

# ARCOM

ASSOCIATION OF RESEARCHERS IN **CONSTRUCTION MANAGEMENT**

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3-5 September 2018  
Riddel Hall, Queen University Belfast

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# Welcome from the Chair

## 34<sup>th</sup> ARCOM Annual Conference

### General Theme: A Productive Relationship



Welcome to ARCOM and Queens University Belfast. It is wonderful to once again step on Irish soil and feel the sense of an ARCOM community coming together.

As the incoming Chair, I wanted a venue that was steeped in industry, with 'real' engaging people. Most importantly, I wanted somewhere devoid of the 'fake' and, without trying, we will trump the 'fake news' brigade. The last time we visited Belfast everyone gave so much to make ARCOM a success and, although the city was not long out of troubled times, there was a spirit of openness and inclusion. While, the divisions of Northern Ireland are often highlighted in the press, the reporters fail to mention the resolve of the people, their ability to confront adversity and their passion and determined spirit to succeed and enjoy life.

Far from the hard political attitudes conveyed through our media, the people of Northern Ireland are friendly and engaging. The difference in the political image and the reality is somewhat akin to construction. The industry, while described as fragmented and perceived as hard, offers a place where people come together from different communities,

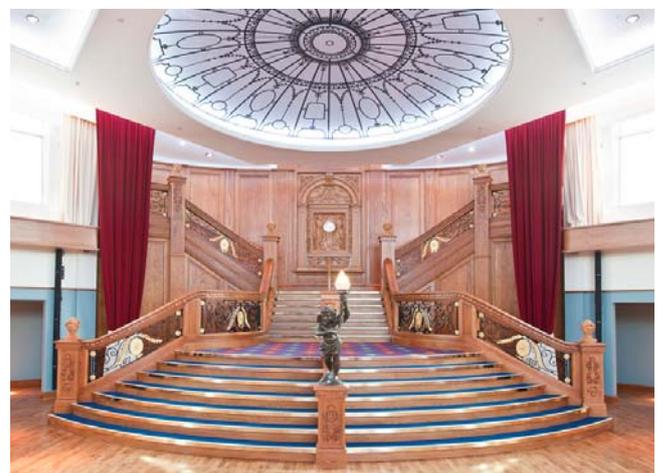
share good hard working times before moving to the next project. Some of my most favourite memories are from times on sites, bracing against the weather, working with a diverse mixture of people and pushing forward as a team to get the job done. The industry, its culture, the language of the people and attitude to work has always been colourful and enjoyable. It is diverse, in so many ways and remains one of the largest and most vibrant employment sectors in the world. The industry suits those able to deal with change, being prepared to travel or able to work on different projects. For many of the positions within construction there are few restrictions to entry resulting in an industry that is accessible, rich in difference, regardless of colour and gender. The nature of the work, the quality of the people and the diversity that the industry brings is something to embrace and explore. There are issues that we need to address, but as scholars, with a mind on efficiency and productivity, we should be careful to consider the positive qualities of culture that make construction a wholesome, worthwhile and rewarding experience. The future is both uncertain and exciting,

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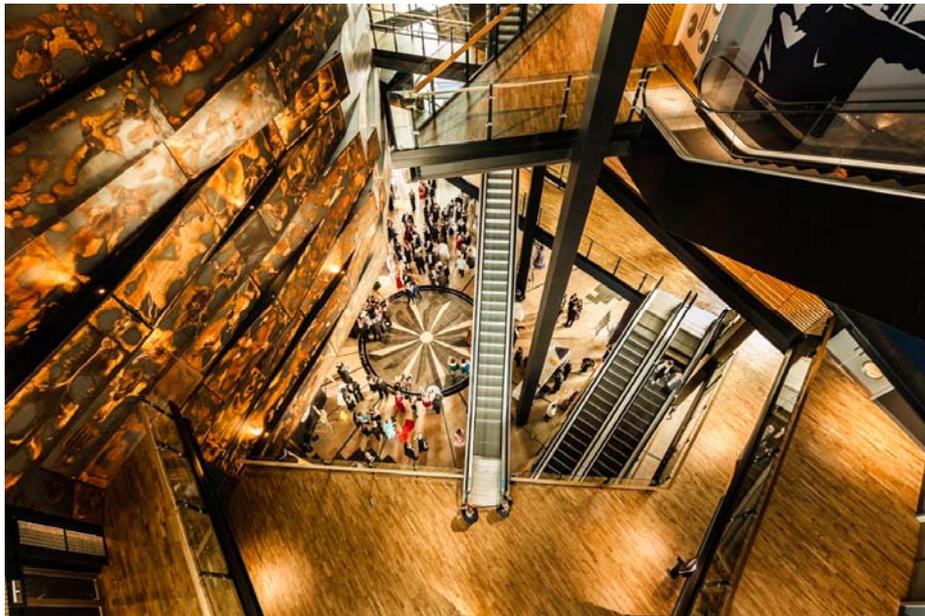
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Titanic Belfast from the Titanic Slipways



Titanic staircase



*Titanic Belfast atrium*

### *Continued – Welcome...*

we are going to experience considerable change within the industry and we should be careful how we shape the future.

