



The papers in this edition of the Australasian Journal of Construction Economics and Building (AJCEB) – Conference Series represent the 10 very best from the 103 papers presented at the 38th Annual Conference of the Australasian Universities Building Educators Association (AUBEA2013). The AUBEA2013 Conference was held at the Faculty of Engineering, the University of Auckland, hosted by the Construction Management team in the Department of Civil and Environmental Engineering. The conference “Managing Construction in a Global Market” attracted researchers from Korea, Malaysia, Singapore, America, Finland, India, Iran as well as more locally from Australia and New Zealand, discussing current construction research themes affecting many different countries.

The papers in this edition display the richness and diversity of the building and construction industries. It is pleasing to the range of top papers, which represent the themes of the conference: Global Construction, New Construction, Delivering Satisfied Customers, Building People and Building Knowledge.

The first paper on A Competency Knowledge-Base for BIM Learning from Bilal Succar (ChangeAgents AEC, Australia) and Willy Sher (University of Newcastle, Australia) shows what excellent research comes from industry and university collaborations. Bilal and Willy present a compelling argument for equipping current and future industry professionals with the necessary knowledge and skills to engage in collaborative workflows and integrated project deliverables. The paper introduces a conceptual workflow to identify, classify, and aggregate BIM competency items so that BIM learning modules can be developed which satisfy the learning requirements of varied audiences.

The next paper is a discussion on using innovative methods for delivering courses. The paper Innovative Unit Delivery – The Supported Cloud from Eric Chan, Linda Tivendale, Chunlu Liu and Anthony Mills at Deakin University shows how the use of Supported Cloud learning can improve learning and the course coordinators’ relationship with students.

Ernawati Mustafa Kamal from Universiti Sains Malaysia, Malaysia and Roger Flanagan from the University of Reading, UK provide a Model of Absorptive Capacity and Implementation of New Technology for Rural Construction SMEs. Drawing on previous studies on absorptive capacity focussed on very large organisations with sophisticated structures and strong R&D orientation, the researchers apply the theory of absorptive capacity to Malaysian rural construction SMEs. The model developed in this research will help rural construction SMEs to understand the issues and process related to absorptive capacity and the implementation, and use of new technology; and provides a mechanism for policy makers to transfer new technology to rural contractors.

Covering the theme of New Construction, Jong Jin Park and Bharat Dave both from The University of Melbourne, Australia discuss Bio-inspired Parametric Design for Adaptive Stadium Façades. This research stems from the challenge of developing sustainable, adaptive architecture which requires unconventional approaches to innovative knowledge about composition and dynamic interaction between building façades and environmental conditions. Using inspiration from biology, the paper proposes using ideas from the optics of reflecting superposition compound eyes to create responsive façade structures that capture and distribute daylight within a building in response to the movement of the sun.

AUBEA host organisation, University of Auckland researchers, Khairil Izam Ibrahim, Seosamh B. Costello and Suzanne Wilkinson provide a method for developing better teams. Their paper, Establishment of Performance Scales for Team Integration Assessment shows

the importance of integration practice among multi-disciplinary teams, to promote a collaborative culture and the continuity of equitable relationships which improve project performance.

In the next paper, AUBEA2013 keynote presenter Martin Loosemore from the University of New South Wales covers the topic of innovation. In his paper, "Innovate or Perish? Exploring some of the Myths of Construction Innovation", Martin argues that construction innovation is a highly interactive and amorphous process, involving many people with multiple interests dealing with day-to-day challenges. Discussing previous research on construction innovation, and new insights from the Australian Construction industry, Martin argues that many of the factors that are said to drive innovation are not as straight forward as they may seem and he explores some of the myths that surround the innovation process in the construction industry.

In the paper "Procurement Selection Model: Development of a Conceptual Model Based on Transaction Costs", Mohammed A. Rajeh, John Tookey and James Rotimi from Auckland University of Technology, New Zealand discuss the selection of an optimal procurement system which could incorporate transaction costs associated with uncertainties in the transaction environment. The authors develop a model to represent factors influencing procurement systems choice, which could assist with procurement decisions.

Kim Maund, Willy Sher and John Smolders all from the University of Newcastle together with Rosemary Naughton from the NSW Building Professionals Board provide a paper on Understanding the building certification system: A need for accreditation reform. In this paper the authors provide insights into the building certification system and provide ways forward for the development of an evaluation instrument for certification. The evaluation instrument is aimed at certifiers seeking to upgrade to a higher level of accreditation but who do not have a recognised qualification and/or are unable to obtain the practical experience relevant to progression; and associated professionals who, although not accredited, wish to become a certifier but lack the recognised qualifications and/or experience.

The final two top AUBEA2013 papers cover aspects of the theme New Construction. Ricky Chan and Peter S.P. Wong both from RMIT University examine A Passive Rotary System for Seismic Risk Mitigation of Steel Structures. Their work analyses seismic mitigating products suggesting that a good displacement-based device for seismic applications must exhibit: (1) adequate elastic stiffness to withstand in-service lateral loads (e.g. wind); (2) the yield strength of the damper exceeds the expected in-service lateral loads such that the device is activated only in an earthquake event; (3) large energy dissipative capability; and (4) stable hysteretic force-displacement response which can be modelled numerically.

Sun Wei and Egbelakin Temitope both from Massey University, also report on new technologies with their paper, Adoption of Solar Grid-Tied PV-System Adopted in a Residential Building. They argue that emerging construction technologies focussing on the role and development of energy-conserving equipment can play a major role in solving a wide range of environmental and nature resource problems such as the greenhouse gas. They show a cost-benefit analysis of adopting a solar energy technology specifically the solar grid-tied system by comparing the cost of initial investment and usage in a residential building with a conventional electricity power supply. And find that the PV system is more cost-effective in the long term compared to the conventional electricity supply.

We hope you enjoy this special collection of edition of the Australasian Journal of Construction Economics and Building (AJCEB) – Conference Series showing the top AUBEA2013 papers as much as we enjoyed selecting them.

Guest Editors:

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