

IASS-IWSS 2026 Program

The IASS-IWSS 2026 joint conference, held in Turin, Italy, September 13-18, brings together leading experts, scholars, and professionals from around the world to share their insights and advancements in the fields of shell and spatial structures. This event stimulates discussions about sustainable practices that ensure structural design to be not only efficient and beautiful, but also environmentally responsible. It encourages participants to imagine how adaptive reuse in the context of shell and spatial structures breathes new life into old buildings, turning historical spaces into contemporary marvels. The main conference aim is to promote the academic and professional discussion about cutting-edge design paradigms that challenge and expand the boundaries of structural and architectural innovation.

Local Institution



**Politecnico
di Torino**

in collaboration with



UNIVERSITÀ DEGLI STUDI DI NAPOLI
FEDERICO II



TOR VERGATA
UNIVERSITÀ DEGLI STUDI DI ROMA

The IASS



The International Association for Shell and Spatial Structures (IASS), founded by Eduardo Torroja in 1959, is a non-profit organization with the goal of achieving further progress through an interchange of ideas among architects, engineers, academics, builders, and all those interested in lightweight structural systems, such as lattice, tension, membrane, and shell structures. The Association welcomes to membership of individuals and organizations who share its aims.

The 4S Association and the IWSS



The Italian Association for Studies on Shell and Spatial Structures (4S Association) was founded by Amedeo Manuello, Stefano Gabriele, Francesco Marmo, and Andrea Micheletti, driven by the curiosity and passion inspired by the IASS Legacy. The mission is to bring forward the Italian Legacy by promoting a renewed research interest for such fascinating and challenging structures in the Italian community. This mission is pursued through the organization of courses, schools, and conferences related to shell and spatial structures. The main event is the Italian Workshop on Shell and Spatial Structures (IWSS), organized every three years. Past workshops are the IWSS2020 and the IWSS2023.

Meet Shelly



Shelly, our gridshell turtle, is the mascot of the IWSS series of conferences. The turtle has long been a symbol of strength, resilience, longevity, and wisdom. For us, its shell also represents the natural connection between form, structure, architecture, and engineering, the core themes of our community. With a gridshell on her back, Shelly reminds us of the importance of learning from nature and continuously exploring new forms and more sustainable approaches to structural design. Her motto, “Shell We Shape?”, is an invitation to remain curious, creative, and open to new ideas as we shape the future of shell and spatial structures.

Index

Please use the navigation menu below to browse the different sections of the document.

Conference Program (*clickable link*)

Parallel Session Schedule

Conference venue Map

Parallel Sessions Program

Plenary Lectures

Hangai Prize Lectures

Pavilions

STT models

Techincal Tours

Chair Schedule

For faster and more flexible consultation of contributions' details, please use the online

Conference Navigator

For each contribution, the Conference Navigator provides the complete abstract, presentation details and, where available, a direct link to the full paper. Below is a quick guide on **How to Use the Conference Navigator**.

If you believe that your contribution should be included in this program but is missing, please contact us at info@iass-iwss2026.org. We will promptly investigate the issue and correct any errors.

Sponsors





Laminazione
Sottile *group*



汕 頭 大 學
SHANTOU UNIVERSITY



Conference Program

Sunday, September 13	
08:00–21:00	Registration
09:00–19:00	Pavilion Construction
09:00–19:00 Room: 9i	Workshop: Second Lives: AI-Assisted Design of Spatial Structures from Reclaimed Steel <i>H. Zargar, J. Friedman, D. Reynolds, R. Singh, J. Vera</i>
09:00–19:00 Room: 7i	Workshop: A Dedicated Grasshopper Workflow for Active Bending Timber Gridshells: From Concept to Production <i>D. Lancia, P. Corbo</i>
09:00–19:00 Room: 12i	Workshop: Structural Folding Techniques <i>T. Tachi, R. Maleczek, R. Foschi, K. Sharifmoghaddam, K. Mundilova</i>
09:00–19:00 Room: 11i	Workshop: WG15 SMG Workshop on Deployable Structures: Component>Configuration>Construction <i>N. De Temmerman, L. De Laet, E. Leemans, A. Soliman</i>
13:00–19:00 Room: 8i	Workshop: Introduction to Differentiable Form-Finding with JAX FDM <i>R. Pastrana, K.-U. Bletzinger</i>
12:00–13:00	Light Lunch (reserved to workshop participants)
Social Events	
18:30–21:30	Welcome Cocktail

