



# FUTURE OF DESIGN BIRMINGHAM 2019

## Conference Programme

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## International Association for Bridge and Structural Engineering British Group

### Future of Design Birmingham 2019

Welcome to the Future of Design in Birmingham! 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. (For example, why not head over to New York for their event on 1st of June? After all, we are an international organisation!)

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; so get involved!

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*



# Order of Events

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08:30 – 09:00 Registration & Refreshments

09:00 – 09:05 Opening Address

09:05 – 10:30 **Keynote Session One**

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*No More Pile Caps*

*Opening Bridges, Iconic and Efficient*

*Cities of the Future*

10:30 – 11:00 Coffee Break

11:00 – 12:15 **Keynote Session Two**

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*Life is a Bridge, Cross it but Build No House on it*

*Curzon Street Station*

*Long Span Structures*

12:15 – 12:20 IABSE British Group Announcements

12:20 – 13:20 Lunch

13:20 – 14:50 **Workshop Sessions**

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Digital Workshop

Sketching Workshop

**Young Designers' Paper Presentations**

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15:00 – 15:45 Presentation Group A

15:00 – 15:45 Presentation Group B

15:45 – 16:05 Coffee Break

16:05 – 16:50 **Discussion Panel**

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16:50 – 17:50 **Key Notes Group 3**

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*Digital Design Management*

*Gaudi's Sagrada Familia in the Making*

17:50 – 18:00 Closing Address + Awards

18:00 – 19:00 Drinks Reception (All Delegates Welcome)

19:00 – 23:00 Dinner

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**Ian Firth** | IABSE British Group

Chaired by **Chris Jackson** | Arup

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**Angus Low** | Arup

**David Collings** | Arcadis

**Sunil Johal** | Argent

Chaired by **Mark Bulmer** | Aecom

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**Cezary Bednarski** | Studio Bednarski

**Neven Sidor** | Grimshaw

**Peter Chipchase** | WSP

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Facilitated by **Arup Digital Team**

Facilitated by **Ron Slade** | WSP

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*See page 12 and 13 of conference programme  
for details of talks and presenters*

Chaired by **Antony Oliver**

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Chaired by **Ed Dablin** | DYSE

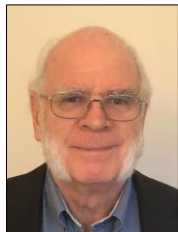
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**Millan Martin** | Vinci

**Tristram Carfrae** | Arup

**Ian Firth** | IABSE British Group

## Angus Low | Arup



Angus is retired but remains a Consultant to Arup. He has worked for Arup in London over 50 years starting on the design of building structures and finishing as a director. After time on site building a road he switched to bridge design and has spent most of his career designing a wide variety of bridges, big and small, for roads, railways and cycleways, in concrete and steel, in many countries. Highlights include Byker Viaduct, Wye Bridge in Chepstow, Oresund Bridge and Medway Viaduct on HSI. In 2007 he was awarded the Milne Medal based on submissions on three recent projects: Arstaviken Viaduct in Stockholm, and two cycle-bridges in the Netherlands, Nesciobrug and the Drachten Ring.

He has advanced the design theory of prestressed concrete in several papers. In retirement he has advanced the theory of Track-Bridge Interaction, and has recently completed three years on a CEN Working Group writing a report on it. He has an ongoing involvement in HS2. He has been active in IABSE for 27 years, for five years as Secretary of the British Group.

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## David Collings | Arcadis

David is a highly accomplished engineer with wide-ranging experience of major infrastructure projects in the UK and overseas. His work has included projects like the BCI Award winning UK-Bangladesh friendship Bridge, and the 17km Second Penang Crossing recently awarded the ICE Brunel Prize. More recently he has been helping develop ARCADIS major bridge capability.

David is a researcher and visiting lecturer at University of Surrey. Research publications include papers on compressive membrane action, multi-span bridges, long span bridges and environmental aspects of bridges. David has been active in various industry groups and is past chairman of the IABSE group in Malaysia and the Post Tensioning Association in UK. He is a reviewer for ICE Proceedings and a member of the ICE Bridge Engineering overseeing panel. David was awarded the Telford prize for his paper on in-plane membrane (arching) actions in slabs. He is the author of a popular book on Steel-concrete composite bridges.



