

PEESA III DISSEMINATION CONFERENCE



Co-funded by the
Erasmus+ Programme
of the European Union



PERSONALIZED ENGINEERING EDUCATION IN SOUTHERN AFRICA

CAPE TOWN HOTEL SCHOOL
CAPE PENINSULA UNIVERSITY
OF TECHNOLOGY (CPUT)

6-7 SEPTEMBER 2021

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Your world to a better future

PEESA III DISSEMINATION CONFERENCE

The PEESA III Project (Personalized Engineering Education in Southern Africa) is a collaborative initiative funded by the European Commission on the Erasmus+ programme. It is aimed at building capacity in areas related to engineering education.

The project is being implemented by a consortium of universities from South Africa and Europe, namely:

- Cape Peninsula University of Technology (CPUT)
- Tshwane University of Technology (TUT)
- Vaal University of Technology (VUT)
- Durban University of Technology (DUT)
- Hochschule Wismar (HSW)
- Hochschule Flensburg (FUAS)
- University of Szczecin (USZ)
- Lucian Blaga University of Sibiu (ULBS)

ASIIN Consult GMBH is an associate member of the consortium and will assist with the alignment of engineering programmes with European accreditation standards.

The project focuses on the design and development of engineering Master degree programmes at the South African partner universities which:

- integrate flexible learning paths and the effective use of ICT;
- enable the development of transversal skills;
- help strengthen university – business - society cooperation;
- promote participation of women in engineering; and
- are aligned with EURACE standards.

This dissemination conference will provide project participants with the opportunity to showcase the PEESA III project, present the project outcomes, and deliverables and reflect on its successes and challenges. It will also provide a forum for the discussion of good practice and future trends in Engineering Education.

Further information on the project is available on the project website:

<http://peesa.usz.edu.pl>

The conference will make provision for online participation.

The link for online participation is provided below:

<https://bit.ly/3j8Lnub>

Programme: PEESA III Dissemination Conference

Monday, 6 September 2021 (Cape Town Hotel School, Granger Bay)

18:00 Registration and Reception

Tuesday, 7 September 2021 (Cape Town Hotel School, Granger Bay)

8:30 Registration

9:00 Opening & Welcome: Dr D Phaho, DVC: Research Innovation and Partnerships (CPUT)

9:15 Messages of support: German, Polish, Romanian Consulates

9:45 **Keynote 1: *Researching Engineering Education in a Rapidly Changing World: Looking Back, Moving Forward***
Prof Chris Winberg, NRF Research Chair in Work Integrated Learning, Professional Education Research Institute (PERI), CPUT

10:30 TEA

11:00 **Keynote 2: *The Western Cape Regional Innovation System***
Ryan Ravens, CEO, Accelerate Cape Town

11:45 Overview of the PEESA Project

12:15 Engineering Master degrees (CPUT)

12:30 Engineering Master degrees (DUT)

12:45 Engineering Master degrees (TUT)

13:00 LUNCH

13:45 Engineering Master degrees (VUT)

14:00 **Keynote 3: *Digital Education in Post-C19: Some Trends on Disruption-Era Career Niche & Priorities***
Ronny Adhikarya, formerly with the World Bank; United Nations

14:45 Self-Evaluation Reports (ASIIN)

15:00 TEA

15:15 Gender Equity (USZ)

15:30 University Business Cooperation (LBUS)

15:45 “Train the Trainer” Programme for Blended Learning (HFL)

16:00 Closing Remarks (HSW)

19:00 CONFERENCE DINNER (Radisson Blu Hotel, Granger Bay)



Guest Speaker and Summary of Topic

Prof Chris Winberg

Chris Winberg holds the South African National Research Foundation Chair in Work-integrated Learning, and leads the Professional Education Research Institute at the Cape Peninsula University of Technology (CPUT) in Cape Town, South Africa. Her research focus is professional and vocational education – with a particular focus on engineering education, the professional development of university teachers, and technical communication. She obtained a PhD in Applied Linguistics from the University of Cape Town (UCT), and lectured in applied linguistics and language education at UCT, the University of the Western Cape, and at the University of Stockholm in Sweden. From 2010–2012, she was chairperson of the South African Association for Applied Linguistics. Chris was the director of the Fundani Centre for Higher Education Development at CPUT from 2011–2015 where she was responsible for supporting curriculum renewal, academic staff development, and for promoting educational research.