The single quality that sets ARCOM aside from other academic conferences is a spirit of community, which is friendly, warm and supportive. ARCOM researchers are also resilient and tenacious. It is not an easy task to get here, our papers are double blind reviewed, with many rejected and those that are accepted, come with critical comments, where the authors mindfully respond, attempting to retain their preferred direction while respecting the reviewers' comments. Having hit all of the deadlines, many of us require a visa to join the conference. The barriers that face us and the high standards that ARCOM continue to uphold have been overcome and now we are here,

we should be proud and must embrace everything that our community and Belfast has to offer.

With Queen University Belfast's Riddel Hall providing our day time venue and evening events at the main campus and the Titanic Belfast, we are set for a packed and cultured conference.

I'm looking forwards to meeting all our past friends, making some new and engaging in the hard enjoyable work that is ARCOM. Let us keep the enjoyable supportive nature of ARCOM strong and embrace the music.

A warm welcome to all.

*Chris Gorse  
Conference Chair, ARCOM 2018*

### *Editor letter....*



Welcome to this issue of ARCOM Newsletter!

I am glad to be able to release the newsletter issue for the conference in Belfast. This issue commences with a welcome piece from the Conference Chair, Professor Chris Gorse, outlining the rationale of general theme. It then features a summary of a doctoral workshop on research methodology. It is followed by two workshop calls, 'the Challenges of Improving Productivity' and 'Large Infrastructure Project Delivery', which will be the first ARCOM doctoral workshop in Australia. Dr Paul Chan provided a summary of ARCOM Committee Away Day, which discussed the future of construction management research. This issue also features personal profiles of Professor Jacqui Glass and Professor Andy Dainty. ARCOM membership update is followed by PhD abstract, provided by Dr Tony Hopkins and an outline of postgraduate research at the Scott Sutherland School of Architecture and Built Environment at Robert Gordon University. Call for participation in the ARCOM 2019 and track summaries conclude the issue. I wish to thank the contributors to 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.

*Robby Soetanto  
Loughborough University*

# Doctoral Workshop on Research Methodology

## Dublin Institute of Technology, 9<sup>th</sup> March 2018

The purpose of the 'Research Methodology' Workshop was to bring together researchers to present and discuss their position in regard to methodology which included their philosophical positioning. The workshop attracted 15 PhD students from the UK, Ireland, Nigeria, Sri Lanka and Ghana at various stages of their research journey, covering a wide range of aspects of methodological positioning. The workshop was designed with the main purpose of enabling students to reflect on the validity and significance of their research questions, and the appropriateness of their methodological choices. Facilitators drawn from the ARCOM Committee supported the workshop, with support offered by Libby Schweber from the University of Reading, Mark Addis from the University College London, Lloyd Scott from Dublin Institute of Technology, and Paul Chan from University of Manchester. Professor Mark Addis provided a very engaging key note entitled Research Identity and Agendas in Construction Management. He addressed the logic of a typical research project, and he urged participants to think about the coherence of their research and how their research might be aligned with practice but also how the research approach should be justified and validated.

The proceedings offered seven final papers selected from some fourteen abstracts presented for review. The context of each paper was diverse which has

added to the richness of this edition of the doctoral workshop series. On the day of the workshop 5 of the papers were presented to the gathered attendees.

Colley and Scott addressed the philosophical positioning of functional contextualism as an approach to research conflict of interest in the real estate sector in Ireland. Within a pragmatic realm they argued for a more focused lens of Functional Contextualism and they suggest it seeks to predict and influence events using empirically-based concepts and rules and this they contend addresses the research question suitably.

Kelly in his paper, addressing the impact of human cognitive behaviour and tacit judgement on the development and accuracy of cost estimates for pharmaceutical projects in Ireland, made a strong case for researching this topic through the lens of 'more thoughtful research design'. He argues for mixed-method research, methods that require positivist and interpretivist methods as well as multi-paradigm and multi-strategy approaches.

Mdaanayka and Egbu in their paper explored innovative solutions in consideration of exploring the possibilities for improving the utilisation of digital technologies via integrating BIM, Big Data Analytics and Internet of things. Their study followed a mixed methodological approach which, they argue, leads to investigate the critical factors that impact on effective implementation and exploitation of BBI for competitive advantage and thereby develop a strategic

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*Professor Mark Addis answers some questions following his very engaging key note address*



*Some time to discuss philosophical matters during the coffee break. Neema Opiyo and Paul Chan from University of Manchester.*

*Continued – Workshop on Research Methodology...**Workshop attendees*

framework for improved understanding of such critical factors at play.