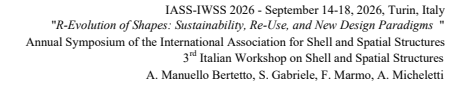
Monday, September 14	
08:00	Registration
09:00–10:30	Opening Ceremony <i>Amedeo Manuello Bertetto, Stefano Gabriele</i>
	IASS President Greetings <i>Carlos Lazaro</i>
	IASS Awards Ceremony <i>Ken’ichi Kawaguchi, Ruy Marcelo Pauletti</i>
	IASS-IWSS 2026 Organization <i>Amedeo Manuello Bertetto, Francesco Marmo</i> Chairs: <i>Amedeo Manuello Bertetto, Stefano Gabriele, Francesco Marmo, Andrea Micheletti</i>
10:30–11:00	Coffee Break
11:00–13:10	Technical Activities Committee Report <i>Sigrid Adriaenssens</i>
	Keynote Lecture: <i>Dominique Perrault</i>
	Keynote Lecture: <i>Marijke Mollaert</i>
	Chairs: <i>Andrea Micheletti, Amedeo Manuello Bertetto</i>
13:10–14:40	Lunch Break
14:40–16:20	Parallel Sessions (check detailed program)
16:20–16:50	Coffee Break
16:50–19:10	Parallel Sessions (check detailed program)
Social Events	
20:00–23:00	Young Event registration required

Tuesday, September 15	
08:00	Registration
09:00–10:30	Keynote Lecture: <i>Kai-Uwe Bletzinger</i>
	Sponsor Presentation: <i>Maffeis</i>
	Chairs: <i>Ken’ichi Kawaguchi, Francesco Marmo</i>
	Hangai Prize Lecture: <i>Junwei Pan</i> Chairs: <i>Peter von Buelow, Leila Cristina Meneghetti</i>
10:30–11:00	Coffee Break
11:00–12:50	Keynote Lecture: <i>Odine Manfroni</i>
	Sponsor Presentation: <i>TAL</i>
	IASS-IWSS 2026 Organization Chairs: <i>Stefano Gabriele, Andrea Micheletti</i>
	Hangai Prize Lecture: <i>Constantinos Frangoulides</i> Chairs: <i>Lars de Laet, Janguo Cai</i>
12:50–14:20	Lunch Break
14:20–16:00	Parallel Sessions (check detailed program) S/T/T Session
16:00–16:30	Coffee Break
16:30–18:10	Parallel Sessions (check detailed program) S/T/T Session
Social Events	
18:30–20:00	Basketball Game (registration required)

Wednesday, September 16	
08:30	Registration
09:00–10:30	Keynote Lecture: <i>Alberto Carpinteri</i> Chair: <i>Amedeo Manuello Bertetto</i> Hangai Prize Lecture: <i>Ellen Leemans</i> Hangai Prize Lecture: <i>Yifan Xie</i> Chair: <i>William Baker, Olga Popovic Larsen</i>
10:30–11:00	Coffee Break
11:00–13:00	Keynote Lecture: <i>Yuko Nagayama</i> Chair: <i>Andrea Micheletti</i> Round table "100 Years Heinz Isler - Sergio Musmeci - Frei Otto" Moderator: <i>Giulia Boller</i>
13:00–14:10	Lunch Break
14:10–15:50	Parallel Sessions (check detailed program) Visit to OGR Tech (registration required)
15:50–16:20	Coffee Break
16:20–18:00	Parallel Sessions (check detailed program)
Social Events	
19:30–23:00	Gala Dinner IASSonTrack Keynote Lecture: <i>Benedetto Camerana</i>

