

# ARCOM

ASSOCIATION OF RESEARCHERS IN **CONSTRUCTION MANAGEMENT**

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## ARCOM 2018 Highlights and Reflection: A Celebration of Construction Management Research



*"I've long maintained the importance of the friendly nature of ARCOM that supports and holds together the community together....."*

Queens University and Belfast did not let us down; a celebration of research and academic endeavour of the highest standard.

ARCOM could not have asked for a more welcoming city, as well as being spoilt with venues. Belfast, steeped in history and tradition brought a new impetus of energy; delegates reflecting on the past and discussing their work were making 'titanic' waves. From the start, Queens was alive with ARCOM excitement, the kind of which is only experienced at our events. We had a full house, being over subscribed from the beginning. In January, 310 abstract submissions were received and following three rounds of double-blind peer-review, a total of 131 papers were eventually accepted for presentation with more than 200 people attending the conference. The papers presented have depth and diversity, which is something that we have become proud of. We are never complacent, as we push forward with rigorous review process that supports the development

of papers. ARCOM retains a strong focus on quality and is held one of the leading construction management conferences in the field, a position and recognition that we want our community and conference to uphold. Achieving publication and presenting at ARCOM is not easy and something that authors should be proud of.

Watching delegates walking through the doors of Riddel Hall, confidently greeting each other, engaging with old friends and striking up new relationships was rewarding. At the start of event there is nothing more enlightening than seeing the community coming together. The energy of ARCOM is special. I've long maintained the importance of the friendly nature of ARCOM that supports and holds together the community together and ensures the critical academic discussion can unfold. ARCOM is rigorous and ultimately friendly in its endeavour to develop a solid body of construction management research.

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*Continued – ARCOM 2018.....*

As has become the custom, we were straight into the parallel sessions, pausing after lunch for the first keynote. Professor Su Taylor, of Queens University Belfast opened the conference with Neill Ryan, CEO of VRM Technology and Professor Graham Ferrier, University of Hull, providing our keynote address, offering insight into research with industry and academic partners. Professor Chris Ryan, Chairing the session, extracted everything he could from our eminent colleagues. Beyond the UK boundary, we explored international research through our panel debate benefitting from Professor George Ofori's key contribution and Professors Hiral Patel, Nicholas Chileshe, Fred Sherrat and Fidelis Emuze insights and experiences.

Our productive relationship was not just demonstrated in our main sessions, but with evening entertainment provided by one of our own delegate, who's an 'All Ireland' award winning musician, Michael Curran and band providing a taste of Irish music and dance. At the Titanic gala

dinner our longstanding Admiral, Dr Joe Gunning graced our after dinner speech with 'My Belfast'. Through Joe's eyes the richness of Belfast, its events and people shone through.

The Citation Practice workshop chaired by Professor Will Hughes was excellent, we couldn't have wanted a better representation. Everyone seemed to take something useful away from the panel Dr Libby Schweber, Dr Leentje Volker and Dr Christine Räisänen.

Professor Steve Rowlinson gave a moving reflection of his time with David Langford, as his first PhD student, before opening up the session on Mental Health, Stress and Wellbeing. The whole event was so fitting for the Langford Spotlight.

Everyone seemed to enjoy the ARCOM experience. There was one comment that we had too much content and not enough time between sessions for academics to catch up and meet new people. At the 2019 conference in Leeds, we will try to add a little

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*Editor letter.....*

Welcome to this issue of ARCOM Newsletter!

*This issue features a reflection on the 34<sup>th</sup> Annual Conference in Belfast by Professor Chris Gorse, the Conference Chair. It is followed by summaries of panel discussion, on Construction in the Developing World, and Citation Practices in Construction Management Research, by Dr Paul Chan. Professor George Ofori provided a reflection on construction research in developing world. After the presentation of best paper prizes at the 2018 conference, three calls for participation in ARCOM doctoral workshop are detailed; they are Exploring the Impact of Quantitative Research, Industry 4.0 and Disaster Resilience, and Large Infrastructure Projects (the first time, will be held in Australia). Transforming Construction Network Plus, PhD abstract, profiles of committee members are then featured. This issue is concluded with details on ARCOM 2019 conference, including theme tracks. I wish to thank to all contributors in this issue.*

*I would welcome any comments, and wish to invite your contributions to the newsletter. Please get in touch, by sending e-mail to R.Soetanto@lboro.ac.uk. Happy New Year 2019!!*

*Robby Soetanto  
Loughborough University*

*Continued – ARCOM 2018...*

more time into our programme, but with such an enthusiastic and outspoken community it's not always so easy. There's always too much to do...

I feel an increasing sense of pride as we move from Belfast to Leeds for 2019. We will once again come together, embracing the debate and further strengthening the supportive nature of our research community. Again we will be offering a little history and nostalgia as we spend our time at Leeds Beckett University oldest campus, also holding one of our social events at the Salts Mill, a world heritage site, and the Gala meal at the Headingley Campus. Plans are advanced and abstracts in. We're once again set for another wonderful conference.