## Sunil Johal | Argent



Sunil is a born and very proud 'Brummie' and has a real connection with his city. As a Project Director for the Paradise Development Scheme in Birmingham City Centre, Sunil is involved in one of the UK's most important city centre developments and one of the biggest development schemes Birmingham has seen for a generation. He has developed a reputation with Argent for prompt and strategic decision making, his ability to work with key stakeholders and his creativity and vision in delivering a very challenging, complex project. He is someone who brings abundant levels of energy, leadership, optimism and resilience to the team and industry.

His experience in construction stems across a 17 year period working his way up from being a trade labourer to a business unit leader, developing and running a large team and turnover of £35m, across a variety of construction sectors. He is very proud of his humble beginnings and has worked tremendously hard to achieve the role he executes today.

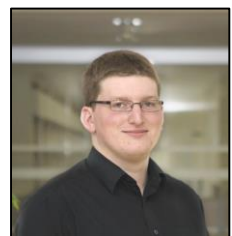
## Keynote Session One chaired by:

### Chris Jackson | Arup

Chris is a Senior Bridge Engineer in Arup's Midlands Campus office in Solihull. He has worked on the design of a range of structures at all scales, from the Tuen Mun Chek Lap Kok viaducts in Hong Kong to small scale footbridge schemes.

Chris is currently leading the design of the HS2 People Mover between Birmingham Interchange Station and Birmingham Airport. This a complex scheme that integrates architecture, engineering and system design on a highly congested site to provide a vital link between the existing West Midlands infrastructure and the future HS2 line.

Chris holds an MEng in Civil Engineering from Imperial College and an MSc in Bridge Engineering from the University of Surrey. He is a Member of both the ICE and IStructE in the UK and sits on the IABSE UK Group Executive. He is also a reviewer for the ICE Bridge Engineering Journal.



### Cezary Bednarski | Studio Bednarski



Cezary Bednarski is the founder-director of Studio Bednarski Ltd, which he established in 2001. He is a chartered architect with 38 years of varied experience, which includes a number of master plans, buildings and structures, including private residences, many of them listed and most of them located in historic and protected areas of London, where he has been working since 1981. He is a member of the Royal Institute of British Architects (RIBA) and of the RIBA Panel of Competition Assessors, a Fellow and past Advisory Council Member of the Royal Society of Arts (RSA); a Fellow and a past Member of Fellows Committee of the 21st Century Trust / Salzburg Global Seminar, a member of the London Borough of Brent Design Review Panel and the London Borough of Islington Conservation and Design Panel and an architectural consultant to UNESCO. Between 2007 and 2011 he was an architectural and urban advisor to the mayor of Warsaw. In 2014 the Polish Minister of Foreign Affairs named Cezary as a recipient of the Polish Medal of Bene Merito, first time given to an architect.

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### Neven Sidor | Grimshaw

Since joining Grimshaw in 1981, Neven has led design teams on 21 major completed projects, six of them international. Career highlights include the Stirling Prize shortlisted Bijlmer Station in Amsterdam, and Waterloo International Terminal which garnered more architectural awards than any other Grimshaw project. He is currently a member of the Stewardship Group, which oversees the values, ethos and standing of the practice, both internally and externally.

More recently widening the practice's gaze has been one of Neven's priorities. This has included forays into large scale master planning such as the competition winning northern extension to the City of Tirana, as well as technical research projects such as the recently delivered CTBUH paper entitled the 'The Vertical Master Plan' that proposes methods of phasing tall buildings in a similar manner to conventional master plans.



### Peter Chipchase | WSP



Peter Chipchase is a Director and Head of Stadium Design at WSP. He is a chartered structural and civil engineer in the UK and a licenced professional engineer in the U.S. Peter studied at the University of Leeds and Pennsylvania State University and received a Masters Degree in Architectural Engineering in 1994. He has significant experience in the structural design and multi-discipline management of large and complex building projects.

