



**FUTURE OF DESIGN**  
**12.09.2022**





#### Chairs

Ian Firth, Flint & Neill, IABSE British Group President

Mark Bulmer, AECOM, IABSE British Group Secretary

Martin Kirk, IABSE British Group Treasurer

David Knight, Cake Industries, IABSE British Group Vice Chair

Ed Dablin, DYSE

#### Organising Committee

Alex Wallace, AECOM

Charlotte Weatherburn, AECOM

Eleanor Atherton, AECOM

Zeina Al-Nabulsi, DYSE

James Leung, Mott Macdonald

Fernando Madrazo-Aguirre, COWI, IABSE British Group

We are delighted to welcome you to Future of Design 2022; a conference for young designers aimed at promoting design and inspiring future generations.

The conference is organised by the International Association for Bridge and Structural Engineering (IABSE) British Group. This is the seventeenth UK Young Engineers' Conference organised by IABSE and is the first in-person event since 2019!

This event is a unique platform for networking and to be inspired by the leading figures in the design world. It will include presentations on current cutting-edge designs as well as discussions about the future challenges of our profession.

Five Young Designers (35 years or under) have been short-listed for presentation of their paper during the conference. Prizes for the best presentations will be awarded to the young participants.

Additionally, shortlisted Design Competition poster entries will be on display during the conference.

Organising Committee

IABSE Future of Design, Manchester 2022

Welcome to the Future of Design. We have returned to Manchester, having been here first in 2015. We are delighted to be back, and excited to have you with us. Welcome!

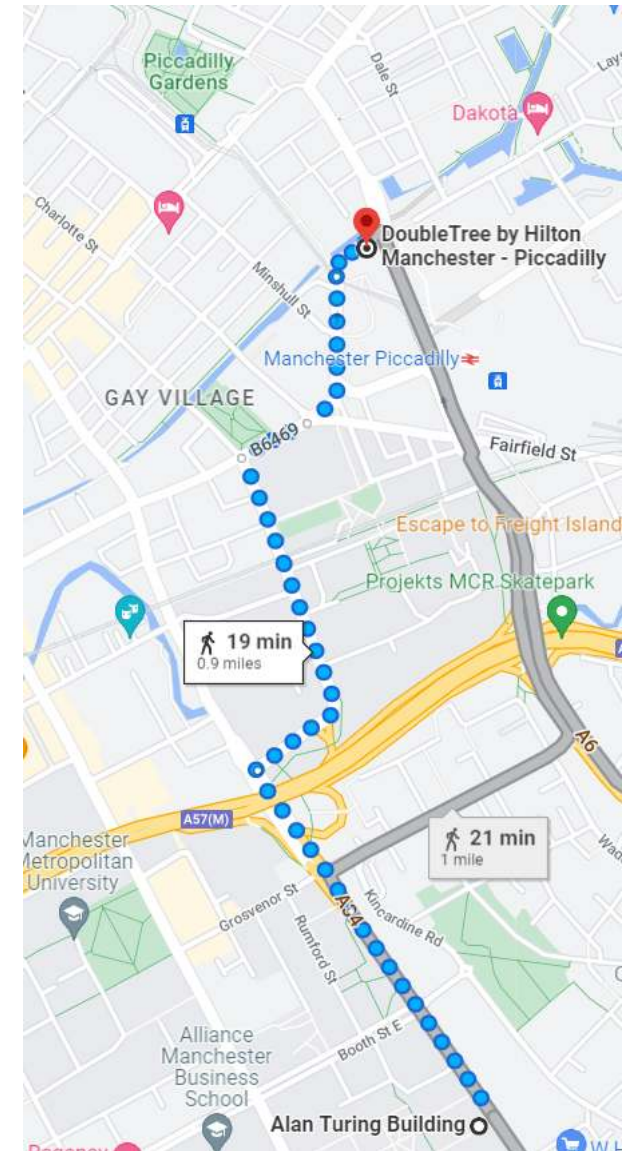
This event continues to grow and attract young enthusiastic designers, engineers and entrepreneurs from all over the UK. In fact, ever since it was established in London by the British Group of IABSE back in 2012, the Future of Design conference has been making waves and spawning copies around the world in other National Groups of IABSE.

