

ARCOM

ASSOCIATION OF RESEARCHERS IN **CONSTRUCTION MANAGEMENT**

Volume 39 Issue 1

September 2022



inside this issue

- Welcome on 38th ARCOM Annual Conference (pp. 2-3)
- Reflection on ARCOM 2021 Conference (pp. 4-5)
- Keynote Speech: The Future of Construction Management (p. 5)
- ARCOM Prizes 2021 (pp. 6-8)
- Recap of David Langford Spotlight (p. 9)
- Grand Challenges Facing Our Cities (p. 9)
- Obituary: Dr Patricia M. Hopf (nee Hillebrandt) (pp. 10-11)
- PhD Abstract: Songyang Li (p. 11)
- An Introduction to ARCOM Membership (p. 12)
- Membership Update (pp. 13)
- New Committee Member (p. 15)
- ARCOM 2023: Constructing for the Future (pp. 14-16)

Welcome to the 38th Annual ARCOM Conference “Build Back Wiser”



“....we gather to reflect on what we have been doing and what we need to do in the future to promote the wellbeing of people, places and planet,”

After three long years, we are meeting in-person at the ARCOM Annual Conference!

We planned to be in Glasgow for the Conference in September 2020 but COVID-19 pandemic forced us to go virtual. We were determined to be in Glasgow in September 2021 but the pandemic wouldn't allow us either. At last, we are in Glasgow in September 2022. We are grateful to the Lord Provost of Glasgow and Glasgow Caledonian University for their patience and willingness to let us carryover our bookings.

We come to Glasgow, not long after the 2021 United Nations Climate Change Conference (more commonly referred to as COP26), to share the knowledge we have been creating over the last few years. Just like those who met in Glasgow for COP26, we gather to reflect on what we have been doing and what we need to do in the future to promote the wellbeing of people, places and planet, but with a special focus on processes of designing, constructing and managing the built environment. This conference's theme, Build Back Wiser, calls us to promote deployment of knowledge and experience in careful, discerning and foresighted manner.

Apart from the paper presentations and discussions, we will have two thought-provoking keynotes from Dr Simon Smith from the University of Edinburgh and Professor Philip Purnell from the University of Leeds. Dr Smith is known to many in the ARCOM community and will, on Monday 5 September 2022, excite us into thinking about learning from failure. Professor Purnell comes from outside ARCOM but with wide experience of multidisciplinary research for the construction industry and will, on Tuesday 6 September 2022, challenge us into engaging with system-thinking to address 21st century societal problems. Furthermore, we have the Langford Event that will take a slightly new format this year hosted by Drs Raiden and King from Nottingham Business School. The

Continue next page...



Continued – Welcome...

Langford Event will be linked to, and followed by, the ARCOM Conference Debate hosted by Professor Paul W Chan. Both the Langford Event and Conference Debate will involve leading contributors from industry, academia and government.

This Conference has attracted varied papers and participants from all over the world. I have been amazed at the strong desire to come together in-person for the first time since September 2019 as researchers in construction management. In response to the Call for Papers, we received 256 abstracts in January 2022 and 163 papers in April 2022. Following our rigorous process of multi-stage double blind peer review, we finally accepted 127 papers for presentation in June 2022. Due to one reason or another, a few authors withdrew their papers between June and August 2022 to leave us what promises to be an exciting ARCOM 2022 Conference Programme of 101 papers. I had the privilege of dealing with the papers at different stages and was particularly impressed with the continuing breadth of research authors continue to want to share at our annual ARCOM conference. I was also impressed by the fact that we continue to attract researchers with a wide range of experiences.

One of ARCOM's key objectives is to support researchers. We will, hopefully, do this at the

Conference through the questions we ask and conversations we have throughout the conference and after it. In collaboration with partners, we will also be encouraging selected authors to develop their papers into journal articles.

I am delighted that we have a number of people attending their first ARCOM Conference this year and I warmly welcome each delegate in this category. I welcome, too, delegates for whom this is not their first ARCOM Conference. I encourage you all to engage in the varied activities on offer over the duration of our Conference. Please speak to me and/or any member of the Organising Committee at your earliest convenience and provide us feedback on your experiences of the Conference – this will enable us to explore ways of improving delegates' experiences during the Conference and/or in future Conferences.

Thank you for joining us and contributing to our join-enterprise of creating and disseminating new knowledge in the field of construction management this year. I wish you an enjoyable 38th Annual ARCOM Conference and a happy stay in Glasgow.

Do follow us on Twitter #ARCOM2022!

*Dr Apollo Tutesigensi
Conference Chair*

Editor letter....

Welcome to this conference issue of ARCOM Newsletter!

Back to normality of in-person conference renews the spirit of friendship and supportive ARCOM community. I hope this is being felt by the delegates of ARCOM 2022 conference.

This issue starts with a welcome and introduction to the ARCOM 2022 conference by Dr Apollo Tutesigensi, followed by a reflection of ARCOM 2021 conference by Professor Lloyd Scott. Summaries of key events from the last conference are featured including a keynote speech by Professor Chris Gorse, David Langford Spotlight by Dr Vivien Chow, and Grand Challenges Facing Cities by Professor Craig Thomson. Professors David Boyd and Libby Schweber provide a summary of best paper awards. Construction Management community recently lost a prominent scholar, Dr Patricia Hillebrandt – Professor George Ofori kindly wrote an obituary. This issue includes a PhD summary by Songyang Li, who recently passed his viva! Dr John Spillane provided an introduction to ARCOM membership and update. This issue concludes with a call for participation to ARCOM 2023 and a profile of new community member, Dr Barry Gledson. I wish to thank all 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.

*Dr Robby Soetanto
Loughborough University*

Building a Lasting Community in Turbulent and Uncertain Times 2019 – 2022: A Reflection of ARCOM Chair



Reflecting on the ARCOM activities during the pandemic has provided me with some really positive insight as to the mission of our community. In May 2020, the collective committee decision to engage in an online conference was made in order that ARCOM would prevail in a time of great uncertainty not just for the CM researcher community, but for humanity! As Chairman of both the 2020 and 2021 conferences, I can now delight in their success. However, more importantly I am pleased that the strength and vigour of our community has been built upon.

While the ARCOM conference committee had planned to return to Glasgow in both 2020 and 2021, the fall-out and the continued disruption from the COVID-19 pandemic impacted heavily on our community, resulting in the need to hold a virtual conference again in 2021. While we were delighted to hold the 37th Annual Conference in 2021, albeit it totally virtually, it was our aspiration to return to the traditional face to face ARCOM conference in 2022 to take place in Glasgow, Scotland. While I will have the legacy of being the first non UK Chair of ARCOM, I may also be remembered as the Conference Chair for the two COVID19 virtual conferences, a legacy I would not have anticipated when I first agreed to be Vice-chair in 2019. I do fondly recall the planning and preparatory work engaged in late 2019 and early 2020 for the Glasgow conference, alas COVID19 took hold in early 2020 and laid null our hopes of getting together at Glasgow. A huge thank you to Glasgow Caledonian University for sticking with us and making things possible now.