Before I depart my reflection of 2018, I would like to say 'thank you'.

As this was my first conference as Chair, I was keen that the whole community were ready for the conference, but without the ARCOM committee and support of the community our conference, it



would not have been such a success. I want to extend my thanks to Dr Chris Neilson, our conference administrator and coordinator, who did everything we needed to ensure everyone knew where we were heading and that we were on time with everything. This conference would not have happened nor been so successful without Chris and Cath O'Connell (our web developer) working together. The whole Scientific Committee and everyone contributing well before and throughout the event make such a difference to what we are able to achieve. The conference is the final celebration of the hard work and where the next chapter starts. Thank you to everyone for their pre-conference effort, there is much to be grateful for and I look forward to seeing you at ARCOM Leeds 2019.

*Professor Chris Gorse  
Conference Chair*



## Construction in the Developing World: Where are the Alternative Frames of Thinking?



In line with the general conference theme of creating 'A Productive Relationship' the ARCOM 2018 Conference Panel Discussion sought to bring to the fore scholarly perspectives from the Global South. By highlighting specific concerns about construction management research

in the developing world context, the purpose of the Panel Discussion was to question and challenge the often under-examined dominance of particular kinds of thinking (e.g. Western-centric, English-speaking, neoliberal) that have influenced much scholarship in our field. Thus, the panel discussion sought to raise fresh possibilities for alternative forms of thinking that could account for multiple realities especially in the developing world context and to identify multiple trajectories in which construction industries around the world could develop. The panel comprised Professor Fidelis Emuze (Central University of Technology, Free State, South Africa), Associate Professor Nicholas Chileshe (University of South Australia), Professor George Ofori (London South Bank University), Dr. Hiral Patel (University of Reading) and Dr. Fred Sherratt (Anglia Ruskin University).

Key points raised during the Panel Discussion included:

- Finding alternative frames of thinking has contemporary appeal, and this can be seen in the growing movement of decolonising Western-centric models of thinking across the world. By

simply adopting these models of thinking to 'solve' problems of construction and the built environment without questioning the underlying assumptions, there is the danger of ignoring contextual specificities in different societal settings.

- Dissatisfaction was also expressed on distinguishing between 'developed' and 'developing' world contexts as this differentiation signifies that some are simply more ahead than others. Instead, there is value in encouraging pluralism in the ways we think about problems and solutions to those problems.
- There is a tendency to highlight only the differences that exist between different contexts. An example was provided in terms of how time is conceptualised differently – more linearly in the West and more circular in the East. However, the challenge is to find common ground between the different perspectives and to apply these appropriately to specific contexts.
- There was also a brief discussion on the power of publishing, and how writing academic papers (and being judged on that writing) in the English language can also be limiting in affording pluralism in our thinking and research methods.

Following the conference, Professor George Ofori also provided further reflections on the Panel Discussion. See supplementary article in the next page.

*Paul W Chan  
The University of Manchester*

*Continue next page with reflection...*



## Reflection by Professor George Ofori, London South Bank University



**H**ere are some personal reflections on and contributions to the discussion.

### Sharing some thoughts on the subject

Studies of the construction industries in developing countries adopt the same approaches and use concepts and methods developed for other contexts. The works on the developing countries have yielded some new knowledge and lessons which can enrich 'mainstream' Construction Management and Economics. Some of these possible new thoughts are now outlined.

- The conceptualisation of the project as in the Body of Knowledge of the Project Management Institute (PMI) should include the key knowledge area of the Business Environment. This is similar to the economic concept of 'Institutions'. It includes the regulatory and administrative framework, procedures and practices in the construction industry, the infrastructure, in short, support systems for the project.

Many projects fail to meet their objectives and performance parameters, or are never completed because of factors within the institutional framework in the country or the district where the project is undertaken. Two examples are relevant here: access to land (for both public and private projects), and availability of finance for the target end purchasers (for private project). The former can be entangled in legislative and cultural practices; and the former, in the features of the local financial system. We should not assume a supportive, or at least, benign operating environment for the project.

- "Only the best is good for the poor". We should reframe project performance parameters for developing countries. We should stress quality and durability; we should introduce the parameter of affordability. We should consider the long-term performance of the item to be built on the project. Should we have regular, periodic post-completion evaluation, at least, of major projects?

This consideration is important because there is a lack of resources for continual maintenance of the built item. Often, the necessary expertise is also not available.

Involving the community in the planning and development would help; there is also the need for the selection of project, location, materials and components, and technology to be based on more complex modelling of the project parameters.

- We should establish the concept of Social Protection and Benefit in construction and develop our

knowledge on it, given the possible impact of projects on the people who live in their environs (especially the vulnerable rural population). A project takes a significant amount of time to complete, and the work takes place in a community which must accommodate the workforce.

The World Bank and other major institutions have safeguarding norms and policies. We need to build on these.

