



Australasian Association for  
Engineering Education



# What's on in AAEE?

2024 Edition 1 - February

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- 2024 AAEE Research Schools
- 2023 AAEE Engineering Education Grant Winners
- Launch of AA'EE<sup>C</sup> – GenAI in Eng Edu Special Interest Group
- New AJEE Issue Available

## Welcome

Kia Ora and a happy new year to all AAEE members in 2024. This year, we will be hosting both the AAEE 2024 Conference and the AAEE New Zealand Autumn School in the city of Christchurch, New Zealand. The details of both events are outlined, respectively, in the AAEE2024 Conference and 2024 AAEE Research Schools sections below.

I also wish to welcome our new executive member Dr. Nick Brown and our returning executive members Dr. Sacha Nikolic and Sara Moridpour.

Also, a big congratulations to the 2023 Award winners. Full details of these are described in the 2023 AAEE Awards section below.

Please do remind your colleagues that AAEE membership for Australian academics are sponsored by ACED, however individual registration is required to activate membership - [join here](#). AAEE has developed an academic pathway for engineering educators to achieve Chartered (CPEng) and has close ties with programs accreditation functions in both Engineers Australia and Engineering New Zealand. AAEE has its own Q1 journal, the **Australasian Journal of Engineering Education**, that presents work that is at the forefront of engineering education internationally. Accordingly, the field of engineering education research is suitably recognised with its own 2020 Field of Research (FoR) code – **401002 Engineering education**.

I encourage early-career academics to consider applying for the **AAEE Academy of Early Career Engineering Educators** (AECEE), more commonly called The AAEE Academy, which was founded in 2017 to provide an innovative leadership and mentoring program for early career education focused academics. Since 2021, **AAEE Engineering Education Grants** were introduced in partnership with ACED (with matching funding) to provide seed funding to expedite projects that seek to implement the key recommendations of 2035 Engineering Futures that are multi-institutional and leveraged to maximise impact.

I also would like to give a plug to the two special interest groups – **Engineering Education for International Students**, and **Diversity and Inclusion in Engineering Education**. There is also a community of practice in the form of **HDR Symposium** that facilitates peer-support, mentoring, and dissemination of Engineering education research conducted by research students.

Ka kite anō (See you again)

AAEE Executive Committee

## AEE 2024 Conference

### **AEE 2024 Announced – University of Canterbury and Ara-Te Pūkenga to co-host!**

AEE is pleased to announce that University of Canterbury (UC) and Ara will co-host the 2024 AEE Conference. Please mark **8-11 December 2024** in your diaries and join us as we talk ‘The Engineer and The World’. Abstract submissions will open at the end of the month; further details will be released on the conference website: [www.aee2024.org](http://www.aee2024.org). Nau mai haere mai ki Ōtautahi! We look forward to welcoming you in Christchurch!



## 2023 AEE Awards

### **Conference**

#### **AEE Best Practice Paper**

Highly Commended: *“Formative Sprints to improve feedback, learning, and fidelity in practice-based activities”* Anna Lidfors Lindqvist, Keith Willey, Lena Lidfors, and Beata Francis.

Winner: *“Exploring application of AI technologies for engineering education in systematic invention and innovation”* Pavel Livotov, Mas'Udah and Quentin Lemaire.

#### **AEE Best Research Paper**

Highly Commended: *“Major Decisions! Exploring Student Pathways to Engineering Majors as Markers of Identity”* Amy Young, Les Dawes and Bouchra Senadji.

Winner: *“Generative AI as a Catalyst for Enhanced Learning Experience in Engineering Education”* Behzad Fatahi, Hadi Khabbaz, Jianfeng Xue and Roger Hadgraft.

#### **AEE Best Student Paper**

Highly Commended: *“Engineering Thinking: Preparing Students for the Workforce with Novel Tertiary Pedagogy Design”* Adam Schonker, Devin Goralsky, Michael Crocco and Tony Vo.

Winner: *“P’s Get Degrees’: Exploring First-Year Engineering Students’ Perceptions and Experiences of Failure”*, Sara Abdulghaffar, Marissa Phoon, Dragon Power Poon, Luke Tan, Jonathan Li, Nicoleta Maynard and James Salamy.

#### **AJEE vol. 27 Best Paper Award**

Highly Commended: *“Influence of using a pen-and-paper or computer-based approach on engineering students’ self-efficacy during idea generation”*, Andrew Valentine, Iouri Belski, and Margaret Hamilton.