The hard work of the ARCOM conference committee enabled the construction management research community to enjoy and experience the 2021 conference. Shifting the mindsets and practices of the built environment to change the future based on the challenges faced by society was the scope of the event and the assembled agenda did not disappoint. We learned much from those whose research can impact and shape the world and building knowledge in the 'here and now' especially in a time of vigilance around the construction sectors approach to COVID-19.

My opening plenary session in 2021 appropriately addresses a consideration of understanding where Construction Management research is as we advance into the 21st Century. My reasoning behind this choice of topic was a belief that it is timely that some discourse take place to prepare us for the future and ensure that Construction Management research can build on the past. The first talk was by Dr Tara Brooks from Queen's University, Belfast who offered her personal perspective as a young researcher in the field of Construction Management. The second from our own, Professor Chris Gorse provoked us to think about the role of the community in Construction Management research. Insightful discussion allowed the audience to contribute to the much needed discourse. It was a very well attended session that really set the scene for the two days.

The second plenary session at our virtual event was a keynote addresses, chaired by Professor Craig Thomson, ARCOM secretary, and delivered by Professor Tina Karrbom Gustavsson and Professor Andrew Karvonen, both of KTH Royal Institute of Technology, Stockholm. Our invited speakers addressed the grand challenges facing our cities, where they engaged the audience in how construction management research might interacts with the urban field offering a reflection on environmental, economic and societal issues that seek to facilitate a conversation and a sharing research between scholars is accommodated.

It gives me great satisfaction to reflect and remember with pride last year's Langford Spotlight where the topic of "Collaborative Projects" was industriously explored by Anna af Hällström, thanks to a visionary Dr Vivien Chow, who lead and worked with Anna in the preparations of the event. While it promised to deliver something different in regard to a perspective on collaboration in the sector, it certainly showcased the depth of quality research taking place in our community.

Like many of the previous years, ARCOM continues to attract a strong international audience, and we had delegates joining us from, inter alia, Europe (with colleagues from the Netherlands and across Scandinavia), the United States of America, South Africa, Sri Lanka, India, China, Malaysia, Australia and New Zealand. It is good to welcome colleagues from both developed and emerging economies alike but equally continue to grow their contribution. Following the successful 'Meet the Publishers' session at ARCOM 2020, we had a more developed session again, where the Publishers associated with our discipline teamed up and provided a very interactive session on day one. They explored what post COVID-19 in the field of construction management research may look like going forward. They feedback from participants was that this event was hugely beneficial and the resources provided very helpful.

Many presenters and conference participants shared their experiences openly, about finding strength and support through

Continue next page...

Continued – Reflection...

a commonality shared as researchers, educators and students that helped bind them as a community in their respective networks. The presenters fed back how they became inspired through great discussion and questions during the sessions from participants as we collectively discussed and shared remotely all our own challenges and concerns for how this might work in the future, particularly through our own conference network. As one conference attendee remarked, 'if we could harness ARCOM's advice by coming together in light of what is uncertain to us, we could share our knowledge and learn collectively to rebuild a stronger more robust research system for all of the ARCOM community'. This may seem slightly overwhelming but as was said many times over the course of the conference, all it takes is just one first step, to reflect on our practice to see if there is anything we can change either alone or, preferable, together, as I mentioned at the start of the conference, 'change needs to be supported to happen'.

If someone had told me in January 2020 we would have to totally rethink the conference including producing a new

schedule, present it through a different medium, with all the key features of the conference originally planned and still remain inclusive I would not have believed it - but the committee took that first step together as a team and now there's no going back from here as we progress to challenge the boundaries of possibility of what we can achieve.

I would like to finally thank the ARCOM committee for their support to me in navigating my new experience as ARCOM chair 2020-2022. Thank you sincerely.

It has been very special to be in a position to continue on the traditions of ARCOM and I wish Apollo all the best for a successful 38th Annual ARCOM conference where the community can once again meet in traditional ARCOM fashion, face to face!!! May we prosper from this opportunity!!!

In the coming months, I am going to 'Take Time To Just Be' being assured that ARCOM is in great hands as we continue the journey.

*Professor Lloyd Scott
ARCOM Chair and Conference Chair 2020 and 2021*

Keynote speech: The Future of Construction Management



At the online ARCOM 2021 conference hosted by Technological University of Dublin Professor Chris Gorse challenged the audience with his keynote address on the Future of Construction Management (CM) and provoked delegates to consider the role of CM research and its impact. Here, Professor Gorse reflects on the presentation, calling for an interdisciplinary approach to CM.

It would seem that humans and their innate desire to shape their environment has coexisted with the species, yet against this long-established relationship, the field of CM research remains immature. Notwithstanding this, groups such as ARCOM have extended the CM sector, shifting the boundaries to respond to social, political and environmental challenges.

Well before the tripartite pillars of sustainability were brought to public attention by the United Nations and Conference of the Parties (COP), CM groups were grappling with these terms. Rather shamefully, although the field has a longstanding history with environmental science, the construction sector has not acted responsibly.

The built environment is responsible for more than its share of global emissions and waste. It also suffers a reputation of general neglect for social and environmental practices, favouring economic gain. At times, CM research has done much to expose poor practice. The community has brought about legislative reform that have made significant improvements, but this has not been attributed to one specific area of the CM specialism. Indeed, it may be argued that the community may be better able to respond due to cross disciplinary research.

While the sector is always pushed to develop a distinct flavour, to develop a central body of knowledge and to specialise, the ability of the CM profession to appropriately respond to challenges and demands remains key. The field needs to deliver an appropriate response. Currently, the field is challenged to respond swiftly delivering net zero cities and reducing its negative environmental and social impact. Construction will only achieve this through an interdisciplinary response.

By its nature, the field is interdisciplinary, research mimicking the practice and reaching out to specialists and experts in other fields to deliver. It embraces experts, captures current thinking and advances practice, often driven by the theories from outside the field. Overtime, research in CM has shifted being strongly influenced by the Physical Sciences to more recent times when Social Science and the Schools of Thought are prominent. However, if we are to serve a community, deliver appropriate social, environmental and ecological responses then the sector must continually flex its boundaries delivering smart, sustainable, resilient and social environments effectively. There are some distinctive attributes of CM and its research, but it remains an interdisciplinary field balancing the physical and social sciences to deliver buildings and infrastructure more responsibly.

