

MAKERSPACES IN PHYSICS

Helen Georgiou^a and Pornrat Wattanakasiwich^b

Presenting Authors: Helen Georgiou (helengeo@uow.edu.au) and Pornrat Wattanakasiwich (pwattanakasiwich@gmail.com)

^aUniversity of Wollongong, Wollongong NSW 2522, Australia

^bChiang Mai University, Muang District Chiang Mai 50200, Thailand

ABSTRACT

Makerspaces are becoming increasingly common in Universities and Schools. However, it has been reported that Makerspaces are not well integrated into educational curricula. In this workshop, we provide some examples of Makerspace projects, we offer a tour of a Makerspace in Northern Thailand, and engage participants in a 'Design Thinking' workshop. These ideas will provide participants with examples of how to effectively use Makerspaces to teach Physics.

Intended Audience: School Teachers

PRESENTERS



Dr Helen Georgiou is a lecturer in science education and former high school physics teacher. Helen's research focuses on how to improve access to and success in science. Her research interests include diagnosing misconceptions, exploring student-generated digital explanations as assessment, describing creativity in physics, exploring how knowledge and confidence develop in Makerspaces and writing in science. A unique element of Helen's research involves drawing from an epistemological framework known as Legitimation Code Theory to explore the nature of scientific knowledge in various educational contexts.



Assoc. Prof. Dr. Pornrat Wattanakasiwich is a physics education researcher and faculty at Chiang Mai University, Thailand. Her research studies include investigating physics misconceptions in secondary school students and university students, improving student multiple representation in physics through high speed video analysis, enhancing student soft skills by solving physics or STEM open-end problems.

Proceedings of the IUPAP International Conference on Physics Education, ICPE 2022 5-9 December 2022, page 36, ISBN: 978-1-74210-532-1.