- We should seek to apply and maximise culture in design and project management. We should optimise Community Involvement (under Stakeholder Management) with appropriate project structures and strategies.

In some countries, community involvement in projects is required by statute. However, as the reviews of individual projects and national development plans often show, this is usually not properly done, or not done at all. The traditional governance systems and structures can be used to great advantage. However, this will require project management systems which take them into consideration.

- (This is not a developing country issue, but I would like us to consider it here because the developing countries need it most.) We should consider offering sound proposals for the rehabilitation of devastated large areas after natural disasters. These disasters are occurring with greater frequency and potency, and laying waste to huge areas. The huge earthquakes in the Caribbean and Central America should give us much food for thought.

We need to develop rebuild or relocate decision-making models; financial models; technology for various forms of construction, temporary and permanent; capacity building; project management systems and mobilisation strategies; and effective involvement of the community.

### Some points for discussion

After a productive few decades between the early 1970s and around 2005, the field of Construction in Developing Countries has failed to make progress in the last decade. It is necessary to study the reasons for this lull in activity and determine what can be done to revive it.

- How can we mainstream good practice and good ideas? For example, design competitions on affordable housing or sustainable construction in particular regions are held, and winners are announced, but the award-winning designs have no impact on practice, in a context of scarcity of resources.
- How should we address the issue of local materials, the local users and their preferences?
- What is our responsibility as researchers?

## Citational Practices in Construction Management Research



Citations are becoming an increasingly important measure of a field's impact. Yet, how do we cite others in construction management research, and how can these citational practices strengthen and improve? To answer these questions, Professor Will Hughes (University of Reading) facilitated a conversation at the ARCOM 2018 Conference with Dr. Libby Schweber (University of Reading), Professor Leentje Volker (University of Twente) and Professor Christine Räisänen (Chalmers University). The purpose of this conversation was to consider the following questions:

- Why should we need to pay attention to the way we cite other scholars, within and outside of the construction management field?
- How do we currently tend to cite other items of research, and where are the areas of improvement?
- What are the implications of citational practices on the development of the field?

### Key points from the discussion included:

- Citations are an indication of the strength of the field. Therefore, as the saying goes, we should 'stand on the shoulders of giants' and ensure that we cite 'strong' references.
- However, what constitutes a 'strong' reference was open to much debate. On the one hand, and given that construction management research deals with the social as much as it addresses the technical, there is a need to ensure we look outside the confines of construction management scholarship

to engage with relevant, cutting-edge social theories. On the other hand, there was also recognition of the dark side of citational practices where the most-cited scholars continue to draw on more citations.

- Nevertheless, there was acknowledgement that one should not only cite others in passing. When citing, it is important to engage with the strengths and weaknesses of the argument the author(s) is/are making, the assumptions that underpin the ways they think about the problem and how these theoretical assumptions inform the ways data is collected and analysed. Only by engaging with the references cited can one build a cumulative picture of the development of thinking and evidence on a particular topic. One should avoid citing references that one has not read.
- That said, citations are not a demonstration of what you have read. Citations are intended for engagement, positioning, starting a debate and joining a conversation. Citations can make or break an argument. So, an astute reviewer reads your citations carefully. Citations are therefore codes, short-forms for a longer text. Citations are a strategic choice since it shows the author's ability to discriminate – a measure of one's intellectual maturity.
- A good starting point for a novice researcher entering a field is to review other review papers. This provides an opportunity for researchers unfamiliar with a territory to identify some of the key references on the topic.

*Paul W Chan  
The University of Manchester*



# Best Paper Prizes 2018

## Paul Townsend Commemorative Award for Surveying/ Project Management

*"Is Construction Ripe for Disruption "*

Sidsel Katrine Ernstsen, Anja Maier, Laurids Rolighed Larsen and Christian Thuesen

This paper explores the notion of 'disruption' and examines the industry through a comparison with the healthcare industry. The authors have carefully directed our attention towards how and where this disruption could happen. This advances the debate in ARCOM about the purpose of project management and provides a future challenge. There are some interesting claims about productivity and cost which will stimulate new arguments.



## Rod Howes Commemorative Award for Innovation

*"They're Coming at You: Latent and Active Design Agency in a Robotic Design Studio"*

Peter Raisbeck and Loren Adams

A challenging paper on the rise of robotics in the construction sector. The paper focuses on the way robotic theories and narratives have been incorporated into professional architect training and the types of agency with which it is associated. The paper stands out for its consideration of the role of both design itself and professional as a result of new technology.



## David Langford Commemorative Award for Social Impact/ Significance

*"Developing Safety Cooperation in Construction: Between Facilitating Independence and Tightening the Grip "*

Regine Grytnes, Dylan Tutt and Lars Peter Sønderbo Andersen

A gripping paper that provides a strong theoretical and methodological basis for safety. It offers well integrated and insightful discussion about long-standing H&S issues, looking at the divide that has tended to hinder progress, and beautifully incorporates literature and empirical material together. The paper promotes an advancement of true safety in the spirit of the Langford award.