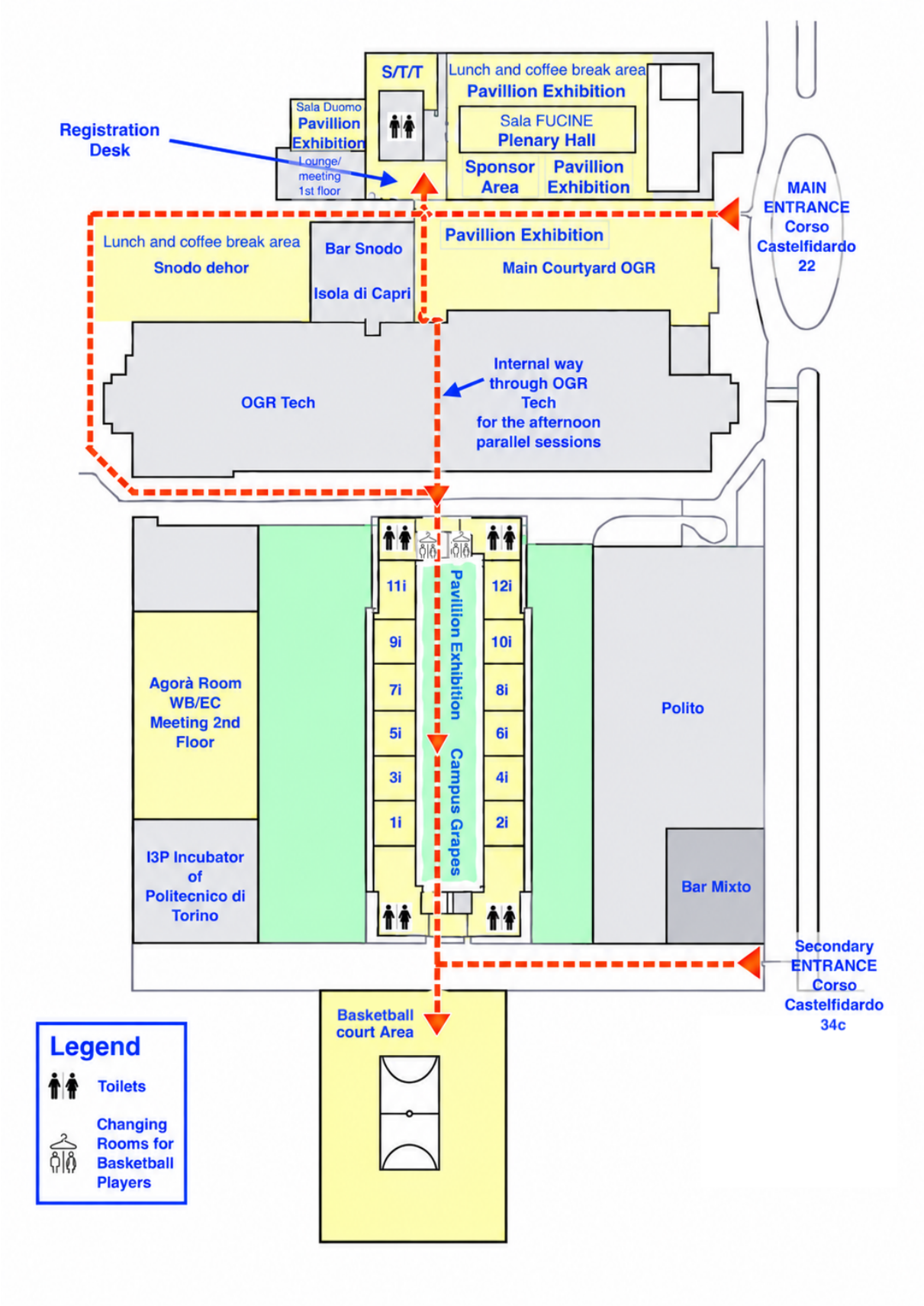
Thursday, September 17	
08:30	Registration
09:00–10:40	Keynote Lecture: <i>Christoph Paech</i> Keynote Lecture: <i>Patrizia Trovalusci</i> Chairs: <i>Francesco Marmo, Stefano Gabriele</i>
10:40–11:10	Coffee Break
11:10–12:50	Parallel Sessions (check detailed program)
12:50–14:20	Lunch Break
14:20–16:20	Parallel Sessions (check detailed program)
16:20–16:50	Coffee Break
16:50–18:10	Parallel Sessions (check detailed program)
18:10–18:20	Transfer to Sala Fucine
18:20–19:45	Closing Ceremony Pavilion Award Ceremony Nervi Prize Award Ceremony Remark of the IASS President Technical Tour Organization

Friday, September 18	
08:00–17:00	Technical Tours Keynote Lecture (Tour 1): <i>Pierluigi Violetto</i>
8:30–19:30	Pavilion Dismantling



WG/SG - sessions promoted by IASS Working/Study Groups
 IW - sessions promoted by the IWSS community
 * The session "On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)", scheduled for Wednesday, September 16, from 14:30 to 16:10, will take place in Sala Duomo instead of Room 7i.
 ** The session "Computational Methods and Design Strategies for Structural Reuse", scheduled for Thursday, September 17, from 16:50 to 18:10, will take place in Room 4i instead of Room 11i. It will be held in the same Session Block as "Adaptive and Deployable Spatial Structures (IW)", immediately following that session.
 § IWSS Keynote Lecture
 ‡ Remote presenter

Conference Venue Map



How to Use the Conference Navigator

The **Conference Navigator** is a searchable database of all contributions included in the IASS-IWSS 2026 program. It allows you to quickly find individual contributions, authors, Special Sessions, parallel sessions, and exhibition contributions by combining different search criteria.

