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AAEE

36th Australasian Association
for Engineering Education
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WORKSHOP EXPRESSION OF INTEREST

Emerging Technologies in Engineering Design Education

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WORKSHOP MODE

Please confirm that your workshop will be facilitated **in-person**. **Yes**.

OVERVIEW OF WORKSHOP

With continuous advancements in technology, traditional engineering design processes are constantly adapting to integrate emerging technological developments. These include online computer-aided design (CAD) and Product Data Management (PDM) software, augmented reality, artificial intelligence, and generative design. This workshop will enable academics who teach engineering or product design classes to investigate how emerging technologies may impact both the way students learn, and how students approach engineering design problems. The workshop will also investigate the impact of these technologies in industry. Insights gained from this workshop will allow academics to reflect on their current teaching practices and evaluate the potential benefits of incorporating emerging technology.

ACTIVITIES

The workshop will begin with an introduction and overview of what the workshop plans to cover. Attendees will then be split into groups of 4-5 to complete an initial brainstorm of emerging technologies in engineering design that they are aware of (15 mins). A Miro board will be developed to summarise the work of each group. Next, each group will review a case study of where emerging technology has been used to assist with engineering design. Groups will complete a worksheet to reflect on the use of this technology (including a SWOT analysis). Each group will present their analysis of the case study to the rest of the workshop. A flat room with tables (for group work) and a projector would be most suitable.

TARGET AUDIENCE

Academics/tertiary educators in the disciplines of Mechanical and Mechatronics Engineering Design, Engineering Design Process, Product Design, Industrial Design. A prior knowledge the engineering design process is beneficial, but not essential. All interested are welcome to participate.

OUTCOMES

Participants will gain insight into the emerging tools that are likely to impact the profession of engineering design. Case studies will allow participant to see how tools can be used and incorporated into teaching.

KEYWORDS

Engineering Design, Emerging Technology, Integrated Tools

PRESENTERS' BACKGROUNDS

George Stilwell is a Pūkenga (Lecturer) in Engineering Design for the Department of Mechanical Engineering at the University of Canterbury in Christchurch, New Zealand. George teaches mechanical system design to third-year mechanical and mechatronics students. He has a range of ongoing research projects in areas including engineering education (incorporating emerging technology in teaching engineering design), and applications of engineering design in the contexts of inclusive design, sports engineering (development of protective sports equipment), heavy vehicles, and micromobility tyres.