

# AAG 2023 STUTTGART

# ADVANCES IN ARCHITECTURAL GEOMETRY

## CONFERENCE PROGRAM

### FRIDAY OCTOBER 6, 2023

- 08:00 - 08:45 Check-In  
08:45 - 09:00 Welcome  
**09:00 - 09:30 KEYNOTE I – Sigrid Adriaenssens**  
09:30 - 10:40 **PAPER SESSION I**  
Andrei Nejur: Structurally Aware Fabrication for Large-Scale Curved Architectural Skins  
Lorenzo Santelli: A Generative Approach Towards the Design of a Spherical Structural Envelope  
Lawson Spencer: The Finite Element Method (FEM) of the Unlog Tower  
Dylan Wood: HYGROSHHELL – In Situ Self-Shaping of Curved Timber Shells
- 10:40 - 11:10 Coffee Break  
11:10 - 12:20 **PAPER SESSION II**  
Mohammad Mansouri / Aly Abdelmagid: Corresponding Principal and Asymptotic Patches for Negatively-Curved Gridshell Designs  
Moritz Niebler: Bent-on-Site Flat-Pack Delivery of a Timber Shell  
Romain Mesnil: Design and Construction of a Pseudo-Geodesic Gridshell  
Eike Schling: Asymptotic Geodesic Hybrid Timber Gridshell
- 12:20 - 12:50 **KEYNOTE II – Wolf Mangelsdorf**  
12:50 - 14:00 Lunch Break  
14:00 - 14:30 **KEYNOTE III – Presentation of the livMatS Biomimetic Shell**  
14:30 - 15:25 **PAPER SESSION III**  
Daniel Chauhan: Daisy: A Data-Driven Multi-Objective Design Tool  
Daria Dordina & Cyrill Milkau: Point Cloud to True-to-Deformation Free-Form NURBS  
Keyan Rahimzadeh: Beyond the Hypar: Predicting Buckled Shapes in Bent Glass with Machine Learning
- 15:25 - 16:20 **PAPER SESSION IV**  
Samim Mehdizadeh: Roll-Locks  
Aly Abdelmagid: Design Model for Block-Based Structures from Triply Orthogonal Systems of Surfaces  
Tobias Schwinn: Integrative Agent-Based Design Modelling for Segmented Timber Shells
- 16:20 - 17:00 Coffee Break  
17:00 - 18:00 **ITECH SESSION**  
**18:00 - 18:30 KEYNOTE IV – Janet Echelman**  
18:30 - 18:40 Conclusion Day One  
18:40 - 21:00 Get-Together

### SATURDAY OCTOBER 7, 2023

- 08:55 - 09:00 Welcome  
**09:00 - 09:30 KEYNOTE V – Mally Wright Steenson**  
09:30 - 10:40 **PAPER SESSION V**  
Ayoub Lharchi: A Design Modeling Framework for Multi Material Biopolymer 3D Printing  
Seiichi Suzuki: BamX: Rethinking Deployability in Architecture Through Weaving  
Seri Nishimoto: Transformable Surface Mechanisms by Assembly of Geodesic Grid Mechanisms  
Christoph Schlopschnat: Co-Design of Fibrous Walls for Multistory Buildings
- 10:40 - 11:10 Coffee Break  
11:10 - 12:05 **PAPER SESSION VI**  
Shermin Sherkat: Automated Task Planning for Prefabrication Using AI Planning  
Jingwen Wang / Wenjun Liu: Multi-Robotic Assembly of Discrete Shell Structures  
Mehrzaad Esmaeili Charkhab & Yuxi Liu: Designing for Robotic (Dis-)Assembly
- 12:05 - 13:00 **PAPER SESSION VII**  
Uday Kusupati: RUM: Reconfigurable Umbrella Mesh  
Yuta Shimoda: Developable Membrane Tensegrity Structures Based on Origami Tessellations  
Andrea Micheletti: Parametric Design of Tensegrity-Origami Structures
- 13:00 - 14:00 Lunch Break  
14:00 - 14:30 **KEYNOTE VI – Michael Wimmer**  
14:30 - 15:40 **PAPER SESSION VIII**  
Rupert Maleczek: From Quad Filling to Wrinkled Surfaces  
Iman Fayyad: Bending Cylinders: A Geometric Syntax for Zero-Waste Architecture  
Lotte Scheder-Bieschin: Curved-Creased Flat-Foldable Bending-Active Plate Structures  
Alex Seiter: Form Finding of a Sheet Metal Shell by Generative Design and Pareto Optimization According to the Principles of Structural Morphology
- 15:40 - 16:10 Coffee Break  
16:10 - 17:05 **PAPER SESSION IX**  
Saqib Aziz / Jamie Queisser: SearchField: Navigating N-Dimensional Design Spaces  
Sarah Mokhtar: Neural Implicit Fields for Performance-Informed Geometries in Building Design  
Demi Fang: Quantifying the Influence of Continuous and Discrete Design Decisions Using Sensitivities
- 17:05 - 18:00 **PAPER SESSION X**  
Jelena Milosevic: An Approach to Designing Architectural Structures Using 3D Graphic Statics  
Hua Chai: Rationalizing Principal Stress Line Networks Using an Agent-Based Modelling Approach  
David Forster: Design and Optimization of Beam and Truss Structures Using Alternative Performance Indicators Based on the Redundancy Matrix
- 18:00 - 18:30 **KEYNOTE VII – Kazuyo Sejima**  
18:30 - 18:40 Conclusion Day Two

PROGRAM



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