



Peer Review in Engineering Education

Kacey Beddoes^a, Anne Gardner^b, Lesley Jolly^c, Keith Willey^b.
Purdue University^a, University of Technology, Sydney^b, University of Queensland^c
Corresponding Author Email: kbeddoes@purdue.edu

OVERVIEW OF THE WORKSHOP

The purpose of this workshop is to provide a forum for discussion, reflection, and learning about peer review in engineering education. As engineering education aspires to become a profession or discipline in its own right, it is important to examine the roles and effects of peer review in that process. Peer review and editorial decision-making play a central role in how the field develops (e.g. how interdisciplinary it is, and what new perspectives and methodologies are allowed in), who is allowed to participate, and where the boundaries of the field are drawn. Moreover, as international and multidisciplinary contributions to the field are increasingly advocated, it is important to understand peer review in other disciplinary (e.g. social science vs. engineering fields) and national contexts. The workshop builds on a longer tradition of studying peer review practices in other fields, such as Science and Technology Studies, higher education, and science education. The workshop will:

- Allow engineering education scholars to share and reflect upon their experiences, both as authors and as reviewers
- Allow current and aspiring engineering education scholars to learn from colleagues' experiences and expectations vis-à-vis peer review - including across disciplines and national contexts
- Promote critical reflection on the role of peer reviewers and editors
- Promote critical reflection on assumptions engineering educators bring with them when serving as peer reviewers

ACTIVITIES

5 minutes: Introduction

20 minutes: Brief presentations by workshop organizers based on their prior research on peer review in engineering education. Presentations will focus on issues and questions that organizers believe are important for engineering education as an emerging research field.

20 minutes: Small group activity. Participants will work in groups to discuss and analyse their own peer review experiences in engineering education with the aim of identifying common themes or experiences that are salient for the engineering education community to grapple with.

5 minutes: Groups will report back on their discussions to the entire workshop.

20 minutes: Small group activity. Participants will work in groups to discuss what they would like to see changed or improved upon in peer review in engineering education.

5 minutes: Groups will report back on their discussions to the entire workshop.

15 minutes: Questions. Participants will have an opportunity to ask colleagues and organizers questions they have about peer review in engineering education.

TARGET AUDIENCE

The target audience is scholars with prior peer review experiences in engineering education, as well as scholars with no engineering education peer review experiences who are interested in starting to undertake engineering education research. No prior knowledge is needed to participate.

OUTCOMES

Outcomes for participants include: insights into peer review in engineering education, which could improve their own work and peer review practices; knowledge about the ways peer review has been studied and critiqued in other fields; an opportunity to question their own

assumptions about peer review and engineering education. Each of these outcomes has the potential to contribute to improving the engineering education scholarship that is published.

Outcomes for the larger community include a potential publication. If there is sufficient participation and group discussions are fruitful, the organizers will write an article or report summarizing the findings of the workshop, with the aim of publishing it in an engineering education outlet – possibly *Australasian Journal of Engineering Education*. This would be an opportunity to promote the outcomes for participants to a larger audience as well. Participants will be notified that organizers will be collecting data through the workshop in the published workshop description and also at the beginning of the workshop. They will be informed that they have the ability to opt out of our data collection, and that no identifying information will be revealed in any subsequent publication. This is a common method in engineering education research and has been used to produce articles that have been published in *Journal of Engineering Education* and *Australasian Journal of Engineering Education*.

REFERENCES

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Willey, K., Jolly, L., Tibbits, G., & Gardner, A. (2011). Investigating research quality and the review process: some suggestions for improvement. Paper presented at the European Society for Engineering Education (SEFI) Annual Conference.

KEYWORDS

Peer review, engineering education research.

PRESENTERS BACKGROUNDS

Kacey Beddoes is a Postdoctoral Researcher in Engineering Education at Purdue University in the United States, and has published in *Journal of Engineering Education*, *International Journal of Engineering Education* and *Australasian Journal of Engineering Education*. Her doctoral dissertation, completed in 2011, examined peer review practices in three engineering education journals. She serves as Assistant Editor of the Global Engineering series at Morgan & Claypool publishers and as Managing Editor of *Engineering Studies*, journal of the International Network for Engineering Studies (www.inesweb.org).

Anne Gardner is a Senior Lecturer in the School of Civil and Environmental Engineering at the University of Technology, Sydney. She has published in engineering education particularly in the area of self and peer assessment and is currently undertaking a PhD investigating authors' responses to peer review in the field of engineering education research.

Lesley Jolly is an anthropologist who studies the culture of engineering, including engineering education. She is chair of AAEE's educational research methods group and consults widely in educational research and evaluation.

Keith Willey is an academic in the Faculty of Engineering and Information Technology at the University of Technology, Sydney. In the area of education his research interests include learning and assessment associated with working in groups, innovative use of self and peer assessment, collaborative peer learning and the provision of learning-oriented assessment and feedback. He is also part of a team researching the practice of peer review within the AAEE community. Keith is the Project Manager and lead developer for the self and peer assessment tool known as SPARK^{PLUS}.