Peter is particularly interested in long span structures and where the structure is expressed as a fundamental part of the Architecture, such as Al Qadsia Stadium, HS2 Curzon Street, and the Du Headquarters. With all such projects Peter works very closely with the Architect to help create structures that are elegant, efficient and are fast and simple to construct.

Peter joined WSP in 2014 from Arup where he had recently completed the Abu Dhabi Investment Council HQ as project director with Arup providing 15 engineering design disciplines.

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### Keynote Session Two chaired by:

### Mark Bulmer | Aecom

Mark is a Chartered Engineer with 26 years' experience in the design, construction, inspection and maintenance of bridges. He has been at AECOM since 2001 and a Technical Director since 2007. In 1993 he started his career with contractor Cleveland Bridge; designing temporary works and supervising construction on a variety of bridges and structures, including three of the world's longest span suspension bridges in Hong Kong, Denmark and China. In 1999 he moved to American Bridge to work in Vancouver as a Senior Engineer on the rehabilitation of the Lion's Gate Suspension Bridge. After joining AECOM he progressed from Principal Engineer to Technical Director and currently, alongside technical leadership and management of AECOM's bridge team in Leeds, he manages and provides technical leadership on bridge projects in the UK and overseas. Mark has particular knowledge of the design and construction of large structures, including long span suspension, cable stay, arch, truss and steel girder bridges, with particular expertise in heavy lifting/sliding operations, construction techniques and associated temporary works.



## Virtual Reality/ Augmented Reality

Facilitated by the Simon Blakeney



Simon is part of the Digital group within Arup, specialising in data capture techniques, emerging technology and smart tech applications. He has worked on projects for a wide range of industries and continually seeks to improve Arup's digital expertise. He comes from a software engineering background, and utilises this programming knowledge to aid in the automation and technical progression of the capability. Simon leads the in-house Arup UK Terrestrial LiDAR capability.

Simon will host a workshop showcasing the cutting edge of immersive digital technology, based off of Arup's involvement in the Leeds Digital Festival. Simon will briefly talk through his 13 year career in the digital environment before guiding attendees through a series of interactive displays.

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## Sketching Workshop

Facilitated by Ron Slade of WSP

Ron Slade is a structural director at WSP. Ron has special expertise in forms of construction, construction methodologies and use of materials and has been involved in a wide range of new build and refurbishment projects within various sectors. Many of these projects have been with leading architectural practices including Renzo Piano Building Workshop, SOM, Foster + Partners, Hopkins Architects, Grimshaw Architects, Farrell's and RSH+P. He has published papers in 'The Structural Engineer', 'Civil Engineering' and elsewhere and his book 'Sketching for Engineers and Architects' was published in 2016 by Routledge.



Ron Slade will talk about the benefits of sketching for engineers and explain why he thinks it is a traditional skill that must not be lost, despite the advent of the digital age. He believes sketching remains an essential, enjoyable step in the creative process of developing an idea and transferring a thought from head to hand to computer to physical reality.

The Young Designers' paper competition is always a highlight of the Future of Design conference. Earlier this year we asked young designers (under 35) to submit a one-page paper on any topic to showcase their innovative work or research. We had an impressive response with 34 paper entrants. The eight shortlisted entries will give 10-minute presentations based on these papers at today's conference, on which final judging will be based. A huge thank you to the following people that entered our competition. It was a shame we could only select eight shortlisted papers to present. Thanks must also be given to our judging panel Sunil Johal, Angus Low and Chris Jackson.