You can use a single search field or **combine multiple filters** to progressively narrow down your results.

Paper ID

Use **Paper ID** when you are looking for a specific contribution and already know its identification number.

Author

Use **Author** to find all contributions associated with a specific author or to check your own contributions in the program.

You do not need to enter the full name: simply type the **name or any part of it** to retrieve all matching results.

Title

Use **Title** to search for a specific contribution or for contributions containing a particular **word or sequence of words in their title**. Partial searches are supported.

Keywords

The **Keywords** field works similarly to Title and is particularly useful for exploring contributions related to a specific research topic.

Session - Explore a Special Session

Session is one of the most useful search tools in the Conference Navigator.

Select a **Session** to display all contributions belonging to a particular **Special Session**.

You can further refine your search by selecting a **Session Block** to display only the contributions scheduled within a specific block of that Special Session.

This filter also provides quick access to exhibition contributions: select **Pavilion Exhibition** or **Show/Touch/Tell Exhibition** to explore the contributions associated with these exhibitions.

Date, Time Slot and Room - Explore the Parallel Program

Use **Date** to display all contributions scheduled for a particular conference day.

Combine **Date + Time Slot** to see all contributions taking place **in parallel during a specific time slot**.

Add **Room** to display the contributions belonging to the specific parallel session taking place in that room.

For example:

- **Date + Time Slot** → all contributions running in parallel at that time;
- **Date + Time Slot + Room** → contributions in one specific parallel session;
- **Date + Room** → all contributions scheduled in that room throughout the selected day.

Tip: Combine Your Searches

The Conference Navigator is most effective when multiple criteria are combined. Start with a broad filter, such as **Session** or **Date**, and then add **Session Block**, **Time Slot**, or **Room** to quickly identify exactly the part of the program you are interested in.

Parallel Sessions Program

The following tables provide the detailed program of the Parallel Sessions, arranged chronologically by date and time slot. Each table corresponds to a specific session block within the conference Special Sessions and lists the contributions scheduled for presentation.

Each technical contribution is allocated a 20-minute slot, consisting of a **15-minute presentation**, 3 minutes of discussion, and 2 minutes for speaker changeover.

IWSS Keynote Lectures are special presentations featured within selected Special Sessions promoted by the IWSS community, consisting of a **30-minute lecture** followed by 7 minutes of discussion.

The following list provides quick access to the Parallel Sessions of the IASS–IWSS 2026 Joint Conference. Each session title is a **clickable link** that takes you directly to the corresponding section of the detailed programme.

[Monday, September 14, 14:40-16:20](#)

[Monday, September 14, 16:50-19:10](#)

[Tuesday, September 15, 14:20-16:00](#)

[Tuesday, September 15, 16:30-18:10](#)

[Wednesday, September 16, 14:10-15:50](#)

[Wednesday, September 16, 16:20-18:00](#)

[Thursday, September 17, 11:10-12:50](#)

[Thursday, September 17, 14:20-16:20](#)

[Thursday, September 17, 16:50-18:10](#)

Monday, September 14, 14:40-16:20

Historic Precast Concrete Shells (WG17)

Date: Monday, September 14 **Time slot:** 14:40-16:20

Room: 7i

Chairs: Juan Gerardo Oliva, Elisa Drago

ID	Title	Authors
42	Shells from the archives. Mexico.	Elisa Drago
82 PDF	Re-evaluating Authorship and Collaboration in the Design of the Morača Sports Center	Jelena Milošević, Milijana Živković, Maša Žujović and Petar Karanović
175	A look at the contributions of women in the field of lightweight roofing technology and construction	Susana Ezeta and Elisa Drago
353	Synergistic Use of Archival Research and InSAR Remote Sensing for the Structural Health Monitoring of Early 20th-Century RC Arch Bridges.	Giacomo Saltori, Erica Lenticchia, Marco Civera and Bernardino Chiaia
516 PDF	How Local Context Influenced the Internationalization Efforts of the Zeiss-Dywidag (Z-D) System: The Case of the Hayden Planetarium	Emilia Melendi and Orsolya Gáspár

AI-Informed Structural Engineering and Design (SG1)
Date: Monday, September 14 **Time slot:** 14:40-16:20
Room: Sala Fucine
Chairs: Pierluigi D’Acunto, Kam-Ming Mark Tam