*Continue next page...*

*Continued – Best papers...*

### **CIOB Best International Paper**

*“The Impact of Brexit on Cross-Border Trade by the Construction Sector in Ireland: An Exploratory Study ”*

Tara Brooks, Duga Ewuga, Lloyd Scott and John Spillane

Borders are always a problem and this paper takes on the mighty challenge of the effect on the North South divide in Ireland after Brexit. The paper presents a compelling argument and succeeds in having a dispassionate forward look into attitudes to the cross-border problem and the potential for Brexit to exacerbates existing tensions.



### **CIOB CRI Best Paper on Innovation and Sustainability**

*“Murmuration as Metaphor for Sustainable Innovation Processes ”*

Nina Koch-Ørvad, Christian Thuesen, Christian Koch and Thomas Berker

This was an exciting, brave, original and difficult paper in many senses, which adopts a very specific conceptual approach in order to ask some big questions. It reflects on the normal views of Construction Innovation presenting and drawing on these theoretical roots. There many new directions that follow from this paper, and it will be good to see the new practical approaches that result.



### **RICS Best Paper on Sustainability**

*“Rhetorical Strategies to Diffuse Social Procurement in Construction ”*

Daniella Troje

This paper overcame strong opposition to triumph because of its demonstration of the how important for successful practical interventions to understand the impact of different rhetorical strategies and how they can legitimise socially sustainable actions.



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*Continued – Best papers...*

### Frontiers Award Best Technical Paper

*“Real-Time Object Detection System for Building Energy Conservation: An IP Camera Based System”*

Amila Prasad Chandrasiri and Devindi Geekiyanage

An unusual paper for ARCOM, but it forces us to reconsider environmental controls in buildings. The authors introduce a real-time object detection and tracking system based on IP CCTV camera which can recognise objects and people and use this information for smart controls for building energy conservation. It argues that the current sensor-based systems are unreliable and not capable of responding to the needs of multiple people and energy emitting objects.



### Taylor and Francis Best Theoretically-Informed Paper

*“Becoming Collaborative: Enhancing the Understanding of Intra-Organisational Dynamics”*

Eloise Grove, Andrew Dainty, Tony Thorpe and Derek Thompson

This paper makes excellent use of the theory of institutional logic, presented in an excellent literature review alongside longitudinal data in order to produce a forceful conclusion on collaboration at project level. This is an superb example on how to use theory to inform and direct research and data analysis.



### Emerald Best Research Methodology Paper

*“The Influence of Safety Leadership, Social Support, and Psychological Capital on Construction Safety Climate ”*

Clara Man Cheung, Rita Peihua Zhang, Mark Shu-Chien Hsu and Ran Wang

This paper creates an exciting debate between organisational, social and individual perspectives of safety in practice. It is a rare example of methodologically sound use of survey research design and data.



## How to Design and Undertake Quantitative Research in the Built Environment

### Workshop 2: Exploring the impacts of quantitative research

Tuesday, 26 February 2019, UCL, Bartlett School of Construction and Project Management,  
1-19 Torrington place, London, WC1E 7HB

This is the second of two workshops aimed at bringing together researchers, policy-makers and practitioners who are interested in and/or engaging in quantitative research in the built environment. The emphasis for the first workshop held in December 2017 was on how construction management researchers can better design quantitative research by reflecting on the kinds of research questions asked, and the methods used for data collection and analysis. The first workshop was therefore designed to consider the what, how, and why questions associated with quantitative research in the built environment. In this second workshop, concern shifts towards answering the 'so-what question', as we seek to debate and discuss the impacts of quantitative research and of quantitative data in the field.

To participate in this workshop, we invite doctoral students to submit short, reflective contributions of up to two double-sided pages (A4 size) by **23:59hrs on Friday 18 January 2019** that examine the impacts of quantitative research in the built environment. In particular, we welcome short, theoretical, methodological or empirical papers that critically reflect on how numbers are produced and used (or even misused) by policy-makers, practitioners and/or researchers, and to what effects for the construction industry.

We also encourage contributions that consider one or more of the following:

- Despite over twenty years of methodological debates (see Seymour and Rooke, 1995) that raise interesting questions about the nature and culture of the field, construction management research is still dominated by positivistic and quantitative research (see e.g. Taylor and Jaselskis, 2010). How do we mobilise theoretical and methodological pluralism (cf. Dainty, 2008) in the production and use of numbers in built environment research?
- The relevance of quantitative research has recently been called into question. Koskela (2017) in his provocative piece entitled 'Why is management research irrelevant?' argued that mathematical representations offer only an idealised version of industry practice, a product of researchers dreaming up problems in Ivory Towers so divorced from the realities of practice. He maintained that while quantitative researchers offer (at times, flawed) descriptions of reality, they are less adept at offering solutions to the problems

of production. In what ways can and do we make quantitative research relevant to industry practice? To what extent do the numbers produced by such research offer fresh solutions (or even new problems) to industry practice?

