

CURRICULUM VITAE

Name: Ben Horan
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Current Position and level of Academic Appointment:

Director CADET Virtual Reality Laboratory
Discipline Head Mechatronics/ Senior Lecturer

Academic Qualifications:

- Graduate Certificate Higher Education 2012, Deakin University
- PhD Engineering 2009, Deakin University
- Bachelor of Engineering (H1 Honours) 2005, Deakin University (received Deakin University Vice Chancellor's Award for best piece of Undergraduate work submitted across entire University)

Membership of Professional Bodies:

- 2009 to current – Member IEEE
- 2009 to current – Member ASEE – Australian Association for Engineering Education
- 2010 to current – Member IEEE Systems, Man and Cybernetics Society (SMC)

Previous Industry Appointments:

2005 Turnkey Solutions/Automation-Machine Vision Engineer

Academic Appointment Record:

2014 to current Senior Lecturer, School of Engineering, Deakin University

2009 - 2014 Lecturer, School of Engineering, Deakin University

2008 Associate Lecturer, School of Engineering, Deakin University

Professional Contributions to Educational Development:

Since 2014, have been a key member of the team responsible for designing, developing and phasing in of the new Problem Oriented Design Based Learning (PODBL) curriculum for the Bachelor of Mechatronics Engineering.

Designed, developed and leading the CADET Virtual Reality Laboratory which is now recognised as a world class research and teaching facility.

Campus organiser and Leader of Deakin's first entry to the 2014 EA Warman Design and Build Competition. This activity has subsequently become part of the curriculum for the Bachelor of Mechatronics and Bachelor of Mechanical Engineering Undergraduate degrees.

Member of the supervisory team for four completed PhD students, currently primary supervisor for one PhD student and associate supervisor for one student

Published 6 papers in Engineering Education related to teaching Engineering at the Undergraduate level.

Received Collier Community Charity Funding received in 2009 for Interdisciplinary Engineering Education through Design, Cooperate, Build and Compete – \$23k

I have held a heavy full time teaching load and have consistently pursued excellence in learning and teaching. For almost all of the units I have been involved with, I have been the Unit Chair and performed all lecturing and have consistently received high SETU scores. In 2009 I took over responsibility for SEE103, a large enrolment, common, first year unit. Through innovative delivery methods, by 2011 I had significantly raised the SETU score to above 4.

Publications:

Publication	Number
Book Chapters	5
Journal Articles	10
Conference Articles	30
Invited	3
Patents	2
Total	48

Recent Industry Grants:

- 2016 – Undergraduate Scholarships for Bachelor of Mechatronics Engineering students (\$100k total)
- 2016 – Ongoing partnership with GM design Australia
- 2016 – ANZ bank, Pilot for a Virtual Reality Education Platform for Professional Development
- 2016 – Racing Victoria and Latrobe University, Virtual Reality Diagnosis Tool for Jockeys with Concussion
- 2015 – Flavourtech, Development of an Immersive Virtual Reality Experience for Remote Visualisation
- 2011 – Australian Academy of Science Australia-Korea Foundation ECR S&T Fellowship undertaken at Seoul National University, South Korea
- 2010 – Australia Research Council (ARC) Linkage Grant \$155k
- 2010 – Australia Council for the Arts (ACA) \$66k
- 2008 – Australian Government, Endeavour Research Fellowship undertaken at the University of Canterbury, NZ. The University of Canterbury is ranked in the top 3% of the world's Universities (according to the QS World University rankings) and this fellowship has resulted in ongoing research collaboration and 5 publications.

Research Focus:

- Director of the Centre for Advanced Design in Engineering Training (CADET) Virtual Reality (VR) Laboratory. The VR Laboratory is a first of its kind facility and is home to a Research and Development team focused on developing new VR technologies and solutions for industry. The VR Lab has collaborations with more than 10 partners in industry and research organisations.
- Led a collaboration with the School of Nursing and Midwifery (Deakin) to develop a first of its kind Haptic Virtual Reality simulator for intrapartum contractions. The simulation technology has been patented as is undergoing discussions regarding commercialisation.
- Haptics, robotics and human computer interaction and well recognised in the field. This includes collaboration with several well known researchers in the field including Dr Edward Tunstel. Dr Tunstel was the Advanced Robotic Controls Group Leader and Lead Engineer for rover mobility and robotic arm subsystems on the NASA JPL Mars Exploration Rovers mission operations team and is now with the Johns Hopkins University Applied Physics Laboratory. Dr Tunstel is now an adjunct Professor at Deakin University and shares a number of collaborative publications.

Other Professional Development Activity:

- Invited Panellist at the 'Leaders in Virtual Reality' workshop at the 2016 Australasian Simulation Congress.
- Invited speaker at the Victorian University Directors of IT seminar, 2015
- Undertook OSP/ASL at Seoul National University (SNU) in T2, 2012. SNU is ranked 37th in the world according to the QS University Rankings. The time spent on OSP resulted in the preparation/submission/revision of three journal publications as well as establishing a working relationship with Dr Seokhee Jeon at Kyung Hee University, South Korea who is using the outcomes of my research listed below in a current research project.
- 2015 - Program Committee Member – IEEE International Conference on System of Systems Engineering, San Antonio Texas
- 2013 - Program Committee Member – IEEE International Conference on Systems, Man and Cybernetics, London, UK – Highly regarded conference in my field
- 2011 - Registration Chair and Program Committee Member - IEEE International Conference on Systems, Man and Cybernetics, Alaska, USA

- 2011 - Program Committee Member and Session Chair – 15th International Conference on Mechatronics Technology, Melbourne, Australia
- 2007 - Program Committee Member, IEEE International Conference on Systems of Systems Engineering, San Antonio, Texas, USA
- In 2007 I led a high profile project with the Victoria College for the Arts, Melbourne University, where I developed a robot for a short film Lone. This resulted in a large amount of publicity for Deakin University and two such media publications are listed below
 - Watters, M 2007, 'Deakin's junkyard robot hits big screen', Geelong Advertiser, December 7.
 - 2008, Ben Horan-Deakin-Robot maker, utimes Tertiary student news and entertainment, February <<http://www.utimes.com.au/issues/u201/04.pdf>>