The Future of Design provides a unique platform for networking and is an opportunity to be inspired by some of the leading figures in the world of engineering, architecture, design and research. Here today, and through all our events at IABSE, there is lots of scope to engage in discussions on matters affecting the future direction of our profession and the challenges facing designers in a rapidly changing world. And never has the world of construction faced bigger challenges than we do right now. The world is in the throes of a climate emergency such as has never been seen before, and it is the next generation of engineers and designers – ie. you! – who will need to find solutions to the huge challenges we face. And this is a great place to start by getting involved with IABSE. IABSE is the International Association for Bridge and Structural Engineering, and as the name implies, we are a truly international organisation, with members all over the world engaged in all aspects of engineering for the built environment. We hold conferences, seminars, workshops, site visits and countless other events, as well as producing world class and highly respected journals and publications. The British Group is very active, and we warmly encourage you to join us and engage in what is a most enjoyable, stimulating and rewarding professional network. We are building a community of like-minded, passionate and ambitious young professionals keen to make a difference in the world we construct around us. If that sounds like you, then IABSE is the place to be. To find out more, speak to me today, visit [www.iabse.org.uk](http://www.iabse.org.uk) or email the Honorary Secretary of the British Group, [mark.bulmer@aecom.com](mailto:mark.bulmer@aecom.com).

I hope that you thoroughly enjoy the day and go away inspired and excited by the opportunities and developments in the world of design and engineering structures.

**Ian Firth**  
Chairman, British Group  
of IABSE

MAP to Double Tree by Hilton Hotel Manchester-Piccadilly



[events@iabse.org.uk](mailto:events@iabse.org.uk)  
[www.iabse.org.uk](http://www.iabse.org.uk)

Time	Event	Speaker / Host	Details
09:00:00	Arrival		Delegates arrive, refreshments, networking
<b>09:30:00</b>	<b>Welcome and introduction</b>	Ian Firth	
<b>09:40:00</b>	<b>Session 1</b>		<b>Chair - Ian Firth</b>
09:40:00	Speaker 1	Brian Duguid	Net zero bridges
10:10:00	Speaker 2	Laura Hannigan	Timber research or community projects
<b>10:40:00</b>	<b>Morning Break</b>		
<b>11:00:00</b>	<b>Session 2</b>		<b>Chair - David Knight</b>
11:00:00	Speaker 3	Steve McKechnie	Arup
11:30:00	Paper competition		Shortlist presentations and vote (audience and panel)
<b>12:30:00</b>	<b>Networking Lunch</b>		
<b>13:30:00</b>	<b>Session 3</b>		<b>Chair - Mark Bulmer</b>
13:30:00	Competition results	Mark Bulmer	
13:45:00	Speaker 4	Bola Ogunmefun	Tisserin, timber
14:15:00	Speaker 5	Adrienn Tomor	Digital stone construction
14:45:00	Debate /discussion		Round table debate / panel talk - future of sustainable engineering - material use and construction
<b>15:15:00</b>	<b>Afternoon break</b>		
<b>15:30:00</b>	<b>Session 4</b>		<b>Chair - Ed Dablin</b>
15:30:00	Speaker 6	Joanna Bonnett	COWI, A future of designing less
16:00:00	Speaker 7	Albert Williamson-Taylor	AKTII, Challenging the concept of engineering
16:30:00	Speaker 8	David Knight	Moving bridges.
<b>17:00:00</b>	<b>Close out</b>	Mark Bulmer	
<b>18:00:00</b>	<b>Dinner</b>		Double Tree Hilton

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Joanna Bonnett // COWI



Joanna's career spans more than two decades and has involved the design of unique structures, collaboration with some of the world's most notable bridge architects and engineers, and the strengthening and rehabilitation of critical bridge assets.

For the past nine years Joanna has been with COWI in the UK, where she has progressed from being a Principal Engineer to Vice President. She has been involved with several high-profile bridge rehabilitation projects, including as project manager for the independent check of the first and second phases of strengthening on the Hammersmith Flyover and design of strengthening of the Gade Valley Viaduct, which carries the M25 motorway.

Joanna's areas of interest include leading and overseeing project teams, design reviews, client liaison and complex technical issue resolution. She has a particular passion for driving innovation to extend the life of existing structures.