*Chris Gorse
Professor of Construction Engineering and Management, Loughborough University*

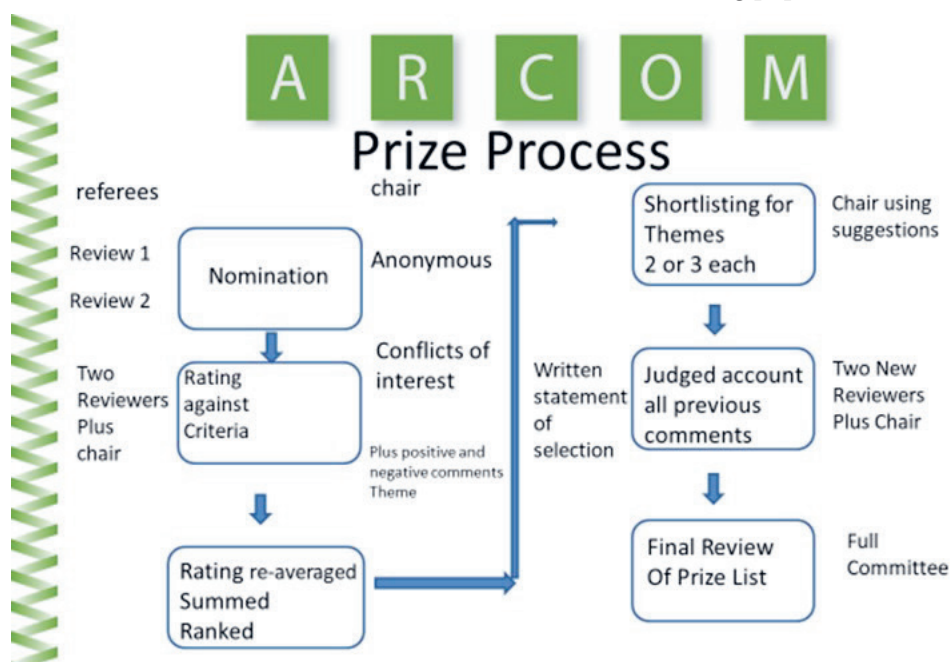
ARCOM Prizes 2021



Once again we were forced to run the conference virtually and a virtual prize ceremony cannot adequately celebrate the great papers that were delivered. The prize committee this year was jointly chaired by Prof Libby Schweber from Reading University and Prof David Boyd from Birmingham City with Prof Paul Chan (Delft), Prof Craig Thomson (Glasgow Caledonian), Dr Simon Smith (Edinburgh), Dr Vivien Chow (Loughborough), and Dr Emmanuel Aboagye-Nimo (Brighton).

All took part in the reading and evaluation process and collectively we express our pleasure at undertaking the task given the quality of work even with extra work that this entails. This is Prof Boyd's final year chairing the committee before handing over to Prof Schweber and he expressed how much of an honour undertaking this role has been over the last five years and what enjoyment he has got from the work.

Just to emphasise our process. The shortlisting occurs during the two stages of refereeing. During this process, papers are identified as potential prize winners and referees are encouraged to challenge authors to improve their paper to the quality required for a prize. So from approximately 160 submitted papers; the process identified about 28 potential papers for prizes. These papers are sent out to at least two reviewers from the committee who numerically rate the papers against criteria of Coherence; Contribution to the Field of Study; Innovation and Creativity; Rigor and Robustness of Methodology. The scores are normalised to account for different reviewers and a long list of the top 10 rated papers is produced. The committee chairs then reissue these papers for further review, against the prize themes and our greater purpose of developing the community. We finish with a robust, but pragmatic discussion, where we make a collective decision on the winning papers.



This year again we were again limited in the number of sponsor prizes and had 6 prizes to award:

1. Paul Townsend Commemorative Award for Research into Practice
2. Rod Howes Commemorative Award for Conference Theme
3. David Langford Commemorative Award for Social Impact
4. ARCOM Award for Construction Transformation
5. Emerald Award for Sustainability
6. Emerald Award for Theory/ Methodology

Again we awarded a highly commended paper in one of the categories as quality was exceptional.

Continue next page...

*Continued—ARCOM Prizes...***Paul Townsend Commemorative Award for Research in Practice**

Papers were judged on their contribution towards, or exploration, of practice. This category included papers that access and explore difficult or previously unexplored aspects of practice.

The winner this year was a paper by Anna af Hällström and Petra Bosch-Sijtsema of Chalmers University of Technology, Sweden for a paper:

"The Dark Side of Collaboration: The Risks of Strong Ties in Collaborative Project Networks"

The paper adds a more nuanced understanding of collaborative networks and will allow practitioners to explore the issue directly within their own projects. It is an excellent example of researching a practice-based problem and directing the results back to practice.

**Rod Howes Commemorative Award for the Conference Theme (Common Good)**

Papers were judged on their contribution towards the conference theme, which this year was Recover, Rebuild and Renew.

The award went to Thao Thi Phuong Bui, Suzanne Wilkinson, Domingo Niluka and Casimir MacGregor from Massey University and Building Research Association of NZ. Their paper was entitled:

"Towards Zero Carbon Building Refurbishment: A New Conceptual Framework for Decision Support Tools"

This paper deftly tackles one of the collective future challenges of our industry. It examines the current application of decision-making tools to zero carbon refurbishment for existing buildings, based on a critical literature review of academic publications from the past five years.

**David Langford Commemorative Award for Social Impact**

This award looks for excellent papers that highlight positive Social Impact, and explore the relationship that the built environment has with society. The prize committee had a dilemma this year and to resolve this decided to create a Highly Commended award. The authors of the two final papers have won paper awards before and continue to produce excellent research and publications.

The Highly Commended paper award went to George Denny-Smith from the University of New South Wales for a paper:

"How compliance imperatives stifle the impact of social procurement"

The winning paper was:

"Designing Theoretically and Evidence-Based Social Procurement Programmes in Construction: A Capability Empowerment Approach"

written by Jemma Bridgeman and Martin Loosemore in a cross national collaboration between End Youth Homelessness Cymru, Cardiff, UK and the University of Technology, Sydney, Australia. This paper addresses an important societal issue in a novel and interesting way. The paper uses Sen and Nussbaum's Capability Empowerment Approach to evaluate the impact of a construction training programme developed to reduce the risk of youth homelessness. The approach makes a valuable contribution to the measurement of social value more generally.



Continue next page...

*Continued – ARCOM Prizes...***ARCOM Award for Construction Transformation**

This is a developing theme that is rewarding papers that analyse the thinking behind the industry's transformation agenda.

The winners were Lynn Vosman, Tom Coenen, Leentje Volker and Klaasjan Visscher from the University of Twente, NL for their paper:

"Exploring the Innovation Ecosystem Concept for a Construction Industry in Transition"

This paper challenges the idea of transformation to include a resilient society. It develops the idea of an innovative ecosystem to include external stakeholders and the longer term actors who enable a productive and sustainable environment.

**ARCOM Award for Sustainability**

This award considers papers that explore sustainable development goals, renewable and clean energy; management of energy, water and pollution control, in the built environment.

The prize went to Martine Buser, Stefan Gottlieb, Andreas de Gier and Rickard Andersson, from Chalmers, Aarhus and Aalborg Universities for their paper:

"From Concept to Practice: Implementation of Circular Building as a Process of Translation"

The paper, from this cross University collaboration, explores the concept of circular economy and traces how the concept is translated from idea through to implementation in two Scandinavian case studies. The theoretical approach is clearly articulated and the way they are linked to the empirical data are coherent and expertly argued. The paper concludes with an outline of future research directions that promises significant research with practical applications in organisational practice.