ID	Title	Authors
26 PDF	Stability-driven optimization of construction sequences for triangulated shells using reinforcement learning	Asahi Fujimoto and Kazuki Hayashi
140 PDF	AI-Driven Generative Design of Complex 3D Spatial-Structure Joints: Evolution from GANs to Diffusion Models	Yilong An, Yafeng Wang, Wenfeng Du, Xian Xu and Yaozhi Luo
171 PDF	TimberWallDesAIgn – Using AI to enable an efficient timber construction	Cristoph Dijoux, Felix Schmidt-Kleespies, Jannik Sobisch, Julian Ziegler, Alexander Stahr and Mirco Fuchs
205 PDF	From planning-contingent fabrication diagnostics to a voxel-aligned warning surrogate for interactive TPMS design in 3DCP	Shiran Shi, Yongjie Du, Yongheng Jia and Cheng Sun
236 PDF	A Multi-Agent Framework for deterministic, LLM-Informed Early-Stage Truss Steel Design	Savino Di Noi, Ahmed Soliman and Lars De Laet

Pavilion presentations (WG21, IW)

Date: Monday, September 14 Time slot: 14:40-16:20

Room: Sala Duomo

Chairs: Claudio Intrigila, Juan Jose Castellon

ID	Title	Authors
503 PDF	HempHalo: Designing Lightweight CNC-Knitted Architectural Canopy System with Hemp	Yuliya Sinke, Valentine Troi, Avinash Manian, Zelma Balode, Ilze Baltina, Lena Fritsch, Mette Ramsgaard Thomsen and Martin Tamke
514 PDF	Re[Press]: upcycling aluminium sheets into structural elements through die-less hydroforming	Jack Halls, Gabriele Mirra, Sofia Colabella, Michael Mack and Alberto Pugnale
553 PDF	The Kinetic Snap Gridshell, A Self-locking, Kinetically Deployable Asymptotic Gridshell	Janek Zindler, Hendrik Wiese and Eike Schling
559 PDF	Design & Fabrication of the Event Horizon Pavilion	Valentina Sumini, Konstantinos Gavriil, Marta Rossi, Amedeo Manuello Bertetto, Marco Sumini, Joseph Paradiso, Zirui Huang, Christian Dierk, Nikolai Solovev, Torsten Leder and Clemens Freitag
621 PDF	Exponential Shape Multiplicity through Modular Re-Assembly: The HyperSphere Pavilion	Eleonora Orefice, Davide Pellecchia and Francesco Marmo

Masonry shell structures: from historical principles to contemporary and future applications (IW)
Date: Monday, September 14 **Time slot:** 14:40-16:20
Room: 10i
Chairs: Antonino Iannuzzo, Elham Mousavian

ID	Title	Authors
40 PDF	The Undula facade: design and fabrication of an extrusion-based 3D printed facade informed by global and layer-wise equilibrium	Frederic Chovghi, Jesus Daniel Meza Zeron, Sebastian Dietrich and Pierluigi D’Acunto
124 PDF	Hybrid Stone Vault – An innovative concept of thin shell based on Voss surfaces properties	Romane Boutillier, Nicolas Montagne, Paul Vergonjeanne and Cyril Douthe
146 PDF	Stability-Aware Robotic Assembly of Discrete Masonry Structures with Real-Time Feedback	Mohammad Pourfouladi, Natalia Pingaro, Vittorio Paris, Francesca Negrello, Manuel Catalano, Valerio Pesenti and Gabriele Milani
161	Minimal Stone: Integrating Torsion Through Topological Interlocking in an Oblique Masonry Vault	Anahita Mirani, Paul Vergonjeanne, Paul-Martin Barbet and Romane Boutillier
218 PDF	Parametric investigation of cap ceilings and analysis of the potential as a spatial structure	Jamila Loutfi, Juri Maxim Wertenbruch and Christoph Gengnagel

Timber and Bio-based Spatial Structures (WG12)