Opiyo and Chan, addressed the topic of the need for affordable housing and make the point that it has in recent times become a prominent policy issue for countries across the world. The authors argued for a methodology that can be adaptable to deal with the complexity that surrounds the various perspectives of 'demand'.

Abiodun and Egbu in their paper, Implementation of building information modelling (BIM) on construction projects presented the various research paradigms and philosophical positions available to all researcher and offered the position around the research approach should be one considered to be most suitable to achieve the stated aim and objectives of the study.

This one day workshop provided some great opportunities for the participants both presenters and attendees to clarify their research questions and to discuss the appropriateness of their research approach and potential methods. For many participants, the workshop discussions provoked new ways of thinking and questioning. As Lorna Colley from Dublin Institute of Technology remarked, "To have the opportunity to share your methodological assumptions with Professors and fellow PhD students allow me to mature and grow in my positioning around my research process"

We are grateful for the support offered by the facilitators, including Paul Chan, Libby Schweber and Mark Addis and Lloyd Scott at The Dublin Institute of Technology for organising the event.

*Professor Lloyd Scott  
Workshop Convenor*

### **The papers accepted and presented**

Is functional contextualism the appropriate methodology for examining the management of conflict of interest in the real estate valuation process in the Irish property profession?

*Lorna Colley and Lloyd Scott*

A critical review of the impact of human cognitive behaviour and tacit judgement on the development and accuracy of the cost estimates for pharmaceutical projects in Ireland

*Michael Kelly*

A strategic approach to exploiting BIM, big data analytics, and internet of things (BBI) for competitive advantage in the construction industry: an overview of theoretical underpinning

*Upeksha Madanayake*

The problem of demand in affordable housing

*Neema Opiyo and Paul Chan*

Developing a BIM-Knowledge (BIM-K) framework for improved decision making in construction projects: a sequential exploratory approach

*Ganiyu Sikiru Abiodun and Charles Egbu*

# Doctoral Workshop on the Challenges of Improving Productivity in the UK Construction Industry

## Wednesday 31<sup>st</sup> October 2018, Birmingham, UK

This one day Workshop is aimed at doctoral students and early career researchers who are currently conducting research in the field of Lean Construction in order to promote and meet the challenges of poor productivity and failing construction companies. The Lean Construction movement concerns the design and implementation of new ways of working across the whole project life cycle from inception to decommissioning and repurposing and covers all aspects of project delivery from design, through procurement and construction, into use. It includes designing for construction, use and re-use as well as delivering shared value and benefit across the supply chain and to customers.

This Doctoral Workshop seeks to provide an environment where researchers can present their work, exchange ideas and engage in critical discussions concerning contemporary research within the context of Lean Construction and the challenges of poor productivity in the built environment. All researchers are required to submit an A3 to be used as poster for display during the 2 days of the Training Day and associated Summit and for publication in the proceedings providing maximum exposure to both industry and academia. The A3 will also form the basis of the workshop session.

We are delighted to announce our workshop panel will comprise Professor Glenn Ballard, Professor Lauri Koskela and Professor Christine Pasquire along with invited industry experts. The workshop will also be open to the LCI-UK membership who will be able to join the audience guaranteeing stimulating and informative debate grounded in the reality of practice.

### Suggested themes include:

- Workflow and productivity
- Production planning and control
- Visual management
- Collaboration and stakeholders
- The suppliers and supply chain
- Procurement, financing and commercial
- Integrated project delivery and target value delivery

- Initiating and sustaining lean change
- Lean and BIM
- Lean design and design management
- Lean and off-site manufacturing
- Lean accounting and business models
- Lean and sustainability
- Action research in any lean implementation
- New directions for lean construction

### Abstract Submission

Doctoral students and Early Career Researchers interested in submitting papers are invited to submit a 200-250 word structured abstract to Parastou Shahid Zadeh (shahidzp@aston.ac.uk) not later than 20th August 2018

### Formatting Guidelines for Abstract and A3

Available at: <http://www.leanconstruction.org.uk>

### Important Dates

- Abstract submission: 20<sup>th</sup> August 2018
- Notification of abstract acceptance: 27<sup>th</sup> August 2018
- A3 submission: 17<sup>th</sup> September 2018
- Notification of acceptance presentation in the workshop: 31<sup>st</sup> September 2018

Attendance is free, buffet lunch & refreshments will be provided; some funding support for travel is also available. However, if you intend to attend the summit on 1<sup>st</sup> November 2018 then you will need to pay the conference fee unless you successfully apply to LCI UK for a free place (see <http://www.leanconstruction.org.uk>).

### Workshop convenor

Parastou Shahid Zadeh  
Aston University  
UK  
Location: Matthew Boulton College, BMet,  
Birmingham, UK. B4 7PS

The event is organised by the Lean Construction Institute UK (<http://www.leanconstruction.org.uk>) and sponsored by ARCOM.

