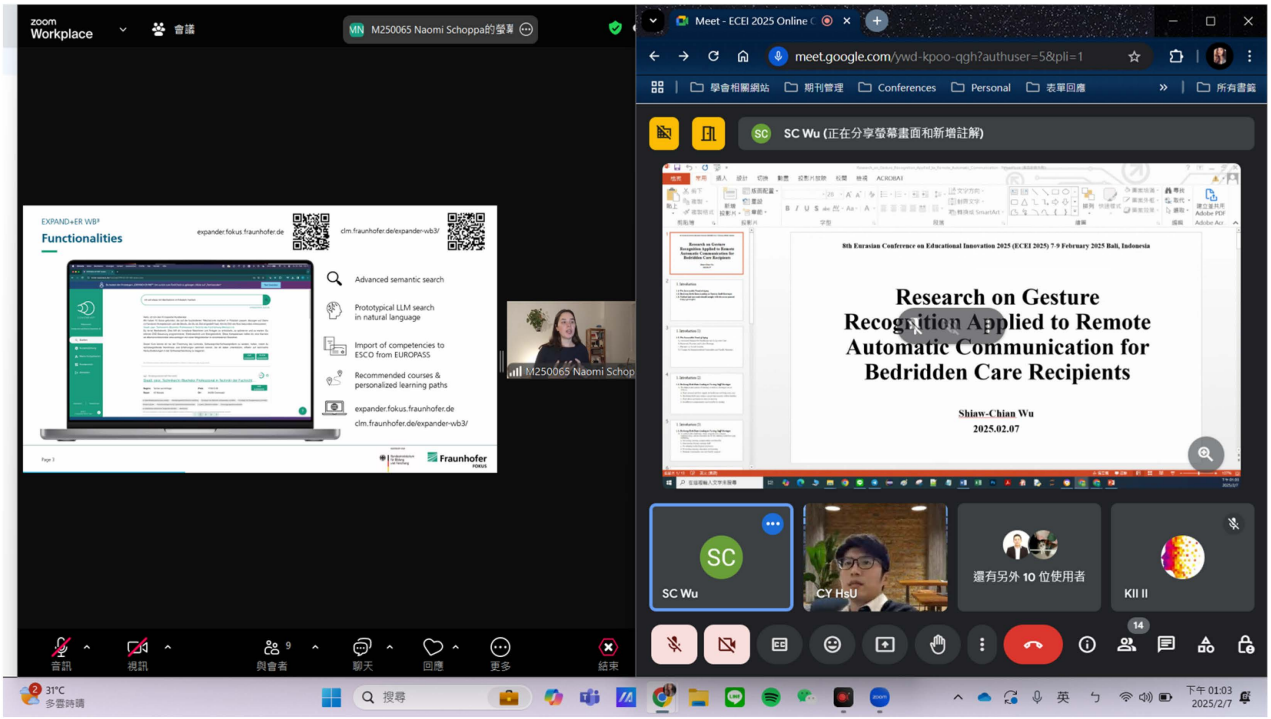


Figure 5. Presentation at an online session of ECEI 2025.

Conflicts of Interest: The authors declare no conflicts of interest.

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