

WORKSHOP

Types of interdisciplinary projects in engineering education

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OVERVIEW OF WORKSHOP

Interdisciplinarity is an integrated and embedded part of sustainability and mission driven education, and engineering students need to learn to collaborate across disciplinary boundaries. Educational experience from European universities indicates that this is not an easy learning process and that these learning processes might need a lot of facilitation depending on the scope of interdisciplinarity. More narrow interdisciplinary projects might be easier to handle compared to broader interdisciplinary projects. In the InterPBL project (funded by the Grundfos Foundation, Denmark) at Aalborg University, we have developed a new model for interdisciplinary projects. In this workshop, this model will be presented and it will frame the discussion.

ACTIVITIES

The workshop will be organized as a highly interactive session with presentation of the interdisciplinary PBL model with Australian cases followed by activities and sharing on examples interdisciplinary projects.

TARGET AUDIENCE

The target audience is academic staff in engineering education, particularly those who run the design sequence within programs.

OUTCOMES

1. Awareness of the variation in interdisciplinary projects, from simple to complex
2. Awareness of possible challenges in running various projects
3. Awareness of implementation processes in an integrated curriculum

KEYWORDS

Interdisciplinary projects, integrated curriculum, PBL development

PRESENTERS' BACKGROUNDS

Anette Kolmos is Professor in Engineering Education and PBL, Founding Director (Director 2014-2023) for the UNESCO category 2 Centre: Aalborg Centre for Problem Based Learning in Engineering Science and Sustainability. UNESCO Chair 2014-2014. Has researched PBL for nearly 40 years. She was awarded the SEFI Leonardo da Vinci Medal in 2023.

Roger Hadgraft is a civil engineer with more than 30 years of experience in improving engineering education. He has published many papers on problem- and project-based learning (PBL) to support student-centred learning to meet the needs of engineering employers. He was instrumental in introducing a project-based curriculum in civil engineering at Monash University and in several disciplines at RMIT. He led the introduction of design studios at UTS during 2016-2023.

Sally Male is Professor of Engineering and Technology Education, and Director of the Teaching and Learning Laboratory, Faculty of Engineering and IT, University of Melbourne, and Adjunct Professor, The University of Western Australia. She has led and reviewed interdisciplinary projects in engineering education, and led competitively funded research projects on curriculum development, industry engagement and gender inclusion in engineering education.