# Doctoral Workshop & Industry Engagement

## Large Infrastructure Project Delivery

### Thursday 4<sup>th</sup> July 2019, Melbourne, Australia

**N**ow in its 17<sup>th</sup> 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 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, 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. 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. 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.

This workshop will be structured to allow the presentation and discussion of current infrastructure delivery problems and solutions from industry organisations and academic researchers. 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.

#### Submission of papers

Doctoral students are invited to submit full papers (not exceeding 10 pages or 8000 words). Each papers 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. Papers may

be submitted on the following themes (not exhaustive):

- Smart Infrastructure Initiatives
- Project Risk Quantification and Analysis
- Integrated Strategic Asset Management
- Infrastructure planning & Investment analysis
- Benefits assessment in megaprojects
- PPPs and infrastructure delivery
- Public Transport Infrastructure Planning
- 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
- Current and emerging infrastructure issues in Australasia
- Future-Proofing Infrastructure.

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

#### 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: 7<sup>th</sup> Dec 2018, 23:59hrs AEST
- Notification of acceptance of abstract: 21<sup>st</sup> Dec 2018
- 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 Convenor:

Dr Dominic Ahiaga-Dagbui  
Deakin University  
Australia  
Email: [dominica@deakin.edu.au](mailto:dominica@deakin.edu.au)

## “Construction Management in 2035” ARCOM Committee Away Day, 2<sup>nd</sup> February 2018



The ARCOM Committee convened in Riddel Hall, Queen’s University Belfast in February 2018 for an Away Day to discuss future possibilities and challenges for the construction management research field in 2035. The Year 2035 was chosen since it is likely that PhD students graduating in 2018 will occupy positions in the ARCOM Committee in 2035. The Away Day discussions were framed against the backdrop of changes in the higher education landscape, in the UK and globally. Among the changing trends include: (i) shifting allocation of research funding from sector-specific studies (e.g. construction as a strategic sector in the 1990s) to calls that promote inter-disciplinary research to solve grand societal challenges (e.g. energy security and sustainable development); (ii) changing institutional structures that can lead to the marginalisation of construction management departments; (iii) changing nature of construction work that can disrupt/transform academia-industry relationships, and; (iv) challenges with recruiting high-quality students into the field. See also Harty and Leiringer (2017) for some of the future scenarios for construction management research.

The committee also acknowledged the great strides taken over the past decade on raising the quality of ARCOM papers presented at the annual conference.

Research papers in the field are generally more theoretically-informed, and there is engagement with the mainstream disciplines (especially in the social sciences) from which our ideas connect (see also Volker, forthcoming). Yet, when compared to the impacts that these mainstream disciplines make (measured by e.g. number of citations), construction management researchers appear to lag behind these disciplines (see e.g. Bröchner, 2018; and also, Schweber, 2015). Furthermore, construction still suffers from an image problem, even in academia. For instance, whereas there are ‘celebrity’ scholars in fields such as physics (e.g. Brian Cox) and classics (e.g. Mary Beard), it is quite difficult to find scholars in the construction management research field who act as an inspirational bridge between academia and society at large. When ‘experts’ comment on affairs in the construction industry, it is usually related to a negative story.

With this in mind, a number of roundtable discussions took place at the ARCOM Committee Away Day, with a view to explore the following:

- Re-purposing ARCOM: What is the purpose of ARCOM and what will this purpose statement evolve into in 2035?
- Trends in Construction Management: What are future trends in construction management research

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### *Continued – Construction Management...*

and practice?

- ARCOM Committee 2035: What kinds of conversations will the ARCOM Committee and the ARCOM Conference have in 2035?
- Publishing and the elites: What will the publishing landscape look like in 2035, and to what extent will power be concentrated among a few elites and elite institutions?
- More with less: What should we do more of, less of and none of?

### **Re-purposing ARCOM**

The committee agreed that ARCOM should remain the pre-eminent learned association to champion construction management research in the UK and worldwide. The Annual Conference and regular doctoral research workshops were highlighted as the key strengths of ARCOM, and it is important to build on these networking opportunities in the future. There is recognition that the health of the field depends on a sustainable source of new students wanting to learn about and contribute to the field. The ARCOM Committee in 2035 should have representation from doctoral students and early-career academic researchers, and ARCOM could also look into funding/part-funding doctoral studies.

### **Trends in Construction Management**

While there was quite a lot of push-back against the 'metrics' culture, the ARCOM Committee thought that performance metrics (e.g. Research Excellence, Teaching Excellence, Knowledge Transfer Excellence...) will become more pervasive across the higher education sector. This will have implications on the ways in which construction management researchers are valued or not valued. That said, a key strength of the field is to engage with industry (and to a lesser extent, wider societal problems). Therefore, this is a niche that can be developed further, with organisations like ARCOM playing the role of the knowledge intermediary. Among some of the societal challenges that were identified at the Away Day included: resource efficiency and resilience, retrofitting future cities, energy security, ageing, digital transformation, financialisation of the construction industry, and globalisation. These themes could inform the content of future workshops.