|                                         |                            |
|-----------------------------------------|----------------------------|
| <b>George Smart</b>                     | One Ltd                    |
| <b>Diego Padilla Philipps</b>           | WSP                        |
| <b>Cindy Prophet</b>                    | Mott MacDonald             |
| <b>Nicholas Karakoullis</b>             | Cundall                    |
| <b>Guillaume Laurent</b>                | Eckersley O'Callaghan      |
| <b>Mark Dack</b>                        | Tony Gee and Partners LLP  |
| <b>Nick Trump</b>                       | Mott MacDonald             |
| <b>Fiona Walport</b>                    | Imperial College London    |
| <b>Patrick Gittings</b>                 | WSP                        |
| <b>Chris Bevington</b>                  | Arcadis                    |
| <b>Amy Francis-Smith</b>                | Birmingham City University |
| <b>Andrew Kelly</b>                     | AECOM                      |
| <b>Charlotte Murphy</b>                 | Arup                       |
| <b>Gavin John McLachlan</b>             | Conisbee                   |
| <b>Sara Peters</b>                      | Arcadis                    |
| <b>Victoria Tinney</b>                  | Price & Myers              |
| <b>Robert Powis</b>                     | Design2e Ltd.              |
| <b>Charlotte Youe</b>                   | WSP                        |
| <b>Michael Cheetham</b>                 | Mott MacDonald             |
| <b>Simon Pope</b>                       | Glenn Howells Architects   |
| <b>Brandon Eastwood</b>                 | WSP                        |
| <b>Jonathan Rushton</b>                 | Taylor Woodrow             |
| <b>John Fisher</b>                      | Glenn Howells Architects   |
| <b>Robert Frostick</b>                  | Alan Conisbee & Assoc.     |
| <b>Shoja Jamali</b>                     | Arup                       |
| <b>Agnieszka Tatarczak</b>              | Arup                       |
| <b>Manoven Daniel</b>                   | WSP                        |
| <b>Luke Gardner</b>                     | Elliot Wood                |
| <b>Will Hawkins</b>                     | University of Cambridge    |
| <b>Elliot Connolly</b>                  | Whitby Wood                |
| <b>James Bayley</b>                     | WSP                        |
| <b>Aquila Hassan</b>                    | AECOM                      |
| <b>Nyewuna Amadi, Marco Barresi,</b>    |                            |
| <b>Chris Cook, Lewis Foster-Jeapes,</b> |                            |
| <b>Simon Wilshaw</b>                    | Loughborough University    |
| <b>Heinrich van Wijk</b>                | AECOM                      |



### Jonathan Rushton | Taylor Woodrow



#### *Jack'in the Box – Installation of Underpasses Under a Railway*

Jonathan works as the Engineering Manager and Temporary Works Coordinator at White Hart Lane Station Upgrade Project. Jonathan leads the design development ensuring that the design is efficient, buildable and would not adversely affect the operational railway.

### Luke Gardner | Elliot Wood

#### *Structural Analysis of an installation at the 2018 London Design Biennale*

Luke Gardner analyses and designs complicated structures using his knowledge of engineering principles from his degree at Imperial and experience in scripting and analysis software gained at Elliott Wood. The Biennale Walkway has been his favourite project to work on.



### James Bayley | WSP



#### *Sculpting the Skyline | The Tale of 212 Broad Street*

Structural Engineer and Software Developer inspired by the legacy and longevity offered by careers in the Built Environment. Born and raised in Birmingham, proud of the city's rapid evolution. Personal interests include: High-Rise Buildings, Structural Analysis, Computational Design, Machine Learning and Data Science.

### Patrick Gittings | WSP

#### *Geotechnical Design for the Lunar Environment*

Patrick is a Graduate Structural Engineer working at WSP in Birmingham having graduated from the University of Birmingham in 2017. Patrick has worked on projects primarily in the healthcare sector, designing new hospital buildings or modifying existing structures to accommodate the latest medical equipment to suit requirements.



## Will Hawkins | University of Cambridge



### *Thin-Shell Concrete Floors for Low-Carbon Building Structures*

Will completed his MEng in Civil Engineering at Cambridge in 2013, which included a prize-winning research project titled 'Prestressed Ceramic Structures'. He then joined AKTII as a graduate engineer. In 2015 he began his PhD at Bath University, supervised by John Orr, Tim Ibell and Paul Shepherd, before transferring to Cambridge in 2017.

## Aquila Hassan | Aecom

### *Living Root Bridges*



Aquila Hassan is a Graduate Structural Engineer at AECOM. She read Civil and Structural Engineering (Bachelor's) and Mechanical Engineering (Master's) at the University of Cambridge. She is interested in biological structures and studied bridges grown from living aerial roots of *Ficus Elastica* found in Meghalaya, North Eastern India for her fourth-year research project.

