



4th BIENNIAL CONFERENCE

SASEE 2017

PROGRAMME

13-15 June

Cape Town Lodge

ENGINEERING EDUCATION IN TRANSITION

Responding to a changing higher education landscape

TUESDAY, 13 JUNE - WORKSHOPS

08H30-09H30	REGISTRATION
09H30-11H00	WORKSHOP 1: ASSESSMENT STRATEGIES FOR ECSA ELO'S PROF BRANDON COLLIER-REED (UCT)
11H00-11H30	TEA/COFFEE BREAK
11H30-13H00	WORKSHOP 2: DEVELOPING A SCHOLARLY TEACHING PORTFOLIO THOMAS OLSSON (LUND UNIVERSITY, SWEDEN)
13H00-14H00	LUNCH
14H00-16H00	WORKSHOP 3: THE MAGIC OF BLENDED LEARNING DR JP BOSMAN (SUN)

16h30 WELCOME RECEPTION

WEDNESDAY, 14 JUNE – CONFERENCE DAY 1

08H00-08H30	REGISTRATION
08H30-08H45	OPENING ADDRESS: PROF RENE PELLISSIER Director: Research, Technology, Innovation - Strategic Initiatives and Partnerships, CPUT
08H45-09H45	KEYNOTE SPEAKER: PROF THOMAS OLSSON, Lund University, Sweden
09H45-10H30	SASEE BIENNIAL GENERAL MEETING

15H20-15H50 TEA/COFFEE BREAK

SESSION 1A - Chair: Anita Campbell	SESSION 1B - Chair: Zachary Simpson
11H00-11H20 To 'read', or not to 'read', that is the question faced by undergraduate engineering students: Using the cloze procedure to reveal their choice - Arthur James Swart	11H00-11H20 Predicting engineering student success using machine learning - Tatenda Taodzera, Johnson Carroll & Bhekisipho Twala
11H20-11H40 TA control systems approach to improving final year engineering students' conceptual and contextual grasp of dynamic systems - Lidia Auret & Karin Wolff	11H20-11H40 Flexible curricula: Addressing the transition from engineering science to engineering design - Nicky Wolmarans
11H40-12H00 Spreadsheets in mechanical engineering design: Getting students to learn and to do the 'real stuff' - Kant Kanyarusoke	11H40-12H00 Hardwired: Facilitating engineering studies - Ron Aylward

SESSION 2A - Chair: James Swart	SESSION 2B - Chair: Ann Lourens
12H00-12H20 About an online lecture set up using Microsoft presentation software and text to speech application - Robert Huberts	12H00-12H20 A micro analysis comparing outcomes between extended and core curriculum students in subjects across an engineering faculty - Mark Jacobs, Corrie Uys & David Evans
12H20-12H40 Insight Quotient (InQ): How to discover what it means to have learned something - Panos Lazanas	12H20-12H40 MOOCs and transitions: Pathways in and out of learning and work - Andrew Deacon, Jeff Jawitz, Janet Small & Sukaina Walji
12H40-13H00 Managing large number of students in a mechanical engineering laboratory: A lecturing assistant's perspective - Morakane Gloria Moletsane	12H40-13H00 Using epistemic justice as a framework for underpinning articulation between technical and vocational education and training colleges and higher education engineering programmes - Bruce Graham, Darren Lortan, Savathrie Maistry & Mark Walker

13H00-14H00 LUNCH

SESSION 3A - Chair: Johnson Carroll	SESSION 3B - Chair: Karin Wolff
14H00-14H20 Crib sheets: Can we learn from them? - Teresa Hattingh, Laurie Woollacott & Robert Reid	14H00-14H20 What should engineers be trained for in SA? - Anton Basson
14H20-14H40 The Integrated Engineering Programme (IEP) at University College London - John Mitchell	14H20-14H40 Diversity and first-year student integration in an engineering faculty - Nosisana Mkonto, Luvuyo Kakaza & Emmanuel Esambe
14H40-15H00 A lot right, a lot wrong! An analysis of student responses to a design, build and assess project in a thermodynamics course - Shehzaad Kauchali & Laurie Woollacott	14H40-15H00 School-leaving and university entrance assessments in explaining performance in engineering studies - Robert Prince, Darlington Mutakwa & Janine Dunlop
15H00-15H20 Capstone projects in electrical engineering at UNISA - Leslie Nickola & Gert Jonker	15H00-15H20 Cognitive demand across an engineering degree programme - Zachary Simpson & Johannes Bester

15H20-15H50 TEA/COFFEE BREAK

SESSION 4A - Chair: Anton Basson	SESSION 4B - Chair: Maggie Chetty
15H50-16H10 Lesson learned from exposing Computer Systems Engineering students to entrepreneurship and innovation activities - Vusumuzi Malele, Khumbulani Mpofu & Mammo Muchie	15H50-16H10 The role of theory in engineering education research - Bruce Kloot
16H10-16H30 Improving employability skills of students through laboratory and practical work - Goodwell Muyengwa, Henrietta Steenkamp, Susanne Taylor & Yvonie N. Mawane	16H10-16H30 A narrative of a meaningful relationship between technology and pedagogy using Open Educational Practice - Cheryl Belford
16H30-16H50 In/between science and art: Posthumanist ruminations on Geomatics education - Siddique Motala	16H30-16H50 Student perceptions of transformation and belongingness in engineering programmes at a South African university - Kalpana Ramesh-Kanje & Anita Campbell
16H50-17H10 Students' experiences regarding learning mathematics within the flipped classroom model - Barbara Posthuma & Jacomien Muller	16H50-17H10 Socio-economic impact on engineering student performances: A TUT case study - Christiaan Coenrad Oosthuizen & Barend Jakobus Van Wyk