### **The ARCOM Conference and Committee in 2035**

Conversations will likely be more multidisciplinary and international in character. There will be more use of virtual communication technologies, although more face-time will also be needed to engage with the ARCOM community and membership. PhD students

will have greater representation on the committee, including voting rights and action groups. Research questions and methods may or may not change that much, but it is likely that there will be more engaged scholarship and action research with industry. The identity of the construction management research community may become a looser concept as there is greater blending with mainstream disciplines. The ARCOM Conference may also change in its format to allow for more development workshops to be integrated.

### **The Publishing Landscape in 2035**

The world of publishing is likely to change, with greater acceptance and drive towards open source where no single elite researcher or institution dominates. Elite researchers will not be judged solely on where they publish, but what impacts they deliver through working with e.g. global construction firms. ARCOM will continue to play an instrumental role in developing communication and public engagement skills of researchers in construction management. The main challenge in 2035 will be not only to identify, but also engage with 'elite' researchers from within and outside construction management.

### **Doing more with less?**

Although the ARCOM Conference and regular doctoral workshops were considered to be a success, ARCOM does not promote these successes well. There is room to engage with wider communities of researchers studying built environment problems to promote the good work that ARCOM does. By 2035, ARCOM will have opened up from the current, somewhat 'closed society' to engaging with a wider pool of researchers. The use of social media will become more significant to celebrate the successes of ARCOM.

### **References**

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- Harty, C. and Leiringer, R. (2017) The futures of construction management research. *Construction Management and Economics*, 35(7), 392-403.
- Schweber, L. (2015) Putting theory to work: The use of theory in construction research. *Construction Management and Economics*, 33(10), 840-860.
- Volker, L. (Forthcoming) Looking out to look in: Inspiration from social sciences for construction management research. *Construction Management and Economics*, in press.

*Paul Chan  
University of Manchester*

## *Personal Profile:* Professor Jacqueline Glass BA Hons, Dip Arch, Dip BRS, PhD, CertTHE, FHEA, FCIQB, FCABE, AssocRIBA



**T**aking up a successive Chair, this time at The Bartlett, Professor Jacqueline Glass will release a new wave of energy on the capital and University College London. Leading the industry towards more sustainable practices, though pursuits in the responsible sourcing of

materials and products. The impact that Jacqui has already achieved in this field is unrivalled. Much of the industry has already benefitted from the research, but with Jacqui taking centre stage, at yet another leading UK institution, the extent Jacqui research's reach will continue, embracing the globe.

In a relatively short time Jacqui has changed our thoughts and practice on the way that industry procures and delivers materials and buildings. Throughout her career she has been able to gain the trust and commitment of the industry, bridging the fragmented divides and bringing leaders together. The Honorary Fellow Award that Jacqui received, from the Chartered Association of Building Engineers nominated by practitioners, is a reflection of the industry confidence and support and that Jacqui has gained.

After studying Architecture and commencing her academic career in Oxford, Jacqui moved to Loughborough rapidly gaining recognition of her expertise in the built environment and for her appreciation of the benefits that can be gained through collaborative working. At Loughborough Jacqui's knowledge, skill and commitment were rewarded with a Chair in Architecture and Sustainable Construction and the position of Associate Dean for Enterprise. She was the Centre Director for the Royal Academy of Engineering Centre of Excellence in Sustainable Building Design and has won many personal awards for research and publications. Few in academia can demonstrate the passion for scholarly endeavour, enterprise and the ability to deliver major research. Jacqui's ability to mobilising and engage with leading companies and networks within her field is unrivalled.

No one delivers construction research and education with such passion and few can claim the level of

industrial engagement that Jacqui has achieved. The projects that Jacqui has comprehensively delivered have real substance, supported with a depth of knowledge and experience, which is often lacking for much of the research that the industry is exposed to. Together with the understanding of people, Jacqui's research and connections not only deliver, but continue to bring thought leaders from the industry and academia together to make change. Jacqui's sole weakness is her inability to contain her energy for the industry and the education system that supports it. UCL are one of the few UK institutions that could prize Jacqui from her previous Chair at Loughborough. These dominant UK universities provide the ideal platform for Jacqui's research and ensuring the exposure of the research is maintained. The industry is currently calling for increased productivity and performance, however, this is not something that can just be summoned up. It needs people with the vision, understanding and ability to galvanise the workforce into action. The industry needs more people like Jacqui.

