



## WORKSHOP

### First People's Engineering – implementing cases and experiences

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#### WORKSHOP MODE

Hybrid during Perth business hours

#### OVERVIEW OF WORKSHOP

This workshop builds on research and writing which is developing and extending new and updated contextual information about integrating First Peoples' engineering and practices. The workshop will employ aspects of the Cynefin Domains of knowledge to help participants explore their own plans for incorporating First Peoples' knowledges into future units of study.

#### ACTIVITIES

1. We will introduce participants to a method of graphically representing a current or pending course/unit of study and employ the process to guide an exploration of how to appropriately incorporate First Peoples' engineering knowledges into their work. This will be done in groups from the same location or unit theme, who may collaborate on creating the image.
2. Images are rotated around the group for a different person to complete the next stage
3. Knowledge management concepts (e.g. Cynefin, and Tex Skuthorpe) are introduced – with a focus on complexity and this is applied to making additions to the initial drawing
  - a. This is for many a new knowledge domain and there will be some predictable uncertainty and confusion to be explored during the debriefing
  - b. The task is to add challenges and ideas that can prompt the course owners to consider new/different approaches to teaching the course.
  - c. Special consideration is given to listing observations about where First Peoples' engineering knowledge is relevant – new ideas, gaps and questions are added
4. The worksheets are then passed on once more to a new individual/group for the task of -
  - a. critiquing the whole document
  - b. offering ideas about how to manage the complexity of what is emerging
5. The amended document returns to its owners who review its amended condition and develop answers to these questions: a) *What do we need to do to implement these suggestions?* B) *Where might we look for support?* C) *What will change in our teaching/student learning because we can do this in future?*

#### TARGET AUDIENCE

The target audience is engineering educators interested in including First Peoples' engineering knowledges into courses/units off study. No prior knowledge is needed to participate in the activities.

#### OUTCOMES

- 1 A process of critically friendly review by peers outside the designer's sphere, will provide insights into opportunities for adding to/adapting work in new and creative ways
- 2 Critiquing another's work provides insights into one's own design and plans for teaching, and into ways of adding First Peoples' engineering knowledge into standard teaching practices
- 3 everyone will have an increased understanding of First Peoples' engineering knowledges and tacit insights into how engineering concepts can be similar in intent and different in execution.

#### KEYWORDS

First Peoples' engineering knowledge; Cynefin domains of knowledge; learning design

## **PRESENTERS' BACKGROUNDS**

Dr Leigh has an extensive record of tertiary education and has contributed to several academic projects on developing and extending awareness of First Peoples' engineering knowledge. Dr Kutay has worked in the arena of First Peoples' engineering knowledge for many years. Together they are 2 of the 4 co-editors of a new book on *First Peoples' Engineering for an Enduring Culture* to be published at the beginning of 2022.

Dr Cat Kutay is an electrical and computer engineer who has worked on Aboriginal Engineering and Information Technology projects for over 30 years and is researching how to improve two-way learning in our universities.

Dr Lyndon Ormond-Parker is of Alawarra descent, from the Barkly Tablelands of NT. He is a cultural heritage expert working in repatriation, archives, information technologies, heritage, and policy. He has coordinated and lectured in various tertiary level subjects and developed and delivered 'on country' learning.

A/Professor Juliana Kaya Prpic is an educator and researcher at the University of Melbourne. Her work is exclusively focused on engaging with Aboriginal communities around Australia to collaboratively explore western engineering knowledge and Indigenous knowledge systems, and integrating Indigenous perspectives and ways of knowing into the engineering curriculum.