WORKSHOP

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Entrepreneurship in Engineering Education

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OVERVIEW OF THE WORKSHOP

There are regular calls for engineering graduates to be more innovative and entrepreneurial (e.g., http://www.theaustralian.com.au/innovationchallenge). This is particularly the case in the fast moving world of consumer electronics and web services. Should we develop graduates who will start their own business ventures, as opposed to looking for employment in a large global consulting company? Stanford University is one university that is proud of its tradition of nurturing start-ups (e.g. http://startx.stanford.edu/).

In Australia, it is probably more likely that entrepreneurship is taught in the Business School than in the Engineering School at most of our universities and likely at the postgraduate level, e.g. MBA. Until 2011, that was true at the University of Melbourne. Interestingly, many business ventures rely on engineering skills, whether they be software for e-business or hardware design involving material selection, design for strength, durability, robustness, etc.

Our plan was to ultimately bring business and engineering students together. The first step was to create a new Engineering Entrepreneurship course, which first ran in 2011 (the subject of a paper at the conference) and this has led to many interesting conversations since then. The course proved to be wonderfully successful (e.g., see http://unisquare.me) and this prompted us to think about spreading the enthusiasm more widely, including at this conference.

This workshop is intended to serve two purposes:

1. Give attendees an opportunity to experience part of the entrepreneurial process
2. Apply entrepreneurial thinking to our own business of engineering education. Where are the new opportunities (and threats from competitors)?

ACTIVITIES

Introduction from the facilitators (10 minutes)

Inverting business practices – rethinking current business practices; with report back (30 minutes)

Developing one idea further; with report back (30 minutes)

Wrap-up, summary of key outcomes (10 minutes).

TARGET AUDIENCE

All conference attendees are welcome. The only requirement is enthusiasm to engage and question your (our) business.

OUTCOMES

Participants will experience one aspect of entrepreneurial thinking. The inversion process takes current business practices and asks: “what is the opposite of this?” This allows rethinking strongly held beliefs and assumptions about current business practices.

KEYWORDS

Engineering entrepreneurship; inversion process; startups.

PRESENTERS BACKGROUNDS

Professor Roger Hadgraft is an Innovation Professor in Engineering Education in the School of Aerospace, Mechanical and Manufacturing Engineering at RMIT University and was formerly Director of the Engineering Learning Unit at the University of Melbourne. He is a civil engineer with more than

15 years involvement in leading change in engineering education, with a particular focus on problem/project-based learning (PBL), at RMIT, Monash and Melbourne Universities, with a focus on sustainable engineering. In 2009-10, he was ALTC Discipline Scholar in Engineering and ICT with Prof. Ian Cameron, developing the draft national academic standards.

Associate Professor David Austin is an entrepreneurship professor at the Melbourne Business School and the Melbourne School of Engineering. His background includes six startups and growth companies: one NASDAQ listing, two trade sales, one “sideways” company and two great tax write-offs! David teaches the two courses at the University of Melbourne.