**Emerald Award for Best Theoretical/ Methodological Paper**

This is awarded to papers that are an exemplar of the use of theory.

This award went to Anushika Ekanayake, Jin Xue, Geoffrey Qiping Shen and Mohan M Kumaraswamy, from Hong Kong Polytechnic University. Their paper is entitled :

"Dynamic Supply Chain Vulnerability Analysis of Hong Kong-Zhuhai-Macao Bridge Construction: A Topic Modelling Approach "

The Hong Kong – Zhuhai – Macau Bridge project is a very high-profile megaproject and here the author has identified very suitable modelling methods to help better understand and incorporate supply chain vulnerabilities in project decision-making processes. The paper will undoubtedly contribute to future work in this area.

**Congratulations to all the prize winners!**

These papers are a testament to ARCOM's role in advancing construction management research. However, the extensive short list of papers which the committee has had to deal to come to these prize winners shows how vibrant the community is even in difficult times.

All indexed papers are now available via the ARCOM abstracts service on the ARCOM website: <https://www.arcom.ac.uk/abstracts-browse.php>

Professor David Boyd, Birmingham City University
Professor Libby Schweber, Reading University

Recap of David Langford Spotlight 2021 by Anna af Hällström – A collaborative affair

For ARCOM 37 virtual conference's David Langford Spotlight, Anna af Hällström from Chalmers University delivered a brilliant collaborative workshop session that captured the very essence of her research and her provocatively titled ARCOM paper: "The Dark Side of Collaboration: The risks of strong ties in collaborative project networks". Making full use of the virtual space and eschewing the traditional lecture format, Anna ran an interactive session where she led participants into breakout rooms to debate the nature of collaboration. In fact, participants did not only get a chance to discuss our contrasting points of view, but also experienced the challenges of collaboration first-hand, since Anna set each group the task of composing a ARCOM themed Limerick within a strict time limit of 7 minutes. The results are delightful – some of them are presented below for your enjoyment:

ARCOM LIMERICKS

There once was a network called ARCOM
That was forced to rhyme and remain calm
Worry ensued

In great multitudes
Is it time to start loving the bomb?

ARCOM is a construction management network
That helps us put things into a framework
We innovate, co-create
And manage to collaborate
So that we can manage construction like clockwork

Presenting online is a chore
The audience you don't want to bore
We sit at our screens
Typing like fiends
We meet in Glasgow next year for sure

There once was an Annual Event
That didn't require a tent
Its name was ARCOM
And they all got along
...but occasionally needed to vent!

There once was a conference called ARCOM
Where hangovers were there to overcome
But we then went online
Where there was no more wine
So we wait for Scotland and fun

The participants described ARCOM as a construction management network where we innovate, co-create and collaborate. With the long awaited in-person ARCOM 38 Glasgow Conference upon us, let us reflect on these remnants from last year, and look forward to the camaraderie, friendship and fun (and occasional venting!) described so endearingly in these passages.

*Write up by Dr Vivien Chow
Loughborough University*

Grand challenges facing our cities: where construction management research meets the urban field

Session chair: Craig Thomson (Glasgow Caledonian University, Glasgow, UK)

Key note presentations: Tina Karrbom Gustavsson (KTH Royal Institute of Technology, Stockholm, Sweden); Andrew Karvonen (KTH Royal Institute of Technology, Stockholm, Sweden)

Construction management research is increasingly required to engage with other disciplines related to the urban field as we struggle to engage effectively with the grand challenges facing our cities. The realisation that cities reflect a shared context for these disciplines is important as appreciation grows of the need for collaboration and shared exploration engaged in the production, consumption, impact and societal experience of our urban environment. Given the interconnection with urban planning and design, and by proxy the associated urban professionals; there is a need for collaboration and a shared conversation between the relevant scholarly disciplines in order to learn from and challenge each other in order to better understand how to address urban transition. Scholarship plays an important role in fostering a shared understanding which can help to overcome the professional and process challenges faced by a dominant perception that urban and construction are competing, lacking integration in process and decision making, and this is commonly associated with the lack of a shared vision or common goal.

The session sought to support an aligned call for papers for a special issue of Construction Management and Economics where Craig Thomson, Tina Karrbom and Andrew Karvonen were acting as guest editors. Craig outlined the aim of both the session and the special issue to provide a bridge between construction management and the other urban disciplines to facilitate conversations around shared research questions, theoretical and methodological approaches, and to evidence existing collaborations which seek to address the grand societal challenges facing our urban environments. The parameters sought to be broad and encourage conversation, exploring new and existing domains where there are synergies, but that future research needs to provide clear evidence where the disciplines are combining and informing the research. He set the context for this by considering the urban regeneration in Glasgow over the last 50 years and the opportunity that greater collaboration provides not only between urban and construction related professionals, but importantly for scholarship we seek to make the transition towards a sustainable city.

This provided the background for a more focused narrative to emerge through the keynote presentations from Tina Karrbom and Andrew Karvonen who were at that point both colleagues working at KTH Royal Institute of Technology in Stockholm. Andrew has since moved to Lund University, Sweden. Tina provided a presentation which sought to look at the need for collaboration from a construction management perspective, and explored this through the context of an urban regeneration project, whereas Andrew sought to explore this from the urban perspective drawing attention to the SMART Cities agenda and its potential for collaboration but also the future requirement it provides for cross discipline understanding and enquiry. This was then followed by a dynamic discussion with delegates, which explored the benefits and challenges of collaborative research.

The presentations can be found on the ARCOM YOUTUBE channel (https://www.youtube.com/channel/UC8F7uIdEo8Cbn9v9Zi0s3HQ/videos?view=0&sort=p&shelf_id=0)

*Professor Craig Thomson
Glasgow Caledonian University*

Obituary: Dr Patricia M. Hopf (nee Hillebrandt)



Dr Patricia M. Hopf, whom we all know as Dr Patricia Hillebrandt, passed away on 21 July 2022 in the UK after a short illness. She was the author of "Economic Theory and the Construction Industry" and many other seminal works. Dr Hillebrandt can be considered as the leading originator of the subject of Construction Economics.

Dr Hillebrandt was born in 1929 in London. After school, she worked in the UK Foreign

Office for a short period before being educated mainly at University College London (UCL) where she graduated with a B.Sc.(Economics) degree. She undertook her doctoral studies on the economics of weed killers at the London School of Economics (LSE). She worked for the then UK conglomerate, Imperial Chemical Industries Ltd. When she joined the UK firm Richard Costain Ltd in 1957, she became the first economist to be employed by a construction firm. After a few years with Costain, Dr Hillebrandt started working with the then National Economic Development Office (NEDO) in 1962 (one of the now defunct quasi-government organisations which were prominent at the time). She was the first Secretary of the Building and Civil Engineering Economic Development Committees of NEDO.

