

2ND ANNUAL  
CONFERENCE  
NEW YORK CITY

# FUTURE *of* DESIGN

intersections:  
insights and ideas  
from creative  
collaborations



## Future of Design 2018

### NEW YORK CITY

Future of Design in New York City is an annual conference aimed to energize the community of structural engineers, architects, artists, fabricators, and builders by exploring new ways of designing, building, and collaborating. The conference is interactive, hands-on, experimental, forward-looking and broad in its reach with an aim to maximize the exchange of innovative and provocative ideas between participants.

The second Future of Design Conference in NYC will explore intersections between our disciplines and hear about collaborations between engineers, architects, artists, fabricators, developers, entrepreneurs, policy makers and more.

## IABSE

The International Association for Bridge and Structural Engineering (IABSE) is a global association comprising members in 100 countries and counting 51 National Groups worldwide. It was founded in 1929 and has its seat in Zurich, Switzerland.

IABSE engages all aspects of structural engineering: the science and art of planning, design, construction, operation, monitoring and inspection, maintenance, rehabilitation and preservation, demolition and dismantling of structures, taking into consideration technical, economic, environmental, aesthetic and social aspects of design. If you are not yet a member, please consider joining. Members will enjoy a discount on all future IABSE events, access to the wealth of information that is the library of current and past publications and a copy of the quarterly journal of the SEI (Structural Engineering International), the leading international journal of structural engineering.

## Schedule

Time	Title	Topic	Speaker	Affiliation
8:30 - 9:00	Registration			
9:00 - 9:30	Breakfast	Sponsored by Arup		
9:30 - 10:00	Watch	Thoughts, impressions and inspirations from designers all around the world on the topic of collaboration Sponsored by GMS		
10:00 - 10:15	Welcome		Lee Franck Powell Draper	Guy Nordenson and Associates schlaich bergermann partner
10:15 - 12:15	Listen	Keynote talks by accomplished and emerging designers, sharing collaborative case studies	Knut Stockhusen Lorena del Río Thorsten Helbig Chuck Hoberman Alessandro Beghini Janet Echelman	schlaich bergermann partner RICA* Studio Knippers Helbig Hoberman Associates Skidmore, Owings & Merrill Studio Echelman
12:15 - 13:30	Lunch	Sponsored by Hardesty & Hanover		
13:30 - 14:30	Learn	Panel discussion on "Collaboration through Competition," where a number of recent design competition winners talk about strategies for collaboration	Tom Carruthers Ed Clark Josh de Sousa Nancy Hou Sinéad Mac Namara Martin Miller	Dream the Combine Arup Hou de Sousa Hou de Sousa Syracuse University AntiStatics
14:30 - 15:00	Coffee Break	Sponsored by Princeton University		
15:00 - 17:30	Do	Workshop where participants will get to apply what they've seen, heard, and learned about during the day Sponsored by Maurer	Edward Segal	Hofstra University
17:30 - 19:30	Reception	Sponsored by Silman		

# Speakers and Panelists



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## Knut Stockhusen schlaich bergermann partner

Knut received his engineering degree in 1999 from the University of Stuttgart and started to work for sbp in 2000. After the successful delivery of large scale sports projects as a project manager and team leader he joined the management of sbp and founded sbp Latin America in 2008. Since 2015 he is a partner and managing director of sbp. He manages diverse projects worldwide and supports the projects with his hands-on approach - from the project development phase through to detailed project design and delivery. Together with his team he is amongst leading experts in the field of lightweight structures with a particular focus on sports and multipurpose venues, stadium design, long-span roof structures, movable structures and retractable roofs. Knut lectures all around the world and was presented with a great number of awards both in Europe and internationally.



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## Thorsten Helbig Knippers Helbig

Thorsten Helbig is Co-founder and Managing Partner at Knippers Helbig with 25 years experience in the field of structural engineering. In 2001 he founded Knippers Helbig together with Jan Knippers. In 2009 the firm added a presence in New York City where Thorsten Helbig is the managing partner. His early work featured collaborative and interdisciplinary approaches to design, upholding the distinctive Stuttgart engineering culture developed by pioneers in lightweight and freeform structures and optimization. He has since gained vast experience in collaboration with renowned architects such as Renzo Piano with the P&C Flagship Store in Cologne (2006), the Academy Museum of Motion Pictures (ongoing), the New Courthouse Toronto (ongoing), Massimiliano Fuksas with the Shenzhen International Airport Terminal 3 (2013), Elizabeth Diller, Steven Holl and others for projects and competitions.



