

**Proceedings of the Second Biennial
Conference of the South
African Society for
Engineering Education**



11 – 12 June 2013

**Vineyard Hotel
Cape Town, South Africa**

Edited by Brandon Collier-Reed

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Message from the President of SASEE

It is my great pleasure to welcome you to the second biennial conference of the South African Society for Engineering Education (SASEE). SASEE was formally launched at its first conference held in 2011, and the two years have rolled around in a busy way. Two workshops were held in 2012, to keep the momentum going – one on curriculum and another on teaching large classes. We have been delighted at the attendance and engagement so far at SASEE events, and the emergence of this dynamic community.

We have had a very good response to our call for papers for this conference and we have an interesting three day programme lined up. This year we headlined our call with the theme of “Teaching professionals / Professional teaching: towards an ethical, efficient and engaged engineering education” and we look forward to discussions that respond to this challenge. We are aiming a focus towards the building of professionalism in engineering education, interrogating not only efficiency (the current focus on throughput) but also the ethical basis for our teaching and the need for engagement.

The stunning Vineyard Hotel will form the backdrop for our deliberations. We particularly welcome all out of town guests to Cape Town! We are hoping for critical engagement with the current challenges we face in engineering education as well as the presentation of innovative work that is designing and trialling new ways forward. The SASEE conference is an important coming together of both research and practice-based scholarly work, covering topics at all the levels of policy, curriculum, and teaching and learning.

We are particularly grateful to our sponsors who have assisted in making this event happen. ECSA (The Engineering Council of South Africa) has played an on-going role in supporting SASEE at so many levels and we are also delighted that this year they have sponsored the Welcome Reception. We are pleased to welcome a new sponsor in FNB Platinum who made a generous contribution. Finally, we would also like to thank our exhibitors, Oxford University Press and Juta, for their participation in this event.

Prof Jenni Case
President, SASEE

Conference Review Procedure

These proceedings are a published record of the Second Biennial Conference of the South African Society for Engineering Education (SASEE). The purpose of these proceedings is to disseminate original research and new developments within the discipline of Engineering Education.

All papers and extended abstracts accepted for this conference went through a multiple- review process *prior to publication*. Authors initially submitted extended abstracts which were double-blind reviewed by at least one member of the SASEE or Centre for Research in Engineering Education Executive. Based on the outcome of this review, authors were invited to either develop this extended abstract into a full paper, or were invited to revise their extended abstracts based on the reviewers comments for resubmission. The resultant papers and extended abstracts were then further reviewed by at least two reviewers using a double-blind peer review process. Authors were required to consider and implement the suggested changes where required.

The reviewers for the papers and extended abstracts were drawn from the SASEE Executive, SASEE membership, and the Centre for Research in Engineering Education (CREE) as appropriate.

The rejection rate for full papers was **14%** and for extended abstracts was **13%**.

SASEE Biennial Conference Organising Committee, 2013

Prof Jenni Case (UCT)

Dr Debby Blaine (US)

Dr Keith Jacobs (UNISA)

A/Prof Brandon Collier-Reed (UCT)

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