SCHEDULE

WEDNESDAY, SEPTEMBER 12 | OPENING KEYNOTE
17:00–18:00 Registration
18:00–19:00 Keynote: Chris Luebkeman
19:00–20:00 Panel Discussion
20:00 Reception

THURSDAY, SEPTEMBER 13 | CONFERENCE DAY 1
8:00–9:00 Registration
9:00–9:15 Welcome
9:15–9:45 Keynote: Mette Ramsgaard-Thomsen
9:45–10:15 Coffee
10:15–12:00 Session: Material and Processes
   Joshua Bard
   Zach Cohen
   Ryan Chee
   Maria Yablonina
   Hyeonji Claire Im
   Stylianos Dritsas
   Wes McGee and Tsz Yan Ng
12:00–13:30 Lunch
13:30–15:00 Session: Construction and Structure
   Phil Ayres and Johannes Greisen
   Hiroki Takabayashi
   Tristan Gobin and Romain Mesnil
   Christopher Battaglia and Sasa Zivkovic
   Hua Chai
   Petrus Aejmelaeus-Lindström
15:00–15:30 Coffee
15:30–17:15 Session: Application and Practice
   Luka Piškorec, David Jenny, and Stefana Parascho
   Christian Lange and Dann Holohan
   Martín Alvarez and Erik Martinez
   Andreas Thoma and Arash Adel
   Lei Yu and Dan Luo
   Nadja Gaudillière
   Asbjørn Søndergaard
17:15–17:45 Break
17:45–18:15 Keynote: Philip Yuan
18:15–19:00 Robots in Architecture Awards
19:00 Dinner and Workshop Exhibition in the RFL

FRIDAY, SEPTEMBER 14 | CONFERENCE DAY 2
8:00–9:00 Registration
9:00–9:15 Opening Remarks: Day 2
9:15–9:45 Keynote: Jonas Buchli
9:45–10:15 Coffee
10:15–12:00 Session: Design and Simulation
   Joshua Bard
   Kaicong Wu
   Sven Stumm
   Augusto Gandia
   Giovanni Betti
   Tim Schork
   Shajay Bhooshan
12:00–13:30 Lunch
13:30–14:15 Conference Awards
14:15–15:15 Panel Discussion
15:15–15:45 Coffee
15:45–17:45 Session: Control and Fabrication
   Emmanuel Vercruysse, Zachary Mollica, and Pradeep Devadass
   Giulio Brugnaro
   Hyunchul Kwon
   Sina Mostafavi and Benjamin Kemper
   Dylan Wood and Miguel Aflalo
   Yijiang Huang
   Markus Kayser
   Alexandre Dubor
17:45–18:00 Closing remarks
18:00–19:00 Transportation
19:00 Closing Party at Empa NEST, Dübendorf

SATURDAY, SEPTEMBER 15 | EXCURSIONS
9:30–13:30 Hello Robot Exhibition (morning round)
10:00–11:30 Zurich Old Town Tour
10:00–14:00 Zurich West and MuDA Tour
14:00–17:30 Hello Robot Exhibition (afternoon round)
KEYNOTES AND PANELLISTS
Auditorium HPH G1

KEYNOTES

Chris Luebkeman
Arup Fellow and Global Director for Arup Foresight
Wednesday, 12 | 18:00–19:00 | HPH G1

Mette Ramsgaard Thomsen
Prof. of Architecture and Digital Tech. and Head of CITA at KADK
Thursday, 13 | 9:15–9:45 | HPH G1

Philip F. Yuan
Professor at Tongji University and Founder of Archi-Union
Thursday, 13 | 17:45–18:15 | HPH G1

Jonas Buchli
Professor of Agile and Dexterous Robotics at ETH Zurich
Friday, 14 | 9:15–9:45 | HPH G1

PANEL DISCUSSIONS

Wednesday, 12 | 19:00–20:00 | HPH G1

MODERATOR
Judit Solt, Editor-in-Chief, TEC 21 Magazine

PANELLISTS

Margarita Chli, Prof., Vision for Robotics Lab, ETH Zurich
Fabio Gramazio, Prof. of Arch. and Digital Fabrication, ETH Zurich
Gudela Grote, Prof. of Work and Org. Psychology, ETH Zurich
Hanif Kara, Prof. of Practice of Architectural Technology, Harvard
Shiho Kawashima, Assoc. Prof. in Civil Eng., Columbia Univ.
Chris Luebkeman, Arup Fellow and Global Dir. for Arup Foresight

Friday, 14 | 14:15–15:15 | HPH G1

MODERATORS
Mahesh Daas, Dean and Prof. of Arch., Univ. of Kansas
Andrew John Wit, Prof. of Digital Practice, Temple Univ.