- In today's Audit Society (see Power, 1997) dominated by quantitative metrics and rankings, what type of numbers do construction professionals and policy-makers rely on? How do numbers shape our understanding of construction projects, firms and the sector? What aspects do they highlight and what do they obscure? How do people engage with these numbers, and with what effects? How do numbers influence policy-making, industry practice and researchers' behaviours, and in what ways are these effects oppressive or empowering (see e.g. Shore and Wright, 2015)?

While we are not prescriptive on the style and structure of the short papers, these should clearly and succinctly describe the research problem you are addressing, the role numbers play in your research (whether as a subject or object of your study), and a critical reflection of what these numbers do in and for policy, industrial and/or societal stakeholders. Please include a title, author(s) and their affiliation(s), along with a list of references cited. **Send your short paper to [paul.chan@manchester.ac.uk](mailto:paul.chan@manchester.ac.uk) before 23:59hrs on Friday 18 January 2019.** Notification of acceptance as a presenter at the workshop will be given before the end of January 2019. The workshop is likely to start at 10am and finish at 5pm.

#### References

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# Industry 4.0 and Disaster Resilience in the Built Environment

## ARCOM Doctoral Workshop

### In association with CIB W120 – Disasters and the Built Environment

#### 25<sup>th</sup> April 2019 at Northumbria University, Newcastle-upon-Tyne

**D**isruptive innovations of the 4<sup>th</sup> industrial revolution are now starting to make an impact on construction. Although construction has lagged behind some of the other industries in embracing this revolution, recent years have seen a concentrated effort to drive change in construction processes and practices. It is argued that the 4<sup>th</sup> industrial revolution can be characterised by; digitisation, optimisation, and customisation of production; automation and adaptation; human machine interaction; value-added services and businesses; automatic data exchange and communication. In construction, the applications of Industry 4.0 include 3D printing of building components, autonomous construction vehicles, the use of drones for site and building surveying, advanced offsite manufacturing facilities etc. These aspects are collectively considered as Construction 4.0 and are seen to be already making an impact on construction, how the buildings are being designed, built and maintained. While this presents an opportunity to enhance industry practices, it comes with a challenge to transform in to the new digital era.

This new digital era of construction, Construction 4.0, has significant potential to enhance disaster resilience practices in the built environment. Knowledge on resilience of the built environment including preparedness, response and recovery has advanced significantly over the recent years and we are now in an era where resilience is seen as a key constituent of the built environment. But the recurring and devastating impacts of disasters constantly challenge us to improve our practices and seek ways of achieving greater heights in our quest of achieving a resilient built environment. The innovations associated with Construction 4.0 can be exploited to enhance the ability of the built environment to prepare for and adapt to climate change and withstand and recover rapidly from the impacts of disasters. In this workshop we seek to revisit disaster resilience practices in the built environment using the innovations associated with Construction 4.0.

#### Topics of interest include (but not limited to)

- Modern methods of construction and disaster resilience
- BIM and disaster resilience

- Off-site construction for post-disaster re-construction
- Automation and information technologies for building resilience
- Smart and resilient cities
- Drones and automated inspection for damage assessments
- ICT enabled business continuity management in construction
- Big data analytics for disaster resilience in the built environment
- Digitisation of disaster waste flows
- Optimising building designs for disaster resilience
- Modular and Flat pack building design and construction
- Resilience technologies and engineering
- 3D printing for resilient construction
- Robotics and autonomous vehicles in disaster recovery

Scope of the workshop includes application of innovations associated with Construction 4.0 at any stage of the disaster risk reduction cycle including preparedness, response and recovery in the built environment.

#### Important dates:

Abstract submission: 18<sup>th</sup> Dec 2018

Full paper submission: 1<sup>st</sup> March 2019

Camera ready paper submission: 12<sup>th</sup> April 2019

Workshop held: 25<sup>th</sup> April 2019

**Please send your structured abstracts to Dr Kanchana Ginige at [kanchana.ginige@northumbria.ac.uk](mailto:kanchana.ginige@northumbria.ac.uk)**

For any queries, please contact Kanchana.

#### Workshop conveners:

Dr Gayan Wedawatta

Assoc Prof Dr Niraj Thurairajah

Dr Kanchana Ginige

# Large Infrastructure Projects: Challenges and Opportunities

## Doctoral Workshop

### 4<sup>th</sup> – 5<sup>th</sup> July 2019, Deakin Downtown, Melbourne, Australia

Infrastructure projects (e.g. rail, roads, bridges, dams, oil & gas platforms, underground metros, etc.) facilitate economic and social activity in an economy. These assets form the critical lifeblood of economic prosperity and development of nations. 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.

However, these projects are notorious for the many performance challenges that beset their planning, procurement and delivery – for example, more than 50% of large infrastructure projects experience significant cost and schedule overruns. 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.