Winner: *“Influences on U.S. undergraduate engineering students’ perceptions of ethics and social responsibility: findings from a longitudinal study”*, Shiloh James Howland, Stephanie Claussen, Brent K. Jesiek, and Carla B. Zoltowski.

#### **AEE Citation for Outstanding Early Career Contributions to Engineering Education**

Winners: Alexander Gregg, University of Newcastle and June Ho, Macquarie University

#### **Technical Society Awards**

Engineering Education Research Design Award

Highly Commended: *“Using journey maps as a holistic, reflective approach to capture student engineering identity experiences”*, Amy Young.

Winner: *“Understanding the impact of artificial intelligence on academic”* Sasha Nikolic, Scott Daniel, Rezwanul Haque, Marina Belkina, Mubashar Hassan, Sarah Grundy, Sarah Lyden, Peter Neal, Caz Sandison.

#### **Engineering Education Engagement Award**

Winner: *“ENG ME! Program”* Daniel van der Walt, Philippa Martin, and Rachel Wood.

#### **AEE Distinguished Member Award**

Winner: Emer. Prof. Caroline Crosthwaite (UQ)

## 2024 AEE Research Schools

The AEE Research Schools are an immersive experience that brings together engineering education researchers. Attendees will learn about:

- Designing and undertaking effective education research projects
- Exploring research methodologies, methods and evidence

- Evaluating teaching and curriculum
- Positioning evaluation and research activities in light of current trends
- Appreciating and responding to national and local grant opportunities
- Building collaborative research partnerships across Australia and beyond

**The first AAEE Research School this year will be in Ōtautahi Christchurch, Aotearoa New Zealand:**

2024 AAEE AUTUMN SCHOOL

**Date:** 17-19 April 2024

**Location:** Te Kaupeka Pūhanga | Faculty of Engineering  
Te Whare Wānanga o Waitaha | University of Canterbury  
Ōtautahi | Christchurch, Aotearoa | New Zealand

**Fees for the 3 days (including instruction, materials, and daytime catering):**

NZ\$200 for PhD candidates (who are not full-time academics)

NZ\$500 for academic staff members of AAEE

NZ\$600 for academic staff non-members of AAEE

**Daily registration for AAEE Winter or Summer School alumni on Thursday and/or Friday:**

NZ\$50 for PhD candidates (who are not full-time academics)

NZ\$200 for academic staff

If you are flying from anywhere outside of New Zealand, there will be a NZ\$100 reduction in these registration fees to assist with flight costs.

The Summer School will be facilitated by experienced Australasian researchers in the field of engineering education. All facilitators have extensive experience in supporting academics and PhD candidates to develop their skills in education research.

Deadline for registration: **Friday 1<sup>st</sup> April 2024.**

For registrations and enquiries:

<https://www.surveymonkey.com/r/PF8JT5R>

Email: Anne.Gardner@uts.edu.au

Phone: +61 2 9514 2368.



**The second AAEE Research School will be in Sydney, Australia:**

2024 AAEE WINTER SCHOOL

**Date:** 22-26 July 2024

**Location:** Sydney at University of Technology, Sydney, Australia

**Fees for the whole week (including instruction, materials, and daytime catering):**

\$AU400 for PhD candidates (who are not full-time academics)

\$AU700 for academic staff members of AAEE

\$AU800 for academic staff non-members of AAEE

**Daily registration for returning participants on Thursday and/or Friday:**

\$AU50 for PhD candidates (who are not full-time academics)

\$AU200 for academic staff

If the direct flight time from the city/town where you work to Sydney is 2.5 hours or more, there will be a \$100 reduction in these registration fees to assist with flight costs.

The Winter School will be facilitated by experienced Australasian researchers in the field of engineering education, including Professor Anne Gardner and Dr Scott Daniel who have both previous won the AAEE research design award and Dr Tania Machet. All facilitators have extensive experience in EER, supporting academics and PhD candidates to develop their skills in education research.

Deadline for registration: **Monday, 1 July, 2024.**

For registrations and enquiries:

<https://www.surveymonkey.com/r/7SMV577>

Email: Anne.Gardner@uts.edu.au

Phone: +61 2 9514 2368.