Dr Hillebrandt joined the then Bartlett School of Architecture and Planning at UCL in 1967 as a Senior Lecturer. She was a member of the Building Economics Research Unit (BERU) in the University College Environmental Research Group, led by Professor Duccio Turin which also included John Andrews. The group started the Masters course in Building Economics and Management in the late 1960s. The course, which Dr Hillebrandt had helped to develop, was the first of its kind in the UK in many ways, being at the masters level, the mixed backgrounds of the students it wished to attract and the way in which it put its focus on industry level of issues in construction. The diversity can be illustrated with the class of 13 in 1976-77. The students were from Hong Kong, Iraq, Italy, the Irish Republic, Malaysia, the UK and the US. They came from many professional backgrounds, and varied greatly in age and seniority in work. This made the interactive teaching approach Dr Hillebrandt used highly relevant and appreciated by the students. So, there are many around the world who were taught by Dr Hillebrandt (during her time at UCL in 1967-84) who have a good first hand understanding of the Economics of the Construction Industry.

That pioneering group completed many assignments on the construction industry and the improvement of its performance for the World Bank and later, the International Labour Office and other bilateral and multilateral organisations. She ran her own consultancy firm, and worked on industry development assignments in many developing countries and emerging economies. She also worked with the Davis Langdon Consultancy Group where arguably her most notable assignment was her contribution to the construction price books in Europe and the Asia Pacific region. Dr Hillebrandt worked as

a Senior Research Fellow at the University of Reading where she produced many of her other seminal books with others such as Professor Bill Biggs, Jacqueline Cannon, Will Hughes and Peter Lansley.

The countries on which Dr Hillebrandt undertook studies, or visited for work, included Egypt, Latvia, Sri Lanka and Tanzania. From the mid-1980s, Dr Hillebrandt did a great deal of work on the construction industry of Russia and the other countries which were emerging from the socialist system of economic management.

Dr Hillebrandt has supported efforts in the development of the body of knowledge on the construction industries in developing countries. In 1997, the Task Group on Construction in Developing Countries (TG29) of the International Council for Research and Innovation in Building and Construction (CIB) was formed. Dr Hillebrandt attended many of its conferences, notably those in Uganda and Singapore (in 1999 and 2003). She covered issues of construction in developing countries in the third edition of "Economic Theory and the Construction Industry" (2000) and wrote a paper for the inaugural issue of the main publishing vehicles of the field, "Journal of Construction in Developing Countries". The argument she would often make about the merits of the developing countries using the volume of their construction demand to develop their construction industries was made by others but she would always develop nuances that others could not see. For example, on this topic, she highlighted as not just the opportunity cost of involving only foreign construction firms in major projects, but also, the resulting loss of confidence of the local firms when they are excluded from the work on major projects.

Dr Hillebrandt was awarded an Honorary Doctor of Science degree by the University of Reading in December 2006. After she had retired from academic work, she wrote "The Turbulent History of a Cotswold Valley", a meticulously researched and well-received account of the economic and social history of the valley where she lived from 1979; it was published in 2006.

Dr Hillebrandt had a lot of time for her present and former students, friends and colleagues. She was a major influence in the development of the careers of many academics, professionals and administrators around the world. There are many people around the world, in many positions and stations in life who are better people because they met Pat.

To researchers in Construction Economics, Dr Hopf is a pioneer. For the field of Construction Economics, a mighty tree has fallen. We have lost a real giant of the field. While we join the family in mourning her, we also acknowledge, with the Hopf family, that she lived a full life and realised many personal and professional accomplishments. Dr Patricia Hillebrandt has left us a huge legacy. Her works will continue to be a foundation for the field. We who remain must build on her foundation and be forever grateful to her family that they shared her with us.

Dr Hillebrandt leaves her two sons, Rob and John and their spouses, as well as a number of grandchildren and great grandchildren.

May Dr Patricia M. Hopf (nee Hillebrandt) rest in peace.

*Professor George Ofori
London South Bank University*

Continue next page...

PhD Abstract: "A Risk Management System for Construction Procurement in NHS Healthcare Infrastructure Projects" by Songyang Li, Loughborough University



The last three decades have witnessed great growth of investment in the procurement of healthcare infrastructure projects in the UK, which has brought about innovations in healthcare construction procurement methods. With such innovations, the mechanism of risk management for procuring NHS healthcare infrastructure projects has changed from risks mainly being undertaken by NHS client organisations to a shared risk management and cooperation mechanism (such as PFI/PF2 and ProCure 22) between the NHS client organisations and the construction suppliers. However, in these procurement methods, the division of responsibility of managing risks between the public sector and construction suppliers has been deemed unclear and inefficient. This has led to high procurement costs, poor project performance, and low value for money. Therefore, the UK government and NHS are suggested to focus on managing risks more effectively when using construction procurement options with a shared risk mechanism. The aim of this PhD research is to develop an integrative and computer-based risk management system for construction procurement of NHS healthcare infrastructure projects in the UK to improve risk management associated with the currently used construction

procurement options.

To construct the risk management system, 43 main risk factors and nine risk groups were identified from the literature and classified into macro-, meso-, and micro-level risks. The next step was to appraise the current practice of risk management in construction procurement of NHS infrastructure projects and investigate how the identified risk factors can be assessed. This was carried out through an online questionnaire survey which was developed to collect quantitative data from both the NHS client organisations and construction suppliers. These data were used to develop risk assessment and response frameworks, respectively. By employing fuzzy logic for risk assessment, the likelihood of occurrence, magnitude of impact and risk criticality were calculated for each risk factor and risk group as well as the overall risk. Covid-19 was found to be the top risk factor, and stakeholder risks were the most critical risk group. The overall risk criticality was rated medium to high, indicating that the decisions on procuring NHS healthcare infrastructure projects can be risky. A risk response framework was then developed according to the results of percentage analysis of the questionnaire data, which indicated that most of the risks should be shared by both parties or retained by NHS. The employment of fuzzy synthetic evaluation and percentage analysis provided a basis for developing a demo computer-based Risk Management System for NHS (RMS-NHS), which is a novel contribution of this research. Furthermore, IT-based tools, such as JavaScript, HTML language, Cascading Style Sheets (CSS) were employed to develop the user interface (UI) of the demo RMS-NHS. Online semi-structured interviews were conducted with 12 questionnaire respondents from both the NHS client organisations and construction suppliers who agreed to have interviews to validate the demo RMS-NHS to seek advice on its potential improvements and what guidelines might help ensure that RMS-NHS can be used effectively.