This workshop will be structured to allow the presentation and discussion of current infrastructure delivery problems and solutions. This will create the opportunity to ask critical questions, test ideas and initial hypothesis or solutions, as well as provide a debating forum that will help sharpen our collective understanding of the complexities associated with planning, appraisal, design, finance and governance of large infrastructure projects.

#### **Presentations would cover the following themes (not exhaustive):**

- Project Risk Quantification and Analysis
- Integrated Strategic Asset Management
- Infrastructure planning & Investment analysis
- Benefits assessment in megaprojects
- PPPs and infrastructure delivery
- Sustainable and resilient infrastructure
- Megaproject failure and success
- Value Capture and Major Land Transport Infrastructure
- Front-End Project Governance
- Megaproject complexity, risk and uncertainty management
- Future-Proofing Infrastructure

- Current and emerging infrastructure issues in Australasia

#### **Submission of Papers and Abstract:**

To present your work at the workshop, please submit short papers (not exceeding 6000 words) by the deadline detailed below. Each paper will be peer-reviewed by 2 established academics on the subject matter. Accepted papers will be published as part of the ARCOM Doctoral Workshop proceedings. For more information on past ARCOM Doctoral Workshops – see <http://www.arcom.ac.uk/workshops.php>.

PhD students are invited to register to attend the workshop by completing the Eventbrite Form at this link: <https://largeinfrastructureworkshop.eventbrite.com.au>

There are limited seats for the workshop. First come, first served.

#### **Travel Bursary:**

Some in-country (within Australia) travel bursaries may be made available by ARCOM for PhD students who are unable to attend due to financial constraints. Priority will be given to those whose papers have been accepted for presentation at the workshop.

#### **Important Dates:**

Submission of abstracts (100 words): 18<sup>th</sup> Jan 2019, 23:59hrs AEST

Notification of acceptance of abstract: 31<sup>st</sup> Jan 2019

Submission of first draft of paper: 1<sup>st</sup> March 2019, 23:59hrs AEST

Refereeing decision: 22<sup>nd</sup> March 2019

Submission of final paper: 3<sup>rd</sup> May 2019, 23:59hrs AEST

Final Refereeing decision: 24<sup>th</sup> May 2019

#### **For further enquiries, contact the workshop convener:**

Dr Dominic Ahiaga-Dagbui

Deakin University

Australia

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## New Research Network Launches to Revolutionise the Delivery of UK Construction

The Transforming Construction Network Plus (N+) – a new interdisciplinary research community uniting academics, industry professional and policy makers across the construction sector – has launched at UCL, with £1m funding available for academic-led, user-inspired projects.

Funded by UKRI and an investment under the Industrial Strategy Challenge Fund, the N+ unites construction's academic and industrial communities to create a new research and knowledge base, dedicated to addressing the systemic problems holding back the sector. The N+ is led by the UCL Bartlett School of Construction and Project Management, in partnership with Imperial College London and WMG, University of Warwick.

N+ Principal Investigator Professor Jacqui Glass says:

*"We need nothing less than a transformation in people, process, products and policy to make this happen – and that is exactly what the N+ is setting out to do."*

The first round of application calls will be announced in January 2019, followed by a series of national briefing workshops to stimulate ideas and develop collaborative relationships. The first set of workshops will be held in February 2019, with dates and locations to be announced.

Find out more about the Transforming Construction Network Plus, including mailing list, future events and funding opportunities, and N+ launch:

<https://www.ucl.ac.uk/bartlett/construction/about-us/transforming-construction-network-plus>

### *PhD Abstract: "Interface Management of Offsite Bathroom Construction: Process and People Factors" by Michael McCarney*



Interface management (IM) in its many forms (physical, contractual and organisational) has not received the management research it warrants in the construction sector. Offsite bathroom construction is seen as a sector of offsite construction that can aid the interface problems that are common

in construction. However, interface problems that occur when using offsite bathrooms are considered to be as detrimental, if not more to the overall process when compared to traditional bathroom construction. This research will focus on organisational IM, through research into the relevant process and people factors required to mitigate potential IM problems in the offsite bathroom process.

A literature review of IM, offsite construction and traditional construction was conducted which identified 16 factors that could have an influence on the organisational IM of offsite bathroom construction. A further literature review was carried out for each factor to establish its connectivity to the holistic process of the IM of offsite bathrooms. A proforma was constructed which gathered quantitative and qualitative data from 82 interviewees, associated with eight case study projects. The methodology adopted was based on the pragmatism

philosophical stance, which concurs with a mixed method approach to the collection and analysis of the data. The quantitative data was analysed using frequency tables and the Wilcoxon sign rank test. The quantitative data was analysed using thematic analysis.