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Brian Duguid // Mott MacDonald



Brian is a technical director for Mott MacDonald specialising in Bridges and Civil Structures, and a Fellow of the Institution of Civil Engineers. He is currently working on the development of Northern Powerhouse Rail, and was the civil engineering design manager for the multiple-award winning Ordsall Chord. Brian is the joint global lead for sustainability and social outcomes in Mott MacDonald's bridges practice, sponsoring internal sustainability initiatives as well as CSR activity such as an annual bridge build with Bridges to Prosperity. He chairs the Net Zero Bridges Group, which brings together 25 firms committed to the decarbonisation of their bridge engineering work. Brian considers the climate emergency to be the biggest challenge facing all built environment and infrastructure asset managers and designers – but also an opportunity to make a real difference in what we do.

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Laura Hannigan // Simple Works



Laura is a Director and co-founder of Simple Works. Her work is focused around an integrated, research focused approach to design. Her experience ranges from small scale art interventions, to affordable workspace and timber structures and her research has included the use of structural bamboo and using computational software to unlock the potential of historic methods of analysing structure intuitively using graphic statics. Her background includes architectural theory and interdisciplinary design; the latter is particularly important to unlock key aspects in finding appropriate carbon efficient solutions.

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Dr Adrienn Tomor // Brunel University



Adrienn is senior lecturer at Brunel University London. She studied bridge engineering at Dresden University and her PhD with Prof Bill Harvey at Exeter University on masonry arch bridge analysis. Her key interests are long-term durability of masonry bridges and structural health monitoring of civil engineering structures.

She is passionate about the benefits stone has to offer for longevity, low maintenance costs and environmental impact for infrastructure and housing. By combining the benefits with digital technology, she is setting up the new Digital Stone Construction sector to reintroduce stone for the 21st century. Working with the industry and international partners, she is developing case studies to demonstrate the feasibility of new stone bridges and the strategy for implanting the new sector.

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David Knight // Cake Industries



David is a chartered structural engineer with extensive experience as a design consultant. He has managed and designed a variety of projects on both a large and small scale, including being Project Director the Dinosaur Swing Bridge, Cody Dock Rolling Bridge and lead designer for Greenwich Reach Swing Bridge (winner of the Pedestrian Bridge category at the 2015 Structural Awards). He delights at working closely with architects to design and project manage bridges, buildings, sculpture and moving structures.

David is now Director of Design and Engineering at Cake Industries. He has been responsible for the creation of a design and engineering team within the multi-material fabrication business as well as creating a stand-alone structural engineering consultancy Cake Engineering.

David serves as Vice Chair of the International Association for Bridge and Structural Engineers (IABSE) British Group. David is an effective engineering communicator and has appeared on BBC News, ITV News, the Discovery Channel and Channel 5.

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Bola Ogunmefun // Tisserin Engineers



Bola Ogunmefun is a chartered structural engineer who is a co founder and director at Tisserin Engineers.

He has worked on variety of structures spending much of his early years working with existing buildings within the conservation sector. More recently, Bola has worked extensively with timber structures, designing structures of different scale ranging from churches, schools and sports complexes.

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Albert Williamson-Taylor // AKT II



As one of the most prolific British-African engineers of his generation, Albert Williamson-Taylor co-leads AKT II's design-led engineering practice, having founded the company (as Adams Kara Taylor) in 1995. He's tutored for the AA DRL postgraduate MArch course since 2011, holding Fellowships with the Institution of Structural Engineers and the Royal Institute of British Architects.

Steve McKechine // ARUP



Steve is an award-winning structural engineer with extensive experience in the design of buildings. Steve leads a multidisciplinary design team in London within the engineering design firm Arup. He is closely involved in the day to day process of developing holistic building design solutions in collaboration with clients and architects.

Steve has extensive design experience with tall buildings, long spans, tension structures, steel, concrete, timber and masonry, including prestressed masonry, structural analysis, optimisation, 3D design, wind loading, dynamics, seismic engineering and buildability.

Steve has a collaborative approach to leadership and problem solving combined with his deep technical expertise. He seeks to bring value to projects by finding, and delivering, appropriate engineering solutions for clients.