Cradle-to-grave is an over-used phrase, with most having little appreciation of the people and processes that bring buildings together, but this has been at the heart of Jacqui's research agenda throughout her career. How and why materials, products and processes transformed into the ironically sustainable or the typical deposit on the built environment's landscape is at the heart of Jacqui's research and practice agenda. Few can really appreciate the field of construction and the built environmental problems that thwart our natural environment, in the comprehensible way that Jacqui can. Notably, Jacqui's work has recently been recognised in the Top 100 Corporate Modern Slavery Influencers Index, for raising awareness of unethical business and also developing practice that is seen to help bring to an end modern slavery and labour exploitation. The extent of prizes, awards and grants that Jacqui has achieved do not represent the potential impact that this thought leader can unlock. Jacqui has a long association with ARCOM and its research community and we hope that we shall continue to benefit from Jacqui's research and impact.

*Review and biography provided by  
Professor Chris Gorse*

## *Personal Profile:* Professor Andy Dainty, Dean of the School of Architecture, Building and Civil Engineering at Loughborough University



Professor Andy Dainty has recently been appointed Dean of the School of Architecture, Building and Civil Engineering at Loughborough University. A renowned expert on the sociologies of construction practice, for the past 25 years Andy's research has focused

on the social rules and processes that affect people working as members of project teams. A concurrent stream of work has developed new approaches to managing people within the construction sector, and for integrating human resource management practices with business objectives. A hallmark of Andy's work has been its interdisciplinary nature; he has worked with academic collaborators from across the engineering, social sciences, business and economics fields and collaborates with many of the UK's leading construction organisations and client bodies.

Over this research career Andy has led a research portfolio totalling almost £10m and he currently holds grants from the EPSRC, European Commission, Institute of Safety and Health, and Innovate UK. He has published over 400 peer reviewed papers, is author/editor of 10 books and research monographs and has written numerous book chapters and professional reports. His international profile has led to numerous speaking engagements and visiting professorships including appointments at Queensland University of Technology, Chalmers University of Technology, the University of New South Wales and Universiti Tun Hussein Onn. He chaired ARCOM from 2008 - 2010, was a member of the CIB Programme Board (2010 - 2013) and as founder and joint coordinator of CIB TG 76 on 'Recognizing Innovation in Construction' between 2012 - 2014. Andy was appointed the editor-in-chief of Construction Management and Economics in 2017 having been an editor for 8 years.

As well as his own academic work, Andrew has taken on a number of strategic leadership roles within Loughborough University. These have included heading up the Construction Management Research Group and the construction strand of the largest EPSRC Innovative Manufacturing Research Centre (between 2007 and 2011). Having led the Panel 30 submission for RAE 2008 he was appointed Director of Research for the Department of Civil and Building

Engineering (in 2008) and then Associate Dean (Research) in 2011. During this time he also led the REF 2014 submission for UoA C16. In 2014 Andrew was appointed the new Director of Loughborough Graduate School. In this role he led all of the University's post graduate research programmes including 11 externally-funded Centres for Doctoral Training and 3 major Doctoral Training Partnership awards. He converted this to Loughborough Doctoral College in 2018 leading it as an Associate Pro-Vice Chancellor. In April this year Andy succeeded Professor Tony Thorpe as Dean of the School of Architecture, Building and Civil Engineering, the UK's largest integrated School of the built environment. In this role he leads over 300 academic, research, support staff and PhD students, and programmes that are delivered to over 1000 taught students in architecture, construction management, quantity surveying, civil engineering, transport studies, architectural engineering and building energy.

Andy comments: "I attended my first ARCOM conference as a PhD student back in 1994 and I have attended every one since. Over this time I have seen the community grow rapidly, and develop in terms of its intellectual breadth. Back in the early 1990s construction management's roots in engineering and hard management science were clear in terms of the positivist orientation and operations management focus of much of our work. Today I see our community drawing from a much broader range of theory from fields such as sociology, psychology, engineering, computer science and organization and management studies. Qualitative research is now as prevalent as quantitative studies and we now routinely see studies which make more profound theoretical contributions as well as attending to the real world problems of industry. The challenge for the construction management community moving forward will be ensuring that it continues to draw upon relevant theories from these adjacent fields while maintaining a clear identity for itself, especially given challenging research funding landscape. I see ARCOM as having a vital role to play in ensuring that the community continues to evolve in a positive and progressive way, while continuing to provide the supporting environment for which it has become renowned. I am very proud to have played a small part in ARCOM's leadership over the years and I look forward to it going from strength to strength."

# ARCOM Membership 2018



**Membership Secretary Dr Shu-Ling Lu provides an update:**

**A**RCOM has 553 individual members and 19 institutional members! The number of individual members and institutional members remains very healthy. Figure 1 shows that the number of individual members increased significantly from 88 in 2010 to 553 this year. Similarly, Figure 2 shows that the number of institutional members has increased from 14 in 2011 to 19 this year.