## Simon Pope | Glenn Howells Architects



### *One Centenary Way, Birmingham*

Simon originally joined GHA as a Part II Architectural Assistant in 2015. He completed his studies at Birmingham City University's School of Architecture and Design and qualified as an Architect in 2017.

## Brandon Eastwood | WSP

### *Principal Tower, London: Outrigger analysis*



During Brandon's 5 years working as a structural engineer in London, he has had the opportunity to develop his passion in building design by contributing to the ever-growing city skyline through working on projects such as 22 Bishopsgate and Principal Tower.

*We are pleased to present our guest panellists who will be joined by our Keynote Speaker Sunil Johal to discuss the Future of Cities*

### **Anthony Breach | Centre for Cities**



Anthony is an Analyst at Centre for Cities, where he works as part of the research team on housing and urban economics. Centre for Cities is a non-partisan thinktank that works to understand and improve the UK's urban economies. He has worked on reports on commercial property and city centres, productivity across cities, cities' exports, and advanced manufacturing. Anthony is currently working on projects looking at the relationship between wealth and economic geography, and new housing supply in existing suburbs.

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### **Abigaile Bromfield | Arup**

Abigaile is a qualified town planner and mediator with a mix of public and private sector experience. She currently manages the planning and economics teams for Arup Midlands and leads on key regional projects including the UK Central Hub Growth and Infrastructure Plan (HS2 Interchange station design). She was seconded to the Cabinet Office Implementation Unit for the Prime Minister advising on improving the implementation of housing, infrastructure and development related policies. Abigailes' Arup work combines practical planning experience with a strong track in stakeholder engagement.



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### **Malcolm Davidson | WSP**



Malcolm is a Structural Engineer and a Director of WSP, and leads the department of Civil and Structural Engineering out of their Birmingham office. He has 30 years of experience in delivering structural engineering, building design and analysis solutions for award winning and major projects in the retail, healthcare, rail, residential and commercial sectors. He is currently leading the teams working on two of Birmingham's major regeneration placemaking developments; Arena Central and Martineau Galleries, which is adjacent to WSP's HS2 Curzon Street Station.

### Simon Delahunty-Forrest | Birmingham City Council



Simon is the Head of City Centre and Design within the Planning and Development service area for Birmingham City Council. As a qualified Architect Simon is Birmingham City Council's lead design advisor championing design quality within the built environment. Having responsibility for 'Specific Specialist Areas' such as the City Design Team, City Centre Planning Management, City Centre Development, Enforcement and Householder Simon encourages and enables the highest standards of Place Making, Planning, Architecture, Urban Design, Arboriculture, Historic Conservation and Landscape Design across all new development in the City for the benefit of all the citizens of Birmingham. Simon is known for his ability to successfully combine Architecture, Urban Design and Planning to create holistic environments resulting in the delivery of high profiled projects such as 'Birmingham Curzon HS2 Masterplan for growth' and most recently the 'Commonwealth Games Athletes Village'. Simon is listed in the Birmingham Central University 'Sphere of Influence' the 50 top influencers within the architecture and landscape sector to graduate from the Birmingham School of Architecture.

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Discussion panel chaired by:

**Antony Oliver**

Antony works with a range of clients across the infrastructure sector to boost communication and marketing strategies and to stimulate discussion and action in the industry. He spent the last two decades working as a journalist and editor with New Civil Engineer magazine, and most recently was creator of the website Infrastructure Intelligence. He is a chartered civil engineer and Fellow of the Institution of Civil Engineers and started his career with Owen Williams and Partners and Balfour Beatty. He is a member of the Construction Leadership Council's communications and strategy groups, assists the Green Construction Board's Infrastructure Working Group and is a Trustee of the Built Environment Trust.