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## Alessandro Beghini Skidmore, Owings & Merrill LLP

Alessandro Beghini is currently an Associate Director and Senior project engineer at Skidmore, Owings & Merrill LLP, where he has been working since 2005. Recent projects that he has been involved with include the new United States Courthouse in Los Angeles, the Dream catcher sculpture in West Hollywood (in collaboration with Janet Echelman) and several large scale mixed use high-rise buildings, like the CITIC development in Shenzhen and the CTF Tianjin in Tianjin. Within SOM, Alessandro is also responsible for conducting research in the field of optimal structural topologies and development of innovative methodologies for structural analysis. Alessandro received his B.S./M.S. from the Politecnico di Milano, Italy, his M.Eng. from the University of Tokyo, Japan, and his PhD in Theoretical and Applied Mechanics from Northwestern University.



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## Lorena del Río RICA\* STUDIO

Lorena del Río is co-founder of RICA\* STUDIO based in New York and Madrid, an architectural practice and a platform for design investigation operating across many scales, reflecting on the redefinition of flexibility and aiming to improve life condition through architecture. Del Río's academic research addresses an interdisciplinary approach to design where architecture, art and material research meet to investigate architecture's psychological affect and its capacity to promote emotional well-being. Del Río is developing her PhD at Polytechnic University of Madrid, ET-SAM. Her professional work has been recognized with several awards and has been widely published in international journals. She was part of the design team of the Spanish Pavilion for the 2016 Venice Architecture Biennale. Del Río taught at Cornell University and California College of the Arts where she was the co-director of the BuildLab.



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## Chuck Hoberman Hoberman Associates

Art, architecture, and engineering fuse seamlessly in the work of inventor Chuck Hoberman, internationally known for "transformable structures." His products, patents, and structures demonstrate how objects can be foldable, retractable, or shape-shifting. Hoberman is the founder of Hoberman Associates, a multidisciplinary practice that utilizes transformable principles for dynamic architecture, transformable stage sets, consumer products, and deployable structures. His work includes the transforming video screen for the U2 360° world tour, the Hoberman Arch in Salt Lake City, the Medals Plaza for the 2002 Winter Olympic Games, a retractable dome for the World's Fair in Hanover, and 'Emergent Surface' shown at The MoMA in New York. Hoberman is the Pierce Anderson Lecturer at the Harvard GSD and an Associate faculty member at the Wyss Institute for Biologically Inspired Engineering.



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## Janet Echelman Studio Echelman

Janet Echelman is an artist who defies categorization. She creates billowing sculpture at the scale of buildings, choreographed by wind and light. Using unlikely materials from netting to atomized water particles, Echelman combines ancient craft with cutting-edge engineering and material science to create focal points for urban life. Named an Architectural Digest Innovator, her TED talk "Taking Imagination Seriously" has been viewed by millions. Her art ranked #1 on Oprah's "List of 50 Things That Make You Say Wow!" and received the Smithsonian American Ingenuity Award. After graduating from Harvard, she applied to seven art schools, and was rejected by all of them. So, she decided to create a life as an artist herself. For five years, she painted in a Balinese village while studying craft traditions. She found her full voice as an artist when forced to embrace an unorthodox new art material.



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### Tom Carruthers Dream the Combine

Dream The Combine is the creative practice of architects and artists Tom Carruthers and Jennifer Newsom, based in Minneapolis, MN. They are winners of the 2018 MoMA PS1 Young Architects Program for their installation *Hide & Seek*, opening in Long Island City in June. Working with engineer Clayton Binkley, Tom & Jennifer investigate the conceptual overlaps in art, architecture, and cultural theory through structures that disrupt assumed dichotomies and manipulate the boundary between real and illusory space. They are intrigued by forgotten places, sites of transportation, unpredictable audiences, and spaces on the margins. Tom received his Bachelor of Arts in drawing and sculpture from Brown University and his Master of Architecture from Yale University. Tom is also co-owner of Jacobsson Carruthers, a metal fabrication shop in NE Minneapolis.