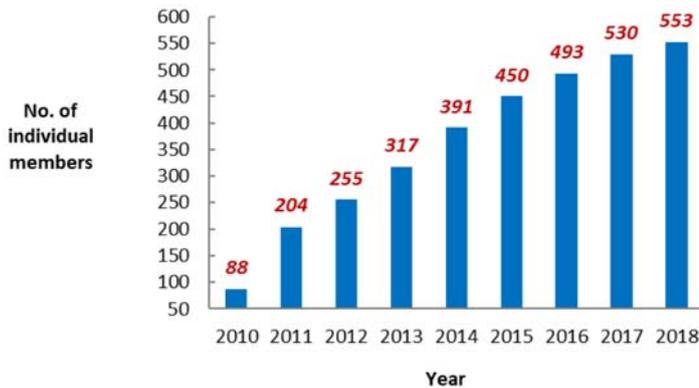


Figure 1 Number of individual members between 2010 and 2018

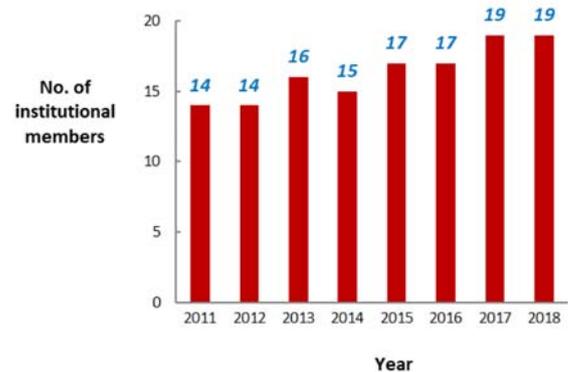


Figure 2 Number of institutional members between 2011 and 2018

The geographic breakdown of the individual membership from 2012 to 2018 is shown in Figure 3.

- In 2018, 87% of the members originate from the Europe (34%), Sub-Saharan Africa (27%) and Asia Pacific (26%).
- There is a 7% decrease in Europe in 2018 compared to 2012 level (34% in 2018 compared to 41% in 2012); and a 2% decrease in Sub-Saharan Africa region in 2018 compared to 2012 (27% in 2018 compared to 29% in 2012). In contrast, there is a 4% increase in Asia Pacific region in 2018 compared to 2012 (26% in 2018 compared to 22% in 2012).
- In Europe the majority of the members come from the UK (73%), followed by Ireland (10%) in 2018.
- In Sub-Saharan Africa region, the majority of the members originate from Nigeria (65%), followed by Ghana (20%) in 2018. There is no significant change for these two countries since 2014.
- In the Asia Pacific region the membership is: India (23%), Malaysia (20%), China (12%), Sri Lanka (11%), Australia (9%) and Pakistan (8%) in 2018. There is only slightly changes for these six countries since 2012.

ARCOM currently has 19 institutional members:

- 16 institutions from the UK - Birmingham City University, Glasgow Caledonian University, Queen's University Belfast (New), Leeds Beckett University, Liverpool John Moores University, Loughborough University, Northumbria University, Robert Gordon University (New), University of Brighton, University College London, University of Manchester, University of Reading, University of Salford, University of the West of England, London South Bank University and the University of Huddersfield.
- 2 institutions from Sweden - Chalmers University (Name was changed) and Luleå University of Technology.
- 1 institution from Ireland - Dublin Institute of Technology.

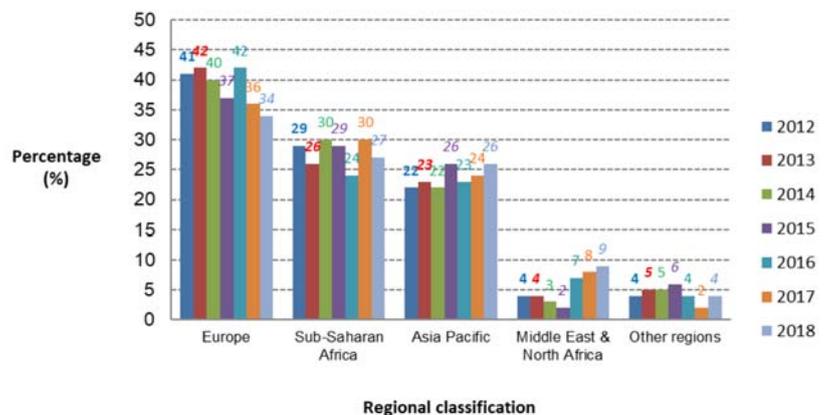


Figure 3 Geographic breakdown of the individual membership (2012 to 2018)

## *PhD Abstract:* Investigation and analysis of new-build housing defects during the initial ten years after occupation: a learning perspective by Tony Hopkins University of Reading



Rapid growth in the production of new homes in the United Kingdom (UK) is putting build quality under pressure as evidenced by the increase in the number of defects. Housing associations (HAs) contribute 21% to the UK's annual supply of new homes. HAs are experiencing the challenge of government funding cuts and rental revenue reductions. Maximising the benefit of learning from defects is recognised as being a key opportunity for HAs to help address these challenges. Learning from defects is argued as a means of reducing the persistent defect problem within UK house building, yet how HAs learn from defects is under-researched. There is also a lack of research exploring which impacts of defects are perceived as important by the key stakeholders, which has caused confusion over which types of defect HAs should focus their learning on. The aim of this research was to better understand how UK HAs, in practice, learn from past defects to reduce the prevalence of defects in future new homes. The theoretical lens for this research was organisational learning (OL).

