

# CfP Special Session

March 6-8, 2024, Arcada University of Applied Sciences, Helsinki, Finland



## Special Session Call for Papers

### *“Online Laboratories in Modern Engineering Education (OLMEE)”*

as part of the International Conference on Smart Technologies & Education (STE 2024)

#### **OLMEE Background and Overview**

It is no longer a concealed fact for any educator in the field of engineering that laboratory work holds a pivotal role in the training of engineers and technicians. This has spurred a growing interest in research focused on what are commonly known as online laboratories. The need to establish online laboratory setups for both educational and research purposes, complemented by suitable architectural frameworks for delivering lab resources, has become evident. As these online labs have been integrated into educational settings, several challenges have come to the forefront, including issues related to scalability, interoperability, extensibility, flexibility, integration, and instructional value. Researchers worldwide have dedicated their efforts to addressing these challenges for many years.

Furthermore, the landscape of education across universities globally has undergone a significant transformation due to the impact of the COVID-19 crisis. This transformation has compelled institutions to swiftly transition from traditional, in-person instruction to online teaching. What was typically a process spanning several months or years has been condensed into a matter of days or weeks. While this shift to online teaching presented a substantial challenge for many educational institutions, it posed an especially unique obstacle for educators in STEM fields. They have been tasked with finding ways to provide meaningful laboratory experiences in a remote learning environment.

The special session we are introducing is explicitly focused on sharing experiences and research findings related to online laboratory education within the current global context. These insights are based on extensive research endeavors and specific experiences gained during the pandemic. As educators have adapted to the new reality by transitioning to online platforms, it is clear that numerous innovative approaches and significant developments have emerged in the field of online labs over the past several years. This special session is particularly interested in these fresh approaches, developments, experiences, and research results.

We invite authors to submit a variety of contributions, including research papers and more practical pieces that describe their experiences with online laboratories and educational research, which may include preliminary evaluations. This special session is co-organized by the International Association for Online Engineering (IAOE) and the IAOE's Global Online Laboratory Consortium (GOLC). We welcome submissions from various scientific disciplines connected to this subject. Our primary objective is to facilitate collaboration among stakeholders, fostering the exchange of ideas, experiences, and research findings while creating networking opportunities for future endeavors.

**\*\*\*Note: This Special Session will also feature presentations by the winners of the 2024 GOLC International Online Laboratory Award\*\*\***

## OLMEE Topics

We encourage you to submit your research on the next (but not restricted) topics:

- Applications & Experiences
- Augmented & Mixed Reality
- Cyber Physical Systems
- Cyber Security
- Collaborative Work in Virtual Environments
- Bridging the gap between face-2-face and online experimentation
- Evaluation of Online Labs
- Human Machine Interaction & Usability
- Impact of COVID on STEM Education
- New Approaches for Online Experimentation
- Online Engineering
- Online Labs in the era of COVID
- Process Visualization & Virtual Instrumentation
- Remote Control & Measurements
- Remote & Crowd Sensing
- Standards & Standardization Proposals
- Virtual & Remote Laboratories

## OLMEE Program Committee

### Chairs

- Dominik May, University of Georgia, USA, [dmay@uni-wuppertal.de](mailto:dmay@uni-wuppertal.de)
- Valerie Varney, TH Cologne, Germany, [valerie.varney@th-koeln.de](mailto:valerie.varney@th-koeln.de)

### Members

- Kalyan Ram, IAOE, India, [kalyan@electronosolutions.com](mailto:kalyan@electronosolutions.com)
- Alexander Kist, University of Southern Queensland, Australia, [Alexander.Kist@usq.edu.au](mailto:Alexander.Kist@usq.edu.au)
- Abul Azad, Northern Illinois University, USA, [aazad@niu.edu](mailto:aazad@niu.edu)

## Special Sessions General Information

Special Sessions, held in parallel with the general conference, are an integral part of the conference. They provide researchers in focused areas the opportunity to meet and present their work, and offer a forum for interaction among the broader community of technology-enhanced learning, and online engineering world-wide. Special sessions papers are required to meet the same standards as papers in the general conference and are published in the same conference proceedings.

Special Session papers must be submitted to REV submission server (<https://www.conftool.com/ste2024/>) to the respective Special Session track. Special Session papers will be reviewed by at least two members of the special session's program committee, and acceptance decisions will be made by the conference program co-chairs and Special Sessions Chair.

## Important Deadlines

<b>30 Nov 2023</b>	Submission of complete Special Session papers
<b>15 Dec 2023</b>	Notification of acceptance
<b>15 Jan 2024</b>	Camera-ready due & Author registration deadline
<b>06 Mar 2024</b>	STE 2024 opening

## Review/Proceedings

All submissions will undergo a double-blind review process. All accepted and presented papers will be published as STE 2024 Proceedings in Springer's Lecture Notes in Networks and Systems. The books of these series are submitted to ISI Proceedings, EI-Compendex, DBLP, SCOPUS, Google Scholar and Springerlink. Selected award-winning papers will be recommended for publication in international journals.