PANELLISTS

Sigrid Brell-Cokcan, Pres. of the Assoc. for Robots in Arch.
Kendra Byrne, Head of Product, Figure
Matthias Kohler, Prof. of Arch. and Digital Fabrication, ETH Zurich
Achim Menges, Prof./Dir., ICD, Univ. of Stuttgart
Sina Mostafavi, Manager, Robotic Building Lab, TU Delft

CONFERENCE DAY 1
Thursday, September 13 | Auditorium HPH G1

MATERIAL AND PROCESSES

10:15–12:00

SESSION CHAIR
Iain Maxwell, supermanoeuvre

Thermally Informed Robotic Topologies: Profile-3D-Printing for the Robotic Construction of Concrete Panels, Thermally Tuned Through High Resolution Surface Geometry
Joshua Bard, Dana Cupkova, Newell Washburn, and Garth Zeglin

Hold Up: Machine Delay in Architectural Design
Zach Cohen

Concrete Fabrication by Digitally Controlled Injection
Ryan Wei Shen Chee, Wei Lin Tan, Wei Hern Goh, Felix Amtsberg, and Stylianos Dritsas

Towards the Development of Fabrication Machine Species for Filament Materials
Maria Yablonina and Achim Menges

Spatial Print Trajectory: Controlling Material Behavior with Print Speed, Feed Rate, and Complex Print Path
Sulaiman Alothman, Hyeonji Claire Im, Francisco Jung, and Martin Bechthold

An Additive and Subtractive Process for Manufacturing with Natural Composites
Stylianos Dritsas, Yadunund Vijay, Marina Dimopoulou, Naresh Sanadiya, and Javier G. Fernandez

Hard + Soft: Robotic Needle Felting for Nonwoven Textiles
Wes McGee, Tsz Yan Ng, and Asa Peller
CONSTRUCTION AND STRUCTURE

13:30—15:00

SESSION CHAIR
Matthias Rippmann, ETH Zurich

SCRIM—Sparse Concrete Reinforcement in Meshworks
Phil Ayres, Wilson Ricardo Leal da Silva, Paul Nicholas, Thomas Juul Andersen, and Johannes Portielje Rauff Greisen

Versatile Robotic Wood Processing Based on Analysis of Parts
Processing of Japanese Traditional Wooden Buildings
Hiroki Takabayashi, Keita Kado, and Gakuhito Hirasawa

Form Finding of Nexorades Using the Translations Method
Tristan Gobin, Romain Mesnil, Cyril Douthe, Pierre Margerit, Nicolas Ducoulombier, Leo Demont, Hocine Delmi, and Jean-François Caron

Sub-Additive 3D Printing of Optimized Double Curved Concrete Lattice Structures
Christopher A. Battaglia, Martin Fields Miller, and Sasa Zivkovic

Investigations on Potentials of Robotic Band-Saw Cutting in Complex Wood Structures
Hua Chai and Philip F. Yuan

Direct Deposition of Jammed Architectural Structures
Petrus Aejmelaeus-Lindström, Gergana Rusenova, Ammar Mirjan, Fabio Gramazio, and Matthias Kohler

APPLICATION AND PRACTICE

15:30—17:15

SESSION CHAIR
Martha Tsikgari, Foster + Partners

The Brick Labyrinth
Luka Piškorec, David Jenny, Stefana Parascho, Hannes Mayer, Fabio Gramazio, and Matthias Kohler

Ceramic Constellation | Robotically Printed Brick Specials
Christian J. Lange, Donn Holohan, and Holger Kehne

Tailored Structures, Robotic Sewing of Wooden Shells
Martin E. Alvarez, Erik E. Martínez-Parachini, Ehsan Baharlou, Oliver David Krieg, Tobias Schwinn, Lauren Vasey, Chai Hua, Achim Menges, and Philip F. Yuan

Robotic Fabrication of Bespoke Timber Frame Modules
Andreas Thoma, Arash Adel, Matthias Helmreich, Thomas Wehrle, Fabio Gramazio, and Matthias Kohler

Dynamic Robotic Slip-Form Casting and Eco-Friendly Building Façade Design
Lei Yu, Dan Luo, and Weiguo Xu

Large-Scale Additive Manufacturing of Ultra-High-Performance Concrete of Integrated Formwork for Truss-Shaped Pillars
Nadja Gaudillière, Romain Duballet, Charles Bouyssou, Alban Mallet, Philippe Roux, Mahriz Zakeri, and Justin Dirrenberger