The computer-based RMS-NHS includes all the key risk management stages and embeds risk management into the entire construction procurement lifecycle and Office of Government Commerce Gateway Review process. Guidelines on selection of proper procurement options, achieving better value for money, integrated project team, strategic risk response activities, communication management and stakeholder management were further developed to support the standardisation and effective use of RMS-NHS. The findings of this research, especially the RMS-NHS, could help NHS client organisations and construction suppliers better understand, assess, and implement integrated risk management in construction procurement of NHS healthcare infrastructure projects. RMS-NHS can prepare the public and private sectors for current and future health construction procurement scenarios in NHS to achieve better project performance and value for money.

Songyang undertook his PhD research, with guidance from Dr Francis Edum-Fotwe, Professor Mohamed Osmani and Professor Andrew Price.

Continued—Obituary...

Some of the works mentioned or alluded to in this obituary

- Andrews, J., Hatchett, M., Hillebrandt, P., Jaafar, A.J., Kaplinsky, S. and Oorthuys, H. (1972) *Construction in Overseas Development Framework for Research and Action*. University College London Environmental Research Group, London.
- Hillebrandt, P.M. (1974) *Economic Theory and the Construction Industry*. Macmillan, Basingstoke.
- Hillebrandt, P.M. (1984) *Analysis of the British Construction Industry*. Macmillan, Basingstoke.
- Hillebrandt, P.M. (1999) Problems of larger local contractors: Causes and possible remedies. Paper presented at the Second Meeting of CIB TG29, Kampala, Uganda, 25-26 June.
- Hillebrandt, P.M. (2000) *Economic Theory and the Construction Industry*, Third Edition Macmillan, Basingstoke.
- Hillebrandt, P.M. (2006) The construction industry and its resources: a research agenda. *Journal of Construction in Developing Countries*, Volume 11, Issue 1, pp. 37-52.
- Hillebrandt, P.M. and Cannon, J. (eds) (1989) *The Management of Construction Firms: Aspects of Theory*, Macmillan, Basingstoke.
- Hillebrandt, P.M. and Cannon, J. (1990) *The Modern Construction Firm*. Palgrave Macmillan, London.
- Raftery, J. (Ed) (1994) Festschrift: In honour of Patricia Hillebrandt. *Construction Management and Economics*, 12(4), 283-375.
- Hillebrandt, P.M., Cannon, J. and Lansley, P. (1995) *The Construction Company in and out of Recession*. Macmillan, Basingstoke.
- Hughes, W., Hillebrandt, P.M. and Murdoch, J. (1998) *Financial Protection in the UK Building Industry: Bonds, retentions and guarantees*. Taylor & Francis, London.
- Hopf, P.M. (2006) *The Turbulent History of a Cotswold Valley: The Upper Slad Valley and The Scrubs*. Nonsuch Publishing Ltd, Stroud.
- Hughes, W., Hillebrandt, P.M., Greenwood, D. and Kwawu, W. (2006) *Procurement in the Construction Industry*. Taylor & Francis, London.

An Introduction to ARCOM Membership

The Association of Researchers in Construction Management (ARCOM) brings together all those interested in construction management research. Its aim is to further the advancement of knowledge in all aspects of management in construction by supporting education, dissemination, and research. Our lively newsletter keeps members in touch with the latest ARCOM news. The highly acclaimed annual conference brings together researchers from all over the world.

Various research workshops provide a means to develop specific subject themes as well as general research methodology. Our publications form a very useful resource for all researchers in this field. These activities help to encourage excellence in the research of our members. Our members include research students, lecturers, professors, consultants, other practitioners and institutions. Although we are primarily a UK association, we welcome members from all over the world. It provides opportunities for contact between researchers in similar fields and between researchers and practitioners.

We have two types of membership available: Individual Membership and Institutional Membership.

Individual Membership: Benefits and Fees

Individuals taking out an ARCOM membership will enjoy a membership discount at ARCOM conferences, which is currently £25. (Please note only paid-up members are eligible for the discount).

Individual membership is open to any interested person, regardless of discipline and background. Individual members pay an annual membership fee (from 1st May to 30th April). There are two types of individual memberships and their associated costs are as follows:

- Full membership: £20
- Student membership: £15

To join ARCOM as an individual member, if you have not already done so, please first create a "MyARCOM" online account, or use the "Forgot Password" if you have done so previously but cannot remember your login details. Once complete, then register yourself as a member, using the link in the middle of the webpage, where I will then process your application. If you are a registered PhD student, please ensure that your profile reflects this and that you have ticked the option for "student", to enable you to apply for student membership.

Institutional Membership: Benefits and Fees

Postgraduate Researchers at university departments taking out institutional membership will enjoy the membership discounts at ARCOM conferences which is currently £25 (though note that staff members will not receive a discount unless they are individual members).

University departments taking out institutional memberships will also have their names included on the ARCOM website in public recognition of their commitment to this research community.

Institutional membership relates only to registered Postgraduate Researchers of the respective University. This enables a University Department to pay a single fee for all of its Postgraduate Researchers. The fee for institutional membership is determined by the number of Postgraduate Researchers registered in the department concerned. The annual subscription (from 1st May to 30th April) for institutional membership payable by university departments, is based on a flat band fee, as follows.

- University departments with 1-10 postgraduate researchers - £150
- University departments with 11-20 postgraduate researchers - £300
- University departments with over 20 postgraduate researchers - £500

An invoice can be raised for payment purposes, where we can also note a Reference and/or Purchase Order number, if required. ARCOM also accepts a Standing Order arrangement as well as a cheque made payable to "ARCOM."

For further inquiries about ARCOM membership contact:

Dr John P. Spillane

Membership Secretary

Association of Researchers in Construction Management (ARCOM)

Membership@ARCOM.ac.uk, or ask at Conference Reception

ARCOM Membership 2022



Membership Secretary Dr John Spillane provides an update:

ARCOM has 90 Individual Members and 20 Institutional Members

An individual is considered a member of ARCOM, where they have paid their membership fee for the year. Currently there are 90 Individual paid Members; 82 are Full Members, with the remainder (8), Student Members. The number of individual paid members remains steady, with circa 80-110 members, paying their membership fee each year. At this time of year, the paid membership figure is in line with these projections and is anticipated to grow, as we move towards the end of the membership cycle (30th April). Currently, our individual paid members originate from the United Kingdom (54 members), Australia, Netherlands, Sweden (4 each), Ireland, Germany (3 each), along with Ghana, Hong Kong, Nigeria, and South Africa (2 each). The remainder of our membership covers individuals from India, Oman, Tanzania, UAE, Kuwait, Canada, Malaysia, New Zealand, Saudi Arabia, and Norway (1 each).

The number of institutional members remains healthy and continues to grow. Figure 1 shows that the number of institutional members has increased from 14 in 2011, to 20 this year; an increase of 1 additional member (Ulster University) on last year.