## *AAEE Engineering Education Grant Winners*

Congratulations to the successful applicants for the 2023 AAEE Engineering Education Grants (ACED aligned). Looking forward to great outcomes and impact from their work in the near future!

### **ACED Aligned Grant \$20,000 Application A**

**Project Title:** *Recognising quality teaching in engineering education: How can Australian universities improve policies and culture to meet the 2035 vision?*

**Project Team:** Dr Sarah Dart (Queensland University of Technology), Dr Alexander Gregg (University of Newcastle) and Dr Sam Cunningham (Queensland University of Technology).

#### **Abstract:**

The ongoing lack of value placed on quality teaching, relative to research, emphasises the need to review the mechanisms for recognising educational quality within universities in order to improve alignment between the sector's strategic objectives and the capabilities of the workforce tasked with realising them. Building on previous work that identified the teaching capabilities required of engineering educators aligned to the sector's 2035 vision, this project seeks to deepen understanding for how teaching capabilities are represented in promotion processes; what constitutes effective evidence in demonstrating impact; and how perceptions vary across academic contexts. Drawing upon multiple conceptual frameworks from the areas of higher education evaluation and educator capability, the project will employ document analysis of promotion policies and thematic analysis of semi-structured interviews with Australian engineering academics. Findings of the project will contribute to actionable insights for enhancing the quality of engineering education through transforming capability recognition of the engineering educator workforce in line with the 2035 vision.

### **ACED Aligned Grant \$20,000 Application B**

**Project Title:** *Investigation of integrating generative AI into the learning and assessment of engineering across Australasian universities*

**Project Team:** Dr. Peter Neal (UNSW), Dr. Marina Belkina (Western Sydney University), Dr. Sarah Grundy (UNSW), Dr. Ghulam Hassan (The University of Western Australia), Dr. Rezwanul Haque (University of the Sunshine Coast), Dr. Scott Daniel (University of Technology Sydney), Dr. Sasha Nikolic (University of Wollongong) and Dr. Sarah Lyden (University of Tasmania).

#### **Abstract:**

Generative AI has gained much attention in the higher education sector. Its advent continues to disrupt conventional approaches to learning and assessment. The ability of the technology to interpret natural language and generate a variety of texts can enhance the work of students and teachers but can also be used to subvert traditional assessment types and thus threaten the validity of engineering degrees. Therefore, it is critical to understand how AI challenges and enhances the attainment of Stage 1 Competencies. In this project, we will investigate and evaluate the integration of generative AI in a variety of engineering courses across Australasian universities. This project will produce case studies on AI implementation in engineering teaching and learning, benchmarking its current applications and effectiveness. Additionally, it will offer a roadmap for integrating generative AI in engineering education. The results will guide Australasian educators, leaders, and policymakers on AI's place in higher education.

## *AA<sup>1</sup>EE<sup>C</sup> – New Special Interest Group*

We're thrilled to announce the launch of a groundbreaking initiative: the Australasian Artificial Intelligence in Engineering Education Centre (AA<sup>1</sup>EE<sup>C</sup>). This pioneering Centre is set to help AAEE members learn and collaborate in order to stay ahead of the curve in this rapidly changing landscape. A key focus is to understand how we can integrate cutting-edge artificial intelligence to enhance learning, teaching, and research.

Join - <https://www.aaieec.org/>

Join the LinkedIn group - <https://www.linkedin.com/groups/14354485/>

We will also be supporting AAEE24 with a GenAI focussed stream.

## *Australasian Journal of Engineering Education (AJEE) News*

### **Volume 27, Issue 2 (2022) Now Available!**

The newest edition of AJEE, [Volume 27, Issue 2](#), is out now! Check out the following articles that feature in it.

- [Editorial - Imagine the potential impact](#)  
Sally Male  
DOI: 10.1080/22054952.2023.2294649

In the editorial for the latest issue of the Australasian Journal of Engineering Education read about the papers in the issue, the best paper award winners, and changes to the Editorial Team and Advisory Committee. [Full article: Imagine the potential impact \(tandfonline.com\)](#).

### *From the Community*

If you have an upcoming event, opportunity or resource you would like to be considered for sharing with the broader AAEE community via the newsletter - please either post it to the Facebook group or email [mohammad.al-rawi@wintec.ac.nz](mailto:mohammad.al-rawi@wintec.ac.nz) by the 1st of each month