Realization of Topology Optimized Concrete Structures Using Robotic Abrasive Wire-Cutting of Expanded Polystyrene Formwork
Asbjørn Søndergaard, Jelle Feringa, Florin Stan, and Dana Maier
CONFERENCE DAY 2
Friday, September 14 | Auditorium HPH G1

DESIGN AND SIMULATION

10:15—12:00

Session chair
Dagmar Reinhardt, The University of Sydney

Image Classification for Robotic Plastering with Convolutional Neural Network
Joshua Bard, Ardavan Bidgoli, and Wei Wei Chi

Designing Natural Wood Log Structures with Stochastic Assembly and Deep Learning
Kaicong Wu and Axel Kilian

Haptic Programming
Sven Stumm and Sigrid Brell-Cokcan

Towards Automatic Path Planning for Robotically Assembled Spatial Structures
Augusto Gandia, Stefana Parascho, Romana Rust, Gonzalo Casas, Fabio Gramazio, and Matthias Kohler

Communication Landscapes
Giovanni Betti, Saqib Aziz, Andrea Rossi, and Oliver Tessmann

Towards Visual Feedback Loops for Robot-Controlled Additive Manufacturing
Sheila Sutjipto, Daniel Tish, Gavin Paul, Teresa Vidal-Calleja, and Tim Schork

Function Representation for Robotic 3D-Printed Concrete
Shajay Bhooshan, Johannes Ladinig, Tom Van Mele, and Philippe Block

CONTROL AND FABRICATION

15:45—17:45

Session chair
Ammar Mirjan, ETH Zurich

Altered Behaviour: The Performative Nature of Manufacture Chainsaw Choreographies + Bandsaw Manoeuvres
Emmanuel Vercruysse, Zachary Mollica, and Pradeep Devadass

Adaptive Robotic Carving
Giulio Brugnaro and Sean Hanna

Digital Composites: Robotic 3D-Printing of Continuous Carbon Fiber-Reinforced Plastics for Functionally-Graded Building Components
Hyunchul Kwon, Martin Eichenhofer, Thodoris Kyttas, and Benjamin Dillenburger

Multimode Robotic Materialization
Sina Mostafavi, Benjamin N. Kemper, and Daniel L. Fischer

Cyber Physical Macro Material as a UAV [re]Configurable
Dylan Wood, Maria Yablonina, Miguel Afialo, Jingcheng Chen, Behrooz Tahanzadeh, and Achim Menges

Robotic Extrusion of Architectural Structures with Nonstandard Topology
Yijiang Huang, Josephine Carstensen, Lavender Tessmer, and Caitlin Mueller

FIBERBOTS: Design and Digital Fabrication of Tubular Structures Using Robot Swarms
Markus Kayser, Levi Cai, Christoph Bader, Sara Falcone, Nassia Inglessis, Barrak Darweesh, João Costa, and Neri Oxman

On-Site Robotics for Sustainable Construction
Alexandre Dubor, Jean-Baptiste Izard, Edouard Cabay, Aldo Sollazzo, Areti Markopoulou, and Mariola Rodriguez
INTERNET ACCESS ON CAMPUS
Network: public or public-5
Username: conference_guest
Password: Robarch2018

PUBLIC TRANSPORT
ZURICH AIRPORT–ETH HÖNGGERBERG
Take S2, S16 or S24 to 'Oerlikon', then walk to Bahnhof Oerlikon Nord bus stop (2 min.) and take bus 80 to 'ETH Hönggerberg' (direction 'Triemlispital').

ZURICH MAIN STATION–ETH HÖNGGERBERG
Take tram 11 from 'Bahnhofquai' tram stop to 'Bucheggplatz' (direction 'Auzelg') and change to bus 69 which takes you to 'ETH Hönggerberg'. Alternatively you can take a train to 'Oerlikon', then walk to 'Oerlikon Nord' bus stop (2 min.) and take bus 80 to 'ETH Hönggerberg' (direction 'Triemlispital').

PARKING
When arriving at ETH Hönggerberg by car, use the P2 garage.

RECOMMENDED VENUES TO GO OUT IN ZURICH
AM DAMM          FRAU GEROLDS GARTEN
Hönggerstrasse 3  Geroldstrasse 23

LES HALLES        STAZIONE PARADISO
Pfingstweidstrasse 9  Wasserwerkstrasse 89a

KOSMOS           RIMINI BAR
Lagerstrasse 104  Badweg 10