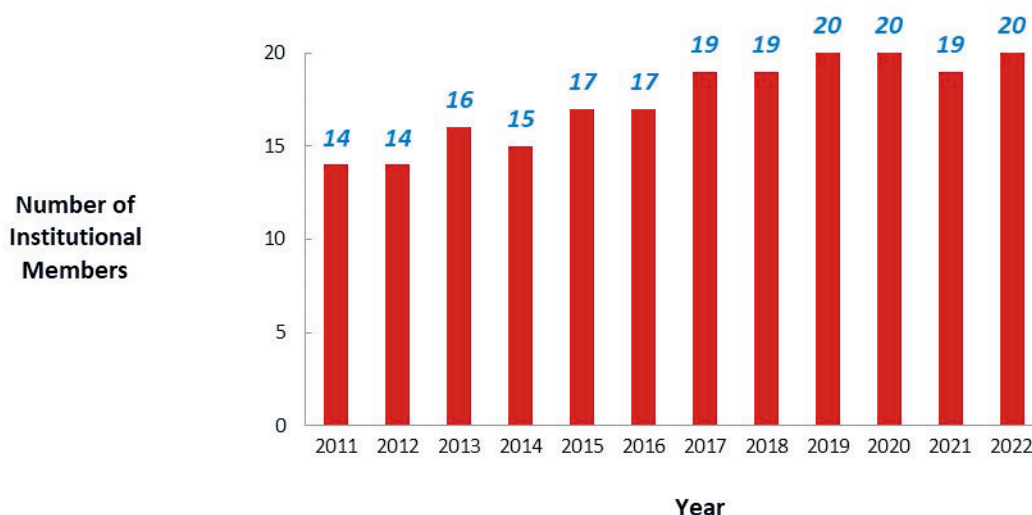


Figure 1 Number of institutional members between 2011 and 2022

ARCOM currently has 20 Institutional Members:

- 16 Institutions from the UK - Birmingham City University, Glasgow Caledonian University, Queen's University Belfast, Leeds Beckett University, Liverpool John Moores University, Loughborough University, Northumbria University, Robert Gordon University, University of Brighton, University College London, University of Manchester, University of Reading, University of Salford, London South Bank University, University of Huddersfield, and Ulster University.
- 2 Institutions from Sweden - Chalmers University and Luleå University of Technology.
- 2 Institutions from Ireland - Technological University Dublin and University of Limerick.

For any ARCOM Membership inquiries, be they Individual or Institutional Membership, please feel free to email the Membership Secretary, Dr John Spillane on membership@arcom.ac.uk, where I would be more than happy to help.

ARCOM 2023: Constructing for the Future

4th – 6th September 2023, University of Leeds

For the 39th Annual Conference and Annual General Meeting, we are returning to the City of Leeds in the County of West Yorkshire in England. For the first time, we will be hosted by the City's Russell Group university, The University of Leeds. The university was founded in 1904 but traces its origins to 1831. Today, it is a vibrant international research-led university that has contributed to creating the built environment over many years in many countries, most notably, through its School of Civil Engineering and Institute for Transport Studies.

The past, particularly recent past, has shown us that we need to continuously question what may be considered to be established 'matter of fact' things, systems or ideas. In last year's Call for Papers, we encouraged you not to be completely satisfied with what you know/see but, instead, seek to question and demand regular validation and modification (or even deviation, if necessary). In continuation on this trajectory, we give you the theme of 'Constructing for the Future' for the 39th Annual Conference.

'Constructing for the Future' encourages us to understand the various futures including what, where, how, when and even whether we construct as well as we operate and dispose of the products whilst taking into account political, economic, social, technological, environmental, legal, etc. perspectives. In a word, 'Constructing for the Future' is about sustainability. 'Constructing for the Future' also encourages us to consider that the beholder can construct the future defined by them and/or as they find it defined by other stakeholders. Regardless of who defines the future, we need to face it with wisdom and commitment to innovation. This paradigm needs to start now and become part of our business as usual in our research and practice!

In line with ARCOM tradition, the 39th Annual ARCOM Conference will be an inclusive conference. We invite paper submissions that not only address our traditional topics but also new and emerging topics. Furthermore, we invite authors to reflect on what needs to be done, within respective topics, to enable humanity to embrace 'Constructing for the Future'. We welcome (and hope to

receive) papers that cover topics such as: building information modelling; contract management; design and technology; disaster management and resilience; equality and diversity; project finance; health, safety and well-being; human resources management; infrastructure development; law; offsite construction; pedagogic research; performance; procurement; sustainability; and other relevant topics.

We encourage you to explore many and varied ideas about incorporating 'Constructing for the Future' in your papers. Please find, in the next few paragraphs, some examples - in no particular order - which, we hope, provide some guidance on how built environment research and practice can contribute towards addressing the global issue of sustainability.

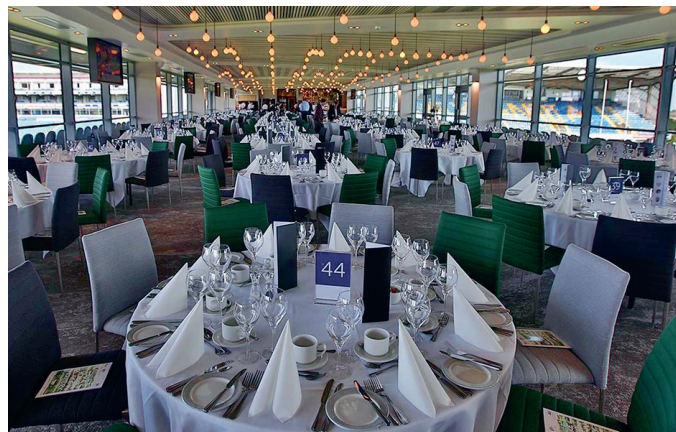
The built environment, in which we are primarily concerned, is constituted by Places and Infrastructure. Built environment researchers and practitioners should be interested in products, processes and services required to create, operate and dispose of the Places and Infrastructure. In addition, they should be interested in people who use, are affected by or have any other interest in, the Places and Infrastructure. Furthermore, built environment researchers and practitioners should be interested in how the Places and Infrastructure affect the world's flora and fauna and the general health of planet Earth. 'Constructing for the Future', with respect to Places and Infrastructure, can be explored by considering their nature and location. Researchers and practitioners are required to consider the social, economic and environmental impacts of nature and location of the Places and Infrastructure created.

Constructing Places and Infrastructure requires deployment of Plant/Equipment which, in turn, require energy over their lifetimes. Energy is derived from different sources and each source has associated impacts. 'Constructing for the Future', with respect to Plant/Equipment, can be explored by considering sources of energy for the Plant/Equipment. In so doing, researchers and practitioners may reflect on technological, organisational and business innovations that may be required and how they might diffuse in industry and practice and deliver desired impacts.

Continue next page...



Leeds Business School



Howard Suite, Headingley Stadium

Continued – ARCOM 2023....

Constructing Places and Infrastructure requires utilisation of Materials produced and delivered with the utilisation of energy (and associated impact). Use of Materials also involves generation of waste at different stages of the product's life. 'Constructing for the Future', with respect to Materials, can be explored by considering minimisation of the negative impact of energy used to produce Materials and wastage via, for example, managing materials choices and material flows. Researchers and practitioners may reflect on technological, logistical and business innovations that may be required and how they might be adopted in different socio-economic settings.