The analysis identified nine of the 16 factors as main contributors to the IM of offsite bathroom construction. These nine factors consisted of six process factors: procurement, design management, supply chain management, health and safety, tolerance and quality. Three people factors were: communication, client/design team and the role of the project manager. A conceptual model was constructed to encapsulate each of the nine factors and their sub-factors. Important findings from the research identified the procurement route as both an enabler and a constraint, depending on its ability to allow early input from the main contractor and manufacturer to the uptake of offsite bathrooms. The cross-cutting importance of the people factors to the successful implementation of the process factors identified the importance of the main contractor maintaining supervision of the manufacturer and the interface problems created from incomplete design. Further analyses of all the findings identified communication and the role of the project manager as the two most influential factors, with early and informal communication and strong leadership from the project manager relevant to all factors that affect the successful IM of offsite bathroom construction.

## Profiles of Committee Member

Dr Michael McCarney has been elected as new Committee Members during the AGM 2018. Dr Patrick Manu recently moved to the University of Manchester. Here is their personal profile.



### Dr Patrick Manu:

“I am a Senior Lecturer in Project Management at The University of Manchester. I am passionate about construction management research, especially the area of occupational health and safety (OHS). My involvement with ARCOM dates back to 2009 when I attended and presented a paper at my first ARCOM doctoral workshop. I have since served on the ARCOM scientific committee, chaired sessions at ARCOM conferences, organised an ARCOM early career researchers (ECRs) workshop, and I joined the ARCOM committee in 2015. I would like to see the ARCOM community grow bigger and stronger and so my intention is to help promote ARCOM through: the advancement of OHS research (especially in developing regions); contributing to the capacity building of ECRs; and enhancing ARCOM’s visibility amongst key stakeholders.”



**Dr Michael McCarney** retired lecturer of Construction Management was warmly welcomed on to the ARCOM committee at the 113<sup>th</sup> committee meeting held on Friday 2<sup>nd</sup> November 2018 in Manchester University by current Chair Professor Chris Gorse and committee members present. Michael previously worked in industry for approx. 30 years, mostly at management levels with national and international construction organisations. Prior to retiring in July 2018, Michael lectured in construction management at Glasgow Caledonian University for 15 years. During this period Michael held numerous positions in academia, his particular research interest is ‘Offsite Construction’.

Over the past seven years Michael has studied part time at Loughborough University for a PhD, under the ‘Dream Team’ supervision of Professor Alistair Gibb and Dr Chris Goodier. Michael graduated with his PhD in July 2018. The title of the thesis ‘Interface Management of Offsite Bathroom Construction: Process and People Factors’ (see Abstract in page 14). Full text is available through the Loughborough University Institutional Repository at <https://dspace.lboro.ac.uk/2134/32882>

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# ARCOM 2019

## Productivity, Performance and Quality Conundrum

### 2-4<sup>th</sup> September - Leeds Beckett University, Leeds, UK

Leeds Beckett University will host the 2019 ARCOM Conference, returning to Leeds, the third largest city in England, heart of the great County of Yorkshire and the financial centre of the North.

The conference theme focuses on productivity and performance recognising the pressing global need to deliver quality efficiently. The County of Yorkshire is steeped in an ability to harness energy, with a history of transforming and delivering high quality products and services that extend around the globe. Yorkshire's industrial heritage would not have been so influential if it wasn't for the visionary leaders of the time that stepped outside of their traditional boundaries with technical and social innovation. Travel and the distribution networks were once extended to the world, by a Yorkshire carpenter, through the invention of John Harrison's, timepiece, allowing safe navigation of the seas. Sir Titus Salts of Leeds, still considered a thought leader in modern day manufacturing, historically challenged management convention with social and cultural advancement, creating environments to deliver products of exceptional quality from the largest factory in the world at that time. The positive impact on the local area and community, through the Salt's approach benefitting workers health, education and wellbeing is still evidenced today in Saltaire, awarded UNESCO World heritage status.

Yorkshire is again on the map with its concentration of off-site engineered production. We will be inviting local and national leaders to contribute to the debate, to bring thought provoking ideas with potential to disrupt the arena.

We are both encouraging scholars to experience

Yorkshire and its welcoming community and to embrace the topic from different angles, stepping outside conventional wisdom, exposing new research and fields of enquiry.

The concept of productivity has seen recent renewed policy interest. A decade on from the Global Financial Crisis, governments around the world have paid much attention to raising productivity with a view to increase standards of living. In the UK, the pursuit of productivity growth lies at the centre of the industrial strategy and this is something that we want the ARCOM 2019 community to engage with.

Yet, as old forms of production industries give way to the rise of new ways of working in the growing service economy, questions remain as to whether traditional notion of productivity is still relevant. We therefore call for papers that address the productivity conundrum in the construction industry. We particularly welcome contributions that address one or more of the following questions, as well as the thematic tracks below:

- Notwithstanding recent interest, the problem of low productivity appears to be a perennial challenge for the construction industry. To what extent is this 'problem' really a problem (and not one borne out of political rhetoric)? Are policy-makers, researchers and/or practitioners measuring the appropriate things when defining productivity (if indeed, productivity is measured at all)?
- Despite a litany of recommended antidotes to the productivity challenge, productivity levels seem to be stubbornly low. What improvement strategies

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matter? What empirical evidence exists to show that certain strategies work more than others?