Researching Engineering Education in a Rapidly Changing World: looking back, moving forward

Engineering education, like engineering itself, has always responded to challenges – usually by applying science and mathematics to solve complex problems for the purpose of improving the technologies and conditions for working and living. Scholars in engineering education have identified many changes in engineering education in response to global challenges, including shifts towards more student-centred pedagogies and more socially relevant curricula. These changes have tended to be slow, evolving over many years of engineering change, and teaching and learning practice. In contrast, 21st century challenges, namely climate change, radical inequality, Industry 4.0, and the pandemic are considerably more complex, uncertain and volatile than the changes experienced by previous generations of engineering educators. In this address, some of the ways in which engineering educators are responding to the challenges are discussed, including trends in curriculum reform, new pedagogies, and new configurations of technical and professional skills. The particular focus is on the global South and how emerging universities are addressing global challenges. If you want to change the world, as the saying goes, you need to be taught differently. Undoubtedly, engineering education needs to change if the engineers of the future are going to be able to address the major challenges facing people and the planet in the 21st century.



Guest Speaker and Summary of Topic

Ryan Ravens

Ryan Ravens is the CEO of Accelerate Cape Town, a business leadership organisation representing top-tier corporate business in the Cape Town City region. He currently holds three degrees, including a MBA from the University of Cape Town, in addition to numerous globally recognised professional certifications, such as COPM and PRINC2.

Ryan, a life-long entrepreneur, owned and managed a successful management consultancy for a number of years before he was approached by FIFA in 2006 to develop the first draft of the masterplan for the 2010 FIFA World Cup – delivered months later to high acclaim. Ryan accepted an offer to join FIFA on a full-time basis to oversee implementation of the event. Following the World Cup, he was head-hunted by the Gauteng Growth and Development Agency where he served as Group Executive EPMO, as well as Group Executive: Strategic Partnerships. After three years with the agency, Ryan returned to his entrepreneurial roots, investing in numerous start-ups before moving to Cape Town to take up his current position.

Ryan has extensive leadership experience across both public and private sectors, has worked in all major South African cities, as well as geographically diverse regions, such as Shanghai, Lagos, Doha and Zurich. Ryan believes in the power of education to transform lives, and is passionate about making a positive difference in the South African socio-economic landscape.

The Western Cape Regional Innovation System

The presentation will cover the Western Cape Regional Innovation System, and will focus on the importance of engineering and technology for regional development and the need for related skills development. It will touch on key innovative projects and initiatives in the region that will require significant technological skills in the near future, and will include initiatives to promote university–business cooperation.



Guest Speaker and Summary of Topic

Dr Ronny Adhikarya

Dr Ronny Adhikarya has had a 45-year career in international development assistance, serving for the World Bank, United Nations, and other international organisations. He has also been associated with institutions such as Stanford University, the East-West Center, and conducted training in many learning institutions worldwide. He retired from the World Bank in 2003, and was then reappointed as the Food and Agriculture Organization (FAO) United Nations Representative and Chief of Mission (with Ambassador credentials) in Pakistan. Originally from Indonesia, Dr Adhikarya has since 1972 undertaken professional assignments and official missions in 52 countries, and travelled to a total of 103 countries.

He now provides consultancy/ advisory services, part-time, through R-Adhikarya International's Tacit Knowledge Sharing Service. He has frequently been invited as a keynote speaker at international conferences, and has given public lectures in at least 28 countries. He has written eight books on communication, extension, training and education subjects, published in Germany, Italy, England, the USA, Singapore, Indonesia and Malaysia, as well as numerous book-chapters, journal articles, and consulting reports. Dr Adhikarya has served various international advisory boards/ committees of several leading development organisations and/ or educational or training institutions in Singapore, Thailand, England and Switzerland. He obtained his Masters from Cornell University and his PhD from Stanford University.

He now lives in the “Silicon Valley” of California and Honolulu, Hawaii, where he also serves as a member of the Board of Directors of the Hawaii-Indonesia Chamber of Commerce (HICHAM), and the Executive Board of the East-West Center Association (EWCA).

Digital Education in Post-C19: Some Trends on Disruption-Era Career Niche and Priorities

In the last few years, we have faced “fait accompli” disruptions in our lives, resulting in heavy use of digital-tech communication and virtual education which are here to stay. The presentation will explore emerging challenges and opportunities for educational reforms and new professional career “niches” Post C-19.