



ASSOCIATION OF RESEARCHERS IN CONSTRUCTION MANAGEMENT

LARGE INFRASTRUCTURE PROJECT DELIVERY

ARCOM AUSTRALIAN DOCTORAL WORKSHOP

MELBOURNE, AUSTRALIA, July 2019

Now in its 17th year in the UK and first time in Australia, the ARCOM Doctoral Workshop Series provide the opportunity to share ideas, identify emerging concepts, learn about new innovative practices, and deepen understanding of the problems and challenges associated with research in the construction and engineering sectors. This particular workshop will focus on the delivery of large infrastructure. Infrastructure here refers to the network of fixed assets (e.g. rail, roads, bridges, dams, underground metros, etc.) and services that facilitate economic and social activity in an economy. These assets form the critical lifeblood of economic prosperity and development of nations. The 2017 *Value of Rail Report*, for example, highlights how the rail sector is shaping Australia's cities and regions – the sector contributes about \$26 billion a year (1.6% of GDP) to the Australian economy and created over 140,000 jobs nationally [1]. The Australian Government has thus placed sustained emphasis on economic growth and productivity by investing significantly in major capital infrastructure - \$75 billion was committed to funding road and rail infrastructure projects nationwide between 2017-2027 in the 2017 Budget [2, 3].



However, the delivery of large infrastructure projects are notorious for the many performance challenges that beset their procurement and construction – for example, more than 50% of large infrastructure projects experience significant cost and schedule overruns [4-7]. The 12km Sydney Light Rail project currently on-going is already making headlines for being a year behind schedule and could become the costliest rail project with a possible price tag of \$3billion instead of the original estimate of \$1.5billion [8, 9]. That said, it is clear that future of infrastructure assets will be subjected to even more increasing degrees of complexity, extreme competition and uncertainty with respect to the outcomes of climate change, population growth, urban sprawl, availability of resources and the emerging disruptive nature of smart technology, automation and digitisation.



The workshops are usually structured to allow the presentation of doctoral students' work and permit discussions that afford the opportunity for ideation, identify synergies in research projects, network with other researchers with common interest in large infrastructure as well as receive critical and constructive feedback from established researchers. They seek to support work-in-progress and therefore participation, either as presenter or attendee,, is encouraged from PhD students at all stages of their research. The workshop will further allow the opportunity to ask critical questions, test ideas and initial hypothesis or solutions, as well as provide a debating forum that will help to sharpen our collective understanding of the complexities associated with planning, appraisal, design, finance and governance of large infrastructure projects.

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Submission of papers:

Doctoral students are invited to submit full papers (not exceeding 10 pages) for peer-review on the themes below (not exhaustive). The final peer-reviewed papers will be published as part of the ARCOM Doctoral Workshop proceedings:

- Financing and contracting in large infrastructure delivery
- Sustainable and resilient infrastructure
- Integrated Strategic Asset Management
- Megaproject failure and success
- Smart Infrastructure Initiatives
- Value Capture and Major Land Transport Infrastructure
- Infrastructure planning & investment analysis
- Front-End Project Governance
- Benefits assessment in megaprojects
- Megaproject complexity, risk and uncertainty management
- Public-private partnerships and infrastructure delivery
- Current and emerging infrastructure issues in Australasia
- Benefits realisation management
- Life-Cycle Resilience and Future-Proofing Infrastructure.



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For more information on past ARCOM Doctoral Workshops – see <http://www.arcom.ac.uk/workshops.php>

Note: specific dates and submission details will be confirmed in due course.

Workshop Convenor:

Dr Dominic Ahiaga-Dagbui
Deakin University
Australia

Supported by (TBC)

Professor Graham Currie (Monash University)
Prof Carol Boyle (Deakin University)
Prof Peter ED Love (Curtin University)
Prof Anthony Mills (Deakin University)
Prof Colin Duffield (University of Melbourne)

References

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2. Department of Infrastructure and Regional Development. *Infrastructure Investment*. 2017 [16-07-2017]; Available from: <http://investment.infrastructure.gov.au/>.
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5. Love, P.E., D.D. Ahiaga-Dagbui, and Z. Irani, *Cost overruns in transportation infrastructure projects: Sowing the seeds for a probabilistic theory of causation*. Transportation Research Part A: Policy and Practice, 2016. **92**: p. 184-194.
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8. Cockburn, P., *Sydney light rail contractor Acciona suing NSW Government; further delays to construction likely*, in ABC News. 2018.
9. O'Sullivan, M., *Sydney light rail's finish date now 2020, a year later than planned*, in Sydney Morning Herald. 2018, Sydney Morning Herald: Online.