Topic:

Practical Innovations for Science and Interdisciplinary Learning: Development and Research

Language:

This workshop accepts presentations in either Chinese or English

Abstract:

The learning process has gradually shifted toward a learner-centered, active knowledge construction model, driven by the growing emphasis on inquiry and practice in science education curriculum reforms. The goal is to empower students to integrate knowledge, develop inquiry skills, and apply their understanding flexibly in diverse real-world contexts. To achieve this, developing innovative products, systems, and materials for science and interdisciplinary education, which support inquiry-based learning and enhance practical competencies, has become essential to modern educational practice.

This workshop will explore the design, application, and research value of such innovative products, offering insights into development experiences and outcomes. Topics include the design and innovative application of materials, tools, games, and experimental equipment for science and interdisciplinary education, highlighting their impact on enhancing students' learning outcomes, core competencies, and practical skills.

In addition, the workshop will serve as an interactive platform for knowledge exchange between researchers and practitioners in education. Through product demonstrations, expert discussions, and experience sharing, participants will collaboratively explore ways to integrate educational theories with practical applications, fostering innovation and shaping the future of science and interdisciplinary education.

Call for Papers:

This workshop invites submissions of oral presentations and poster papers related to the development and research of innovative products for science and interdisciplinary education. The half-day workshop will include paper presentations and discussions, as well as poster and product demonstrations, aiming to facilitate interactive experiences and knowledge sharing.

Topics of interest include, but are not limited to:
- Hardware and software design for science and interdisciplinary learning
- Games and toys for science and interdisciplinary learning
- Experimental equipment for science and interdisciplinary learning

The important deadlines:
- Deadline for workshop paper submission: April 5, 2025
- Notification of paper review results: April 12, 2025
- Final paper submission deadline: April 22, 2025
- Author registration deadline: April 30, 2025

Please submit your papers to the designated submission email by April 5, 2025:
sep.gccce2025@gmail.com

Please prepare your manuscript according to the format announced by the conference. For the paper format, please refer to the conference paper format template, and specify which category your submission falls under:

- Oral Presentation: 8 pages for long papers and 4 pages for short papers
- Poster and Product Demonstration (with the option to share and display during the exhibition session): 2 pages

Workshop Chair

Meng-Tzu Cheng (mtcheng@cc.ncue.edu.tw)
Current position:
Professor, National Changhua University of Education
Convener of the Scientific Education Practice Division, National Science and Technology Council
Short Bio:
Professor Cheng Meng-Tzu's research focuses on the effective use of educational technology, particularly digital games, to enhance science learning. Her lab has

developed several games, with early studies aimed at helping students acquire and construct scientific concepts, as well as cultivating inquiry skills and practical experience through gameplay. In recent years, she has focused on integrating game-based learning into classroom teaching. She collaborates with in-service teachers to develop learning materials and activities, and engages in long-term teaching initiatives to promote the deep integration of game-based learning in educational settings. Her work has been published in several prestigious international journals. In 2015, she was honored with the Ta-You Wu Memorial Award from the National Science and Technology Council, and in both 2018 and 2023, she received the Outstanding Researcher Award from National Changhua University of Education.

Workshop Co-Chair

Sheng-Yi Wu (digschool@gmail.com)
Current position:
Professor, Teacher Education Center, National Tsing Hua University
Review Committee Member of the Scientific Education Practice Division, National Science and Technology Council
Short Bio:
Professor Sheng-Yi Wu's primary research areas include STEM education, AI education, the educational metaverse, and online collaborative learning. He is dedicated to integrating teaching strategies with learning theories, enabling students to learn through hands-on projects, including systems, software, and teaching aids.
In recent years, his practical projects have included the Interstellar Explorer computational thinking board game, Programming Logic Poker Cards, AI Detective Board Game, and bilingual STEAM teaching materials for elementary schools. His research findings have been published in numerous international journals. Professor Wu was honored with the Ta-You Wu Memorial Award by the National Science and Technology Council in 2020 and was recognized as one of the World's Top 2% Scientists for 2023-2024.

Workshop Program Committee (Invitations are being extended progressively, and the official list will be announced on the website)

Wang Cheng-Hung, Associate Professor, National University of Kaohsiung

Chiang Feng-Kuang, Professor, Shanghai Jiao Tong University

Yu Chin-Chung, Associate Professor, National University of Kaohsiung

Fan Ping-Lin, Professor, National Taipei University of Education

Hung Yao-Chen, Professor, Feng Chia University

Hsu Shih-Kuan, Professor, National Taiwan University

Chin-Fei Huang, Associate Professor, National Kaohsiung Normal University

Chu-Yu Cheng, Associate Professor, Southern Taiwan University of Science and Technology

Fang-Chuan Ou Yang, Associate Professor, National Taipei University of Business

Yi-Chang Chung, Professor, National University of Kaohsiung