19H00 GALA DINNER – CAPE TOWN LODGE

THURSDAY, 15 JUNE – CONFERENCE DAY 2

08H00-08H30	REGISTRATION
08H30-09H20	KEYNOTE SPEAKER: PROF HENK DE JAGER, Vice Chancellor & Principal, CUT

SESSION 5A - Chair: Barend van Wyk	SESSION 5B - Chair: Robert Prince
09H40-10H00 Service learning in engineering education: Developing group collaboration -Martina Jordaan & Vreda Pieterse	09H40-10H00 The manufacturing sector's response to the lack of appropriate technical expertise in South Africa -Karin Wolff
10H00-10H20 An investigation into the impact of changes in assessment practice in a mass transfer course -Geoffrey Simate & Laurie Woollacott	10H00-10H20 Decolonising engineering education in sub-Saharan Africa: Some perspectives -Kant Kanyarusoke & Tiyamike Ngonda
10H20-10H40 Exploring the effects of multiple intelligences and learning styles on academic performance in construction studies -Abby Street, Uche Ordor & Elmarie Edwardes	10H20-10H40 Learning in practice: Developing ethical judgement in engineering students through facilitating student reflection on work experience -Alison Gwynne-Evans

10H40-11H00 TEA/COFFEE BREAK

SESSION 6A - Chair: Panos Lazanios	SESSION 6B - Chair: Mark Jacobs
11H00-11H20 The night before the test: Electrical engineering students' use of online resources in preparation for assessment -Jacki Gilmore, Karin Wolff & Moira Bladergroen	11H00-11H20 Understanding characteristics of leavers to sustain a diverse engineering talent pool in the United States: A case study -Sybrina Atwaters, Cheryl Leggon, John Leonard II & Willie Pearson
11H20-11H40 Enriching engineering student experience of final year projects through gamification and authentic learning -Jacob Greeff, Reolyn Heymann, Johnson Carroll & Andre Nel	11H20-11H40 Industrial engineering as a career choice at the University of Johannesburg -Henrietta Steenkamp & Goodwell Muyengwa
11H40-12H00 Aligning mathematics taught in the intermediate phase, with afterschool enrichment programs, to respond to a changing engineering education landscape -Johan Koekemoer & Andre Hattingh	11H40-12H00 Assessing the progress of South African planning students' in problem-based learning: A contextual approach based on Work Integrated Learning experience -George Onatu

SESSION 7A - Chair: Linda Jewell	SESSION 7B - Chair: Bruce Graham
12H00-12H20 Using YouTube as a reflection tool -Dolf Jordaan and Martina Jordaan	12H00-12H20 Quantitative literacy practices in civil engineering study: Responding to a changing higher education landscape -Robert Prince
12H20-12H40 Showing phenomenography at work: A study of students' conceptions of the Mohr circle -Josias van der Merwe & Laurie Woollacott	12H20-12H40 "It's not just working on a plant for 20 years": Students' perceptions of engineering professionalism -Gabrielle Nudelman
12H40-13H00 The literacy of engineering design: Investigation into first year design report writing -Muaz Bhamjee & Zachary Simpson	12h40-13H00 Lecturer perceptions about integrating HIV and AIDS education into the electrical engineering curriculum of an African University of Technology -Lawrence Meda & Nicolaas Luwes

13H00-13H40 LUNCH

SESSION 8A - Chair: Andre Hattingh	SESSION 8B - Chair: Ken Barris
13H40-14H00 An evaluation of the challenges and benefits of e-assessment implementation in developing countries: A case study using a first year engineering course -Ione Loots, Anneke Roux & Ridwaan Fakir	13H40-14H00 The new Engineering Curriculum at the Durban University of Technology -Maggie Chetty & Andrew Naicker
14H00-14H20 Post intervention reflection on guided discovery learning in a process engineering course -Laurie Woollacott	14H00-14H20 An exploratory study on science and engineering student experiences at UCT -Alexandra Himunchul, Storm Strydom, Jenni Case & Dee Bradshaw
14H20-14H40 Codebreakers: Designing and developing a game for telecommunication engineering students -Reolyn Heymann, Murray Heymann, Jacob Greeff & Carl Heymann	14H20-14H40 A web-based learning platform for remote engineering laboratories -John Fernandes & Theo van Niekerk

SESSION 9A - Chair: Laurie Woollacott	SESSION 9B - Chair: Nicky Wolmarans
14H40-15H00 Feedback from 1st year industrial engineering students: Influences on student retention -Ann Lourens	14h40-15H00 Investigating trends in the South African output of graduate engineers -Jennifer Case, Bonolo Skee, Ipeleng Moloto, Brandon Collier-Reed and Hilton Heydenrychs
15H00-15H20 The uneasy role of proof in teaching engineering mathematics -Tracy Craig	15H00-15H20 An analysis of engineering graduate destinations using LinkedIn -Jennifer Case, Hilton Heydenrych, Kim Nkahlle & Lelethu Roto
15H20-15H40 Reflections on solving problems: Teaching and learning -Deborah Blaine	14H20-14H40 Emerging student-centred perspectives on work placement as a component of mechanical engineering technology education -Tiyamike Ngonda, Corrinne Shaw & Bruce Kloot
15H40-16H00 Constructive alignment in an introduction to engineering course: Walking the talk -Brandon I. Collier-Reed, Corrinne Shaw & Malebogo Ngoepe	15H40-16H00

16H00 CLOSE