- Is productivity still an appropriate measure, especially in post-industrial societies where the service sector dominates?
- What are the intended and unintended consequences of refocusing attention on productivity? How do these manifest long after the built asset is constructed?

## Thematic tracks for ARCOM 2019

*Track 1: Problematising Building Performance* (Hiral Patel and Stuart Green)

Construction management research is too often orientated towards the delivery of built assets as fixed objects. A stronger link is required between construction sector performance and performance of the built environment over its lifetime. However, the debates around building performance tend to be forgotten, only to be re-discovered by each subsequent generation. This track calls for critically reclaiming building performance from its current technocratic avatar, to bridge the gap between demand and supply sides of the construction industry.

*Track 2: Construction is a Highly Productive Industry* (Toong Khuan Chan, Shang Gao and Igor Martek)

Numerous studies have shown that productivity measures for construction or the construction industry have remained stubbornly low. In this track, we argue that productivity in construction increased rapidly in the second half of the twentieth century due to increased specialisation of construction firms, outsourcing, global purchasing practices, and modern project procurement strategies. Contrary to accepted wisdom, this high level of productivity has been maintained over the last 20 or 30 years in many developed countries as construction firms increasingly utilise digital tools to improve project and company performance. In this track, we welcome papers investigating the data and theories that examine the

dissenting view that construction productivity has been optimally positive over the last 2 or 3 decades.

*Track 3: Academia-Industry Engagement* (Shu-Ling Lu and Roger Flanagan)

In this track, we focus on the need to bridge the divide between the logics of academic research with theory-generation and theory-testing; and the more prescriptive, practical needs of industry and practice. The academic community discusses low productivity, performance, and quality issues on construction sites, but has poor understanding of the fundamentals to measure and improve productivity and quality on the job site. Unless research has value, relevance, affordability, and applicability for the industry, there will continue to be low take-up of the ideas. In this track, we welcome contributions that examine the research approaches, methods and mechanisms that bridge the gap between academic research and the international construction sector.

*Track 4: Making Space for Construction Productivity Studies* (Paul W Chan, Obuks Ejohwomu and Christine Räisänen)

Studies of construction productivity have so often relied on self-perception, self-reporting data. This calls to question the rigour that underpins our collective understanding of productivity. At the same time, construction productivity studies have almost always emphasised time; this temporal focus obscures the role that space plays in understanding construction productivity. In this track, we are therefore making space for more rigorous and robust research, and to bring 'space' into studies of construction productivity.

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# ARCOM 2019

## Productivity, Performance and Quality Conundrum

2-4<sup>th</sup> September - Leeds Beckett University, Leeds, UK

### *Key dates*

Submission of abstracts: 2359hrs GMT, Friday 11 January 2019

Notification of acceptance of abstracts: Monday 18 February 2019

Submission of full papers: 2359hrs GMT, Friday 5 April 2019

Editorial decision on full papers: Friday 17 May 2019

Submission of final papers: 2359hrs GMT Friday 28 June 2019

ARCOM 2018 Conference: 2 – 4 September 2019

*Continued from overleaf*

We welcome novel contributions that make space for creative theoretical, empirical and/or methodological papers that push the frontiers of our understanding of construction productivity. We are particularly interested in how the changing spaces of construction are altering our conversations about productivity. We are also seeking comparative studies of construction productivity, and studies that highlight the policies and politics of making construction productive.

*Track 5: Developments in Research Methodology* (Lloyd Scott and Craig Thomson)

There is an extensive range of well established methodologies in the research literature which a growing subset is beginning to be used in construction management research. A more explicit engagement with methodologies, particularly those that are only emerging in construction management research, is important so that construction management researchers can broaden the set of research questions they are able to address but also apply the most appropriate and effective methodologies to their research. The track is interested in contributions on the subject of research methodology/methods used in construction management research. In particular, we welcome papers that question prevailing methodologies and methods used to examine and analyse problems of performance, productivity and quality in construction. We also welcome critical contributions on methodology/method and the discourse that addresses the validation of such.

The ARCOM Conference is an inclusive conference that covers a wide range of topics pertinent to construction work. Full call for paper is available in [http://www.arcom.ac.uk/-docs/conf/ARCOM-2019\\_Call\\_for\\_papers.pdf](http://www.arcom.ac.uk/-docs/conf/ARCOM-2019_Call_for_papers.pdf)

Abstracts of around 300 words are due for submission via the MyARCOM portal before 23:59hrs GMT on Friday 11 January 2019. **We look forward to seeing you all in Leeds Beckett University at ARCOM 2019** (*Professor Chris Gorse – ARCOM Chair*).



*The conference venue – James Graham Building*