

## A View from Down Under - The Emergence of Humanitarian Engineering Education in Australia

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Rm. 260 Dreese Laboratory

**Talk Abstract:** This discussion will outline the current state of humanitarian engineering education in Australia. This has only started to emerge in the last five years, with the first informal student program available in 2015 and the first formal qualification to commence in 2017. Much of this development has been fostered by Engineers Without Borders Australia (EWB Australia). EWB Australia was established in 2003 and currently supports the majority of the humanitarian engineering education initiatives in Australia, including the EWB Challenge for first year courses, the international EWB Humanitarian Design Summit, the EWB Undergraduate Research Program and the EWB University Partnership Program. From these initiatives and through EWB Australia's role, there is collaboration and development across multiple universities with EWB Australia acting as a facilitator and connector between universities and to industry and community partners. The engineering school at the Australian National University (ANU) has been an early adopter of all of EWB Australia's initiatives and has integrated them into its compulsory systems engineering core, making opportunities available to all students to complement their discipline studies. The delivery of humanitarian engineering at ANU will be used as a case study to highlight the emergence and growth of the area in Australia. The unique aspects of the field in Australia and what has been learnt and adapted from other countries, particularly the USA, will be explored and opened up for discussion, as well as proposed future directions, collaborations and research.

Jeremy Smith is a research engineer in the Research School of Engineering at the Australian National University (ANU) in Canberra, Australia. Over the last 10 years Jeremy has been directly involved with the development and emergence of humanitarian engineering education in Australia. He established both the national EWB Australia Undergraduate Research Program, which links final year coursework students to service-learning and humanitarian projects, and the EWB Australia University Partnership program. In 2015 he delivered Australia's first dedicated later-year humanitarian engineering subject. After graduating with a double degree in systems engineering and IT, Jeremy joined the ANU and worked on a number of industry-focused projects in the automotive and aerospace industries. This included projects examining the global dimensions of technology transfer and design cycles, in addition to working with a spin-off company established to commercialise some of the research developed. It was at the first EWB Australia conference in 2005 that Jeremy discovered his work and research was related to humanitarian development, and since then he has been an active member of EWB Australia including time as a volunteer regional chapter president, national volunteer and part-time paid staff position. Jeremy has lectured various courses at ANU from first year undergraduate through to specialised masters-level subjects, mostly related to engineering design and practice, and systems engineering. Jeremy is currently mid-way through a PhD examining the impacts of humanitarian engineering education for students and graduates at ANU.