An action research approach consisting of diagnosis, action planning, action taking, action evaluation and specifying learning was adopted. Further, the principles of soft

systems methodology were incorporated in the action planning phase in order to explore an ill-structured real world problem to identify desirable and feasible changes (action interventions) within a HA. Data collection consisted of questionnaires, semi-structured interviews, a focus group and organisational documents. Data analysis techniques included thematic analysis and simple statistical analysis.

The key findings suggested that OL can potentially reduce defects and revealed that the health and safety implications and home occupant disruption caused by defects are the priorities. OL in HAs appeared to be viewed as a secondary task which consisted of a defects management team capturing and analysing defect data to identify improvement opportunities, with a primary focus on designing out the identified defects. Opportunities for data analysis fluctuated with workload. The use of live data analysis protected against workload spikes. The key findings further enabled the development of a specific OL from defects model for HAs. The findings revealed the importance of a dual approach to learning consisting of a codification approach of designing out defects combined with a personalisation approach of networking to tackle workmanship and other defects that can't be designed out. The practical challenges of AR were highlighted when the interventions were abandoned due to changes in key personnel, despite the changes of a live data dashboard being shown to be beneficial after implementation.

## *Institutional Member:* Scott Sutherland School of Architecture and Built Environment Postgraduate Research , Robert Gordon University

Postgraduate research in Scott Sutherland school of architecture and built has been existing since the early 90s when Robert Gordon became a University in 1992. The Scott Sutherland School of Architecture and built environment which is led by Professor David Mclean, has produced over 40 PhDs. Although, a modest school of architecture and built environment, there has been tremendous research output in the areas of:

- Digital design and communities
- Sustainable housing
- Project, progress and performance
- Pedagogy and theory
- Visualisation

Our postgraduate research studies milieu is within the aforementioned focal research niches. With over 25 PhD students, who are undergoing full time studies at the moment, the online distance learning engagement has created opportunities for international student enrolment under a part time basis.

Our PhD students engage is regularly presented in both local and international conferences. We have a strong

focus on applicable Research and Development to support local and wider industries, including among others oil and gas, construction, infrastructure and business development.

Collaborative links with other relevant disciplines, including the computing, business and engineering Schools and the oil and gas Institute within Robert Gordon University, together with the oil and gas innovation centre (OGIC), construction Scotland innovation centre (CSIC) and Innovate UK. Thus, providing a wider knowledge base for complex problem-solving. Furthermore, we have access to high-end digital tools, from high-definition laser scanning, virtual reality (VR) and augmented reality (AR) equipment to simulation suites to complement our existing capabilities.

Scott Sutherland School of Architecture and Built Environment seeks to collaborate with other universities and research institutes as part of her strategic plan for enhancing standard of the school before 2021. Hence, being a member of Association of Researchers in Construction Management (ARCOM) is a great opportunity for us to foster our strategic agenda and contribute to research our research outputs in developing the built environment.

# ARCOM 2019

## Productivity, Performance and Quality Conundrum

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

Leeds Beckett University will play host to the 2019 ARCOM Conference, returning to Leeds and the great County of Yorkshire. With an evening at Salts Mill and our famous Headingley Campus, the stage is set for an industrious ARCOM 2019.

We are calling on ARCOM research leaders and scholars to share their vision and experience, looking from within and outside of the field of construction. The main conference theme will focus on productivity and performance; this is nothing new for a County steeped in an ability to harness energy, used to transform and deliver 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, greatly assisted 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 manufacture, 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. 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.

Yorkshire is the largest county in England, best known for a strong industrial heritage stretching back to the 18<sup>th</sup> century when the textile industry grew from cottage-based production to collective, industrialised production. Apart from textiles, Yorkshire was also renowned for the production of steel in Sheffield and shipbuilding in Hull. By returning to the heart of Yorkshire in 2019, the ARCOM community will advance and trade ideas on the productivity conundrum.

The concept of productivity has, of course, 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.

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

*Continue next page.*



*Continued – ARCOM 2019...*

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 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.

**ARCOM Committee 2017-2018**

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# ARCOM 2019: Productivity, Performance and Quality Conundrum

## *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*

**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. 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.

Abstracts of around 300 words are due for submission via the MyARCOM portal before **23:59hrs GMT on Friday 11 January 2019**.



*The conference venue – James Graham Building*