### Millan Martin | Vinci



Millan has over 22-year design and construction experience, mostly as Project Director. His portfolio of projects includes composite structures, stay cable bridges and most types of reinforced concrete viaducts and concrete structures. His experience has covered all phases of major projects from initial development and planning through to handover and ongoing maintenance in different countries including the UK leading the Mersey Gateway Bridge Design and Construction. As a company Engineering Director, he has been actively involved in recent Taylor Woodrow Projects, such as Victoria Station Upgrade and Tottenham Court Road, Old Oak Common Depot, Allerton and Cornwall Energy from Waste Plant, M20 junction 10A, M6 J2 to 4 and others. Millan would like to think of himself more as an engineer than a manager, albeit having the responsibility to manage extensive teams, and the mission to transform Taylor Woodrow and Vinci to its current leading engineering and digital capabilities in the UK.

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### Tristram Carfrae | Arup

Tristram Carfrae is a leading structural designer. He has been responsible for the structure of a dazzling array of award winning buildings over his 37 years with the firm, both in Australia and the UK. His particular skills relate to the integration of engineering and architecture to provide the best holistic solution. Tristram has been fortunate to work with many of the world's leading architects on projects where the structure forms a major aesthetic component.

He has an unswerving commitment to designing better buildings that consume less resource: materials, energy, time and money; yet give more pleasure. He has helped design six structures that have won Special Awards from the Institute of Structural Engineers – the world's premier structural accolade.

In 2018 he became only the fourth Briton to receive the IABSE's International Award of Merit in Structural Engineering in its 42-year history.



Keynote Session Three chaired by:

### Ed Dablin | DYSE



Ed describes himself as: structural engineer, dad and tall person. Ed worked initially for behemoth AECOM, then moderately sized Tony Gee. Having co-founded structural engineers DYSE in 2017, he has now found that he rather likes being the big fish in a small pond.

He used to exclusively design and maintain infrastructure structures, from long span bridges to minor civils, but has been branching into all that engineering has to offer, adding extra strings to his bow as he goes along. Ed is a Chartered civil engineer and is an Executive Committee Member of the British Group of the IABSE.

## Overall Conference Chair

### Ian Firth | IABSE British Group

Ian Firth is one of the world's leading bridge designers and is a well-known advocate of elegance in bridge design. He is experienced in the management and direction of bridge design and construction projects worldwide, and has also been responsible for the design, analysis and assessment of stadia and other complex structures. He has been advisor to jury panels for bridge design competitions.

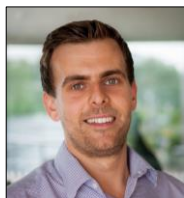
Ian joined Flint & Neill from Bristol University in 1979 and became Partner in 1990. When Flint & Neill joined the COWI Group in 2008, Ian became Chief Operating Officer. Flint & Neill rebranded as COWI in January 2017. Ian has been an independent structural engineering consultant since January 2018, and is visiting Professor in conceptual and creative structural design at the University of Warwick.

He was the 2017 President of The Institution of Structural Engineers, is Chairman of the British Group of the International Association for Bridge and Structural Engineering and Trustee of US-based bridge-building charity Bridges to Prosperity.





### Paul Mills | Arup



Paul graduated with an MEng in Civil Engineering from the University of Warwick in 2013. As a student he carried out a Year in Industry with the Atkins Water team, was a site engineer for the civil works on a pico-hydroelectricity project in Uganda and completed a summer placement with Atkins Rail, where he developed an interest in bridge and structural design.

After graduation, Paul joined the Bridges and Civil Structures team in Arup, Solihull and has worked on a variety of different projects from scheme design through to detailed design stages of both bridges and civil structures for a variety of different clients. In 2014, he had the amazing opportunity to work as part of an Arup team and Bridges to Prosperity to design and build a footbridge in rural Panama. He then went on to work as part of the Employer's Delivery Team on the Queensferry Crossing cable stay bridge construction site in Edinburgh for 18 months monitoring the construction of the post-tensioned precast deck segments.