Date: Monday, September 14 **Time slot:** 14:40-16:20

Room: 9i

Chairs: Filipe Amarante dos Santos

ID	Title	Authors
71 PDF	Structural Design of a Conical Shaped Timber Roof Using Reciprocal Structure	Yoshiharu Kanebako
93 PDF	Productive Buckling: A Form-Finding Method for Manufacturable Plywood Shell-Slabs	Gil Sunshine and Paul Mayencourt
155 PDF	Realization of a beam to column connection in laminated timber using long fully threaded screws	Denis Grizmann, Lars Wenning, Clarissa Glawe, Maria Naïssi and Martin Trautz
73 PDF	Numerical analysis of long-term structural behavior of full-culm bamboo truss structures considering viscoelastic properties	Takuo Nagai
8 PDF	Approaches for supporting biaxially spanned wooden slabs	Asko Fromm, Sandro Siefert, Johannes Kirschall, Max Eschenbach, Florent Keller and Oliver Tessmann

Bridging high-tech design and low-tech construction (WG22)
Date: Monday, September 14 **Time slot:** 14:40-16:20
Room: 1i
Chairs: Cyril Douthe

ID	Title	Authors
196 PDF	Construction of a Hyperboloid Bamboo Tower for Telecommunication in Remote Regions	Bhumik Halani, Siddhartha Ghosh, Subhrajit Dutta, Ajmal Babu Mahasrankintakam, Manish Jha, Wahengbam Naothoi and Parth Karia
214 PDF	Spatial Modeling of Cortina Sliding Centre "Eugenio Monti"	Hannes Loeschke and Mike Richter
345 PDF	Design, fabrication and assembly of a cardboard pavilion based on an isogonal moulding surface	Erik Wigh, Benjamin Björksell, Oskar Nessel Mattsson and Emil Adiels
376 PDF	Structural engineering of The Cavern at Rainforest Wild Adventure- Singapore: from complex organic geometry to rational low-tech prefabrication	Yacine Bouzida and Catherine Poirriez
429 PDF	From Arches to Shells – Two Structures of Bertrand Goldberg, with Hannskarl Bandel and Frank Kornacker	Geoffrey Goldberg

Adaptive and Deployable Spatial Structures (IW)

Date: Monday, September 14 Time slot: 14:40-16:20

Room: 4i

Chairs: Fernando Fraternali, Gaetano Pavone

ID	Title	Authors
10	A deployable solar membrane roof for stadiums: structural design and modeling	Rana Nazifi Charandabi, Gerry D’Anza and Fernando Fraternali
11	Artificial Intelligence–Based Rapid Damage Screening of Spatial Masonry Structures	Angela Lato, Hazar Etteyeb, Rana Nazifi Charandabi, Carlo Olivieri, Francesco Fabbrocino, Ada Amendola and Fernando Fraternali
182 PDF	Scissor-Flex Pavilion: Design and Construction of a Tailor-Made Scissor Grid at Architectural Scale	Seri Nishimoto, Krittika Walia, Tomohiro Tachi and Cyril Douthe
211 PDF	Structural Response and Pointing Error Analysis of Large-Aperture Radio Telescope Spatial Structures under Multi-Physics Fields	Liyang Yu, Deshen Chen and Hongliang Qian
357 PDF	Holistic performance assessment of deployable vs conventional temporary grandstands	Fiammetta Venuti and Valentina Beatini

Numerical trends in Architectural Geometry (WG22)

Date: Monday, September 14 **Time slot:** 14:40-16:20

Room: 3i

Chairs: Eike Schling, Toby Mitchell

ID	Title	Authors
29 PDF	A NURBS-Based Form-Finding Plugin for Gridshell Design	Masaaki Miki and Toby Mitchell
57 PDF	Volumetric Segmentation Strategies for Fused Shell Geometries	Xuanyu Lu, Yasushi Ikeda and Yuxing Liu
138 PDF	Form-finding for spoke-wheel roof structures using Rankine’s reciprocal polyhedra and Maxwell-Rankine stress 4-polytopes	Hiroki Tamai
167 PDF	Evolutionary topology finding of funicular gridshells	Robin Oval
259 PDF	Implementation of the finite element method for solving Pucher’s equation: a practical approach to designing membrane surfaces	Kenryo Takahashi

Adaptive Futures: Urban Mining and Structural Reuse as Generative Design Practice (IW)

Date: Monday, September 14 **Time slot:** 14:40-16:20
Room: 11i

Chairs: Elena Guidetti, Matteo Robiglio

ID	Title	Authors
90 PDF	Re-SPLAM: Reclaimed Spatial Laminated Timber	Kyle Songpanya, Sebastian Pozo, Daniela Castano and Benton Johnson
96 PDF	Structural design for existing buildings through load-path reconfiguration	Ken Noda and Yoshiharu Kanebako
198 PDF	Experimental Structural Design with Reclaimed Materials - The case of reused wood pavillion for the Paris 2024 Olympic games