

## EDUCON2020 Special Session

### ***Online laboratory education 2020: considerations of methods, tools, results, and insights in how (not) to improve lab work in higher engineering education (OLÀ2020)***

<http://www.educon-conference.org/>

### Overview

Hindsight is easier than foresight: offering the chance to regain “20/20 vision” in 2020, the objective of the Special Track OLÀ2020 is to stimulate lively discussions and reflections of experiences in the successful as well as not so successful development, use and evaluation of laboratory work in engineering education.

Laboratories have been an integral part of science and engineering education for more than 150 years. A fundamental strength of many engineering courses is engaging students in engineering experiments and laboratory work to foster the connection between theories, empirical methods and their appropriate practical applications. These experiments range from a basic verification of fundamental laws to the analysis of complex relationships, as well as to solving real world engineering design and construction problems. Moreover, now an increasing number of cyber-physical laboratory systems and laboratories can be used via laboratory portals in teaching, research, and as business cases for sharing platforms.

**However**, the special track intends to be not about laboratory technology, but about pedagogical usage scenarios of online laboratories and its evaluation. To this end, it intends to focus on topics of the constructive alignment of online experiments in education (i.e. learning objectives, activities and assessments) and their evaluation. Furthermore, it intends to discuss concepts of different engineering labs and their special characteristics. Finally, aspects should be carved out on how to achieve intended learning outcomes more effectively in the lab course.

### Topics

- Evaluating Learning objectives, teaching and learning activities, and assessments tasks for experimental work
- Studies of effectiveness of different kinds of labs
- Methods and tools to evaluate and to assess labs in higher engineering education
- Laboratory experiences in and students’ opinions about remote, virtual, on-site, augmented, and hybrid laboratories
- Developing knowledge, skills and competencies in engineering laboratories
- Command of technology as learning objective for preparing students for future challenges
- Integrating novel modes and pedagogical topics into lab work (e.g. Inverted classroom, problem-based Learning, employability, creativity, responsibility, social inclusion etc.)
- Future capabilities and constraints of labs in engineering education

## Technical Program Committee

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### Deadlines

Dec. 15, 2019	Submission of complete papers
Jan. 21, 2020	Notification of Acceptance
Feb. 17, 2020	Author registration and Payment and Final/Camera-ready Due
Apr. 27, 2020	Pre-Conference Workshops
Apr. 28-30, 2020	EDUCON 2020