Constructing Places and Infrastructure requires utilisation of Labour provided by people. In order to be productive, people need to be healthy and safe, they have to travel to work and they need to be competent and motivated. 'Constructing for the Future', with respect to Labour, can be explored by considering the broad issue of rights and obligations of workers, communities and society in general. Researchers and practitioners may reflect on education and training; social value of projects; equality and diversity; recruitment and employment practices; and acculturation and how these promote wellbeing of the individual.

Constructing Places and Infrastructure requires Funding provided by private and public sector actors. Sources of equity and debt to fund projects are restricted by project appraisal procedures and policies as well as emergent issues such as geopolitics, economic and financial crises. 'Constructing for the Future', with respect to Funding, can be explored by considering types of finance and financial instruments and how they affect availability and stability of funding streams to maintain project pipelines. Researchers and practitioners may reflect on innovations pertaining to durations over which project capital may be provided as well as affordability and equitability of capital.

Constructing Places and Infrastructure requires Organising enterprises of all types as well as teams and individuals to enable them to interact and deliver responsibilities necessary for project success. 'Constructing for the Future', with respect to Organising, can be explored by considering effective and innovative ways of allocating resources, designing work, demarcating authority and distributing responsibilities. These endeavours need to take into account technological and social developments, standards and expectations and seek to deliver smooth and uninterrupted work flows to consistently meet all stakeholders' expectations.

ARCOM Committee 2021-2022

Prof Lloyd Scott (Chair)
chair@arcom.ac.uk

Dr Apollo Tutesigensi (Vice Chair)
vice-chair@arcom.ac.uk

Prof Chris Gorse (Immediate Past Chair)
chris.gorse@arcom.ac.uk

Dr Vivien Chow (Treasurer)
treasurer@arcom.ac.uk

Prof Craig Thomson (Secretary)
secretary@arcom.ac.uk

Dr John Spillane (Membership Secretary)
membership@arcom.ac.uk

Dr Robby Soetanto (Publications Officer)
robbi.soetanto@arcom.ac.uk

Prof Chika Udeaja (Workshop Convenor)
chika.udeaja@arcom.ac.uk

Dr Emmanuel Aboagye-Nimo
emmanuel.aboagye-nimo@arcom.ac.uk

Dr Colin Booth
colin.booth@arcom.ac.uk

Dr Philippa Boyd
philippa.boyd@arcom.ac.uk

Dr Nicola Callaghan
nicola.callaghan@arcom.ac.uk

Prof Paul Chan
Paul.chan@arcom.ac.uk

Dr Barry Gledson
barry.gledson@arcom.ac.uk

Dr Patrick Manu
patrick.manu@arcom.ac.uk

Dr Chrissi McCarthy
chrissi.mccarthy@arcom.ac.uk

Prof Libby Schweber
libby.schweber@arcom.ac.uk

Dr Simon Smith
simon.smith@arcom.ac.uk

Dr Niraj Thuraiarah
niraj.thuraiarah@arcom.ac.uk

New Committee Member

Dr Barry Gledson (Northumbria University):

"I am an Associate Professor of Construction Project Management with 25 years' experience in Construction Management and have worked in academia since 2010. In the decade prior, I worked for major construction contractors, winning and delivering large projects nationally across the UK, and briefly in the USA. My research largely focuses on the diffusion and application of digital innovations in the construction sector, to improve project-, company-, and industry-level performance, and CM practice. In addition to being a Chartered Construction Manager (MCIOB) and having served as a Committee

Member on the CIOB North East Hub (2017-2021), I am a Full Member of the Association for Project Management (MAPM) and a Senior Fellow of the Higher Education Academy (SFHEA). I first attended ARCOM in 2014 returning each year since, because of its collegial network, and the quality of research arising from it. ARCOM has been essential in my own academic journey, so as committee member I will ensure it continues aiding the development of early career researchers, whilst ensuring ARCOM facilitates and promotes quality research to augment the CM knowledge base."

ARCOM 2023: Construction for the Future

Key dates

Submission of abstracts: 2359hrs GMT, Friday 13 January 2023

Notification of decision about abstracts: Monday 13 February 2023

Submission of full papers for initial review: 2359hrs GMT, Friday 7 April 2023

Notification of decision on full papers (after initial review): Monday 22 May 2023

Submission of full paper for final review: 2359hrs GMT, Friday 16 June 2023

Notification of decision about full paper (after final review): Friday 21 July 2023

Submission of Abstracts and Keywords

Please submit an abstract of around 180 words and include up to 5 keywords online via the MyARCOM portal. Abstracts will be sent to two referees for peer-review. From this peer-review process, an abstract will be either accepted or rejected. The deadline for submission of abstracts is 23:59hrs GMT on Friday 13 January 2023.

Submission of Papers for Initial Review

Authors of accepted abstracts will be invited to submit full papers. Full papers must not exceed 10 sides of A4 (including all references, tables and illustrations) and should adhere to the ARCOM paper template, which is available for download at www.arcom.ac.uk. Each paper will be sent to two members of the Scientific Committee for peer-review. From this peer-review process, a paper will be accepted, accepted with minor alterations, accepted with major alterations or rejected. The deadline for the submission of full papers for initial review is 23:59hrs GMT on Friday 7 April 2023.

Submission of Papers for Final Review

After initial review, authors of papers accepted with minor alterations or accepted with major alterations will be invited to revise the papers and resubmit for final review. Final review will lead to papers being either accepted or rejected. The deadline for submission of full papers for final review is 23:59hrs GMT on Friday 16 June 2023.

Presentation and Publication of Accepted Papers

If a paper is accepted, its authors will be invited to present the paper at the conference. At least one of the authors must register for the conference to be able attend and present the paper. Authors of accepted papers will have a choice to publish their paper as a working paper or an indexed paper.

Venue Information

Leeds is a vibrant city that is easily accessible and the University of Leeds is about 20 minutes' walk from the city centre, train station, and bus station. For international delegates, the city centre and University are less than 30 minutes by taxi from Leeds Bradford International Airport. Our chosen venues for ARCOM 2023 reflect this city's education and sports heritage. We will be based in the University's stunning Business School. We will have our traditional Monday social evening in the University's unique Refectory and for our Tuesday Annual Conference Dinner, we will be in the Howard Suite at the world-famous Headingley Stadium. We will have a drinks reception before the Annual Dinner at the stadium concourse overlooking both Headingley Cricket Ground and Headingley Rugby stadium. The faithful of the sports of Cricket and/or Rugby League may even have chance to kiss the turf!

Conference updates

There will be regular conference updates so please visit the ARCOM website for conference 2023 updates at www.arcom.ac.uk

Contact and Further Information

Conference Chair: Dr Apollo Tutesigensi, University of Leeds
Conference Secretary: Dr Christopher Neilson, The University of Manchester
Email: conference@arcom.ac.uk