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### Mandy van Zaanen | WSP

Mandy graduated with a BSc in Architecture and Structural Engineering from the Amsterdam University of Applied Sciences in 2016. In an internship during her degree she worked on the transformation of a floating concrete prison into a hotel. She also took a term at the University of Birmingham after which she completed her dissertation on the Exploded Buncefield Oil Depot and took a placement with WSP. In 2017 she graduated from her MSc in Structural Engineering at the University of Birmingham. During her dissertation she studied the use of design spectra, typically used in seismic design, in wind loading on tall structures. Once graduated, Mandy joined WSP's Building Structures team in Birmingham. Since then, she has worked on a variety of projects including a new retail park which she has seen from concept to tender stage. Furthermore, Mandy is part of the team designing a 42-storey residential tower in Birmingham, which will be its tallest when built. In its design Mandy has played a significant role in the development of the building's stability system and the design of both the sub- and superstructure.



## Kirstin Walling | Arup



Kirstin graduated from University of Birmingham in 2017 with an MEng in Civil Engineering. During her degree she carried out several summer placements with the bridges and highways teams at Arup Campus. She developed an interest in structures and carried out her dissertation looking at the effect of wind at the base of tall buildings.

Since then she has been working in the Bridges and Civil Structures team at Arup. She has worked on a variety of projects in the year and a half she has been working at Arup including smaller projects detailed design and larger infrastructure projects like HS2.

## Stuart Nash | Arup

Stuart graduated with an MEng in Civil Engineering from the University of Nottingham in 2016. Whilst at university he completed summer placements in both the transport planning and hydraulic structures departments of Royal Haskoning DHV, as well as a structural engineering placement at Arup. After graduating, Stuart joined the Building Midlands team in Nottingham as a structural engineer.



Over the last 2 years Stuart has worked through all design phases to deliver award winning education and industrial facilities in the UK and Russia. Stuart has a passion for STEM activities, and particularly in promoting diversity in the industry. He recently lead a unique concept design workshop in Nottingham for students to develop the concept for a temporary pavilion to be constructed in Nottingham in 2019. Stuart is also an active member of Engineers For Overseas Development in the West Midlands, who are currently designing a maize mill in rural Uganda, to be constructed this year.

## Meet the Organising Committee

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### Harpreet Sidhu | WSP



Harpreet is currently a Structural Engineer within the Property and Buildings Business Unit at WSP. He is responsible for structural engineering calculations and designs on a variety of projects; from national high-rise towers to international snow-park structures.

His previous project background includes site management and engineering posts within the water industry for a principle contractor and various operative posts in the construction industry via his voluntary internship.

Harpreet is passionate about new technologies and materials and has previously designed and conducted pioneering research on the structural connection behaviour of Glass Fibre Reinforced Polymer (GFRP) hollow profiles.

## Closing Remarks and Thanks

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We hope you have enjoyed today's conference as much as we have enjoyed putting this together. You will have heard from some really inspirational speakers, taken part in our interactive workshops, created some new networks with others from the industry and will hopefully be going away today inspired to be the leaders of the future.

We would like to welcome you to our drinks reception, which will be held after the day conference and is for all delegates. For those that are joining us for dinner, we will move to the dining room at 7pm.

A big thanks go to all those who have made today possible. To the organising committee for their amazing work over the past 12 months, to the IABSE Exec for their full support of this event, to our event Sponsors (without their support today would not be possible), to our awesome speakers, chairs, panellists and workshop leaders for volunteering their time, to the IET Austin Court for providing this incredible venue and finally to you for attending and taking part in the Future of Design Birmingham 2019 event.

We hope you go away feeling inspired and have a safe journey home.

*Paul, Mandy, Stuart, Kirstin and Harpreet*

**Future of Design Birmingham 2019** Organising Committee



**FUTURE OF DESIGN  
LONDON  
13.09.2019**

Hanif Kara - AKT II  
Inger Kroon - COWI  
Lorenz Haspel - SBP

Interactive Workshops:  
UN Sustainable  
Development Goals,  
Hyperloop,  
Sketching

**ARUP  
COWI**

[iabse.org.uk/fodlondon19](http://iabse.org.uk/fodlondon19)

*Image: Floating cable-stayed bridge concept, Norwegian Fjords  
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