

**SMTE 2017 Pre-conference Workshop 4  
7 November 2017 (0900-1200)**

**Integrated STEM Education Using the CDIO Framework**

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The workshop will explore how the CDIO framework can provide a structure for STEM education. The workshop will:

- introduce the CDIO framework and explain the Standards that are applicable to STEM fields beyond the original context of CDIO (engineering). This is the key focus of the workshop – how the CDIO framework can provide a structure for STEM education and is based on the facilitators' experiences plus cross disciplinary experiences described in *CDIO as a Cross-Discipline Academic Model*, 2016, 12th International CDIO Conference, Turku, Finland and *Application of CDIO in Non-Engineering Programmes – Motives, Implementation and Experiences*, Johan Malmqvist, Helene Leong-Wee Kwee Huay, 2016 12th International CDIO Conference, Turku, Finland
- explain how STEM educators can assess their teaching using the CDIO implementation kit – a tool for assessing areas of strength and areas for improvement that are most applicable for STEM fields: that is, Standard 2: Learning Outcomes, Standard 8: Active Learning and Standard 11: Learning Assessment.
- help participants to reflect upon and evaluate their teaching against Standards 2, 8 and 11 of CDIO using scaled rubrics provided by the facilitators e.g., Standard 8- Active Learning– where does your teaching fit on the scale from no evidence of active experiential learning methods to regular review of the impact of active learning? How can participants develop more active learning for their students, outcomes based curriculum and constructively aligned assessments?
- evaluate and modify a STEM active-learning activity (mousetrap car)