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### Josh de Sousa Hou de Sousa

Josh is a Principal at Hou de Sousa, a New York based design studio with a diverse body of work spanning between commercial and residential projects, public spaces, and art installations. The office's recent awards and honors include winning entries for the Folly/Function competition as well as the Re-ball! International Design competition, and a 2nd Prize proposal for the The National Museum of World Writing in Songdo, South Korea. Prior to co-founding Hou de Sousa, Josh held positions at Skidmore Owings & Merrill, Joel Sanders Architect, and Office for Metropolitan Architecture. Currently a professor at Parsons School of Design, Josh has also taught at NJIT, and holds a B.Arch from Cornell and a M.Arch from Harvard.



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### Sinéad Mac Namara Syracuse University

Sinéad Mac Namara is an Associate Professor at Syracuse University joint appointed to the School of Architecture and the College of Engineering. Her research focuses on collaboration among architects and engineers; innovation and creativity in structural engineering education; structural art; and the structural performance of shell structures. Her teaching has been recognized by awards from Syracuse University, the American Society for Engineering Education, and Princeton University. Her book, *Collaborations in Architecture and Engineering* (with Clare Olsen, co-author), was published by Routledge in 2014. As a structural engineer, she collaborates with colleagues and students on design and design build projects, and this work has been recognized by design awards from the American Institute of Architects, the American Collegiate Schools of Architecture, and the Mayor of New York City.



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### Edward Segal Hofstra University

Ted is an Assistant Professor in the Department of Engineering at Hofstra University and he leads the Segal Structures Group. The group engages in material explorations, form generation, and historic analysis related to a range of engineering research, design, and teaching activities. Previously, Ted worked at SGH in New York City, where he designed glass and metal enclosures.



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### Ed Clark Arup

Ed Clark is a Director of Arup in London. Since joining Arup in 1992 Ed has designed across a wide range of different project typologies from private houses to large mixed-use developments. Key projects include four of the Serpentine Gallery summer pavilions and the recently completed Exhibition Road Quarter at the V&A Museum in London. Ed currently chairs the Structural Futures Committee at the Institution of Structural Engineers and is involved in research relating to the practical use of computational design optimization and the application of new structural materials. He believes in the concept of 'total design' and the benefits that can be generated through a holistic approach to collaboration. Ed is recognised as an accomplished designer through his contribution to complex projects and in 2011 was awarded the IABSE Milne Medal for excellence in the field of structural design.



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### Nancy Hou Hou de Sousa

Originally from Shanghai, Nancy grew up in Quito, Ecuador and went on to receive a B.Arch from Cornell and a M. Arch from the Harvard GSD. Prior to co-founding the architecture and design office Hou de Sousa, Nancy worked at Kohn Pedersen Fox and Slade Architecture, as well as Stephanie Goto, where she designed a number of Michelin Star awarded restaurants. In addition to her position as Principal at Hou de Sousa, Nancy also serves as the Creative Director of HAAUS (Harvard Alumni Architectural and Urban Society) and teaches at Parsons School of Design.



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### Martin Miller AntiStatics

Martin Miller is the creative design director and founding partner at AntiStatics Architecture and visiting professor at Cornell University. Martin Miller received a BFA in Sculpture from the University of Colorado with a minor in Mathematics, and a Masters of Architecture from the University of Pennsylvania. His expertise lies in parametric modeling, complex form rationalization and digital fabrication, especially in robotics and interactive design; he teaches a course based on integrative building façades and social space. Before founding AntiStatics with Mo Zheng, Martin was the lead designer and project manager for Jenny Sabin Studio. His work includes Nike Flyknit pavilion in New York and Berlin with Jenny Sabin, Plaited Tectonics which received a 2nd place in Pier 9 "the future of making things" competition, and Hiten show theater upgrade at Lijiang which is currently in performance.

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# Organizing Committee

Lee Franck, Guy Nordenson and Associates

Powell Draper, schlaich bergermann partner

Rebecca Buntrock, Silman

Tracy Huynh, Knippers Helbig

Jennifer Anna Pazdon, Cast Connex

Jasmin Sadegh, Guy Nordenson and Associates

Patti Harburg-Petrich, Buro Happold

Giulia Tomasello, Universita degli Studi di Roma Tre

Hubert Chang, Knippers Helbig

Victor Charpentier, Princeton University

Lisa Ramsburg, schlaich bergermann partner



Lee Franck

Lee is a structural engineer working for Guy Nordenson and Associates in New York. She has previously worked for Arup in London as a building and bridge engineer. She works closely with architects on projects such as museums, sculptures and footbridges. She enjoys being a visiting lecturer and tutor to engineering and architecture students at the AA, RCA and Bartlett in London and Princeton and Columbia in the US. She is an active member of IABSE and started the Future of Design in London in 2012.



Powell Draper

Powell is a structural engineer and Director of Operations for the New York office of schlaich bergermann and partner. He has worked on advanced structural engineering projects, including gridshells, complex bridges, and glass structures. His PhD dissertation in structural engineering from Princeton University provided the basis for a chapter he coauthored in *Felix Candela: Engineer, Builder, Structural Artist*. He is an Adjunct Associate Professor in the Irwin S. Chanin School of Architecture at the Cooper Union.



Rebecca Buntrock

Rebecca Buntrock, PE, LEED AP BD+C is an Associate at Silman, with a focus on existing buildings and historic preservation. She holds a Bachelor of Engineering from McGill University and a Master of Engineering from MIT. She was the sixth Robert Silman Fellow for Preservation Engineering at the National Trust for Historic Preservation. She is currently the vice-president of the Association for Preservation Technology, Northeast Chapter and is an active member of the IABSE US Group.



Tracy Huynh

Tracy received a Bachelor of Science in Civil Engineering at Rice University (Houston, TX) and a Master of Science in Structural Engineering at Princeton University. She joined Knippers Helbig in 2016 where she has worked on a variety of projects and competitions involving complex geometries and innovative technologies with a creative and passionate team. She makes an effort to stay involved in the design community by creating graphics for shirts and posters for various organizations.



Jennifer Anna Pazdon

Jennifer Anna Pazdon, P.E. is New York City Office Leader for Cast Connex. She earned her Masters in Structures from Princeton University where she studied aesthetics, efficiency, and economy in structural design. Prior to joining Cast Connex, she practiced as a full-building structural engineering consultant, and has been technical consultant to humanitarian agencies working in developing nations. Jennifer is Chair of the SEAoNY Diversity Committee and Voting Member of the NCSEA Structural Engineering Engagement and Equity Committee.



Jasmin Sadegh

Jasmin Sadegh is a project engineer at Guy Nordenson and Associates since February 2017. She graduated from the University of Stuttgart with a Masters of Science in Integrative Technologies and Architectural Design Research and holds a Bachelor of Science in Civil Engineering from Tufts University. She has worked at Teuffel Engineering Consultants and interned with Knippers Helbig GmbH. Her current projects include the Frick Collection Facility Expansion and Renovation and the Whitney Museum of American Art Sculpture Installation.



Patti Harburg-Petrich

Patti Harburg-Petrich, SE, LEED AP BD+C is an Associate Principal at Buro Happold Engineering. She has a particular interest in historic retrofit projects and sustainable design and has a passion for community-centric work. Patti is a licensed Structural Engineer in the state of California, LEED Accredited Professional, Building Design + Construction, and certified Disaster Service Worker for the State of California Safety Assessment Program. She serves on the board of the ACE Mentor Program and volunteers for the Spark Mentor Program.



Giulia Tomasello

Giulia is a PhD student in Civil Engineering at Roma Tre University, Italy. Before starting her PhD, she spent more than three years in London working in the structural design team at the engineering firm Pell Frischmann. Her research is focused on shell structures and a new method to assess the funicularity of form found shapes. In January 2018 she joined the Form Finding Lab as a VSRC for a semester to continue to investigate the influence of the shape on the behavior of shells, focusing on their dynamic performance and design in seismic areas.



Hubert Chang

Hubert is a Structural Designer at the New York branch of Knippers Helbig. He holds Bachelor of Science and Master of Science degrees in Civil Engineering from Columbia University. He focuses on cultural projects and long-span structures where unusual expressions of architectural programs drive the need for integrated structural solutions.



Victor Charpentier

Victor is a PhD student in the Department of Civil and Environmental Engineering at Princeton University. His thesis work combines reducing energy consumption of buildings and elastic deformation of shell structures. In particular he is designing shading systems for active façade aiming at optimizing both energy consumption and user comfort. A specialist of shape shifting structures, he got a MSc at Ecole Nationale des Travaux Publics de l'Etat in Lyon, France.



Lisa Ramsburg

Lisa Ramsburg is a designer at schlaich bergermann partner in New York City, where she works at the intersection of architecture and engineering. She has worked on projects with a variety of scales. As project manager and design-build team member, Lisa helped to realize the 2017 City of Dreams Pavilion. Lisa graduated from University of Maryland School of Architecture, Planning, and Preservation with a Bachelor of Science in Architecture and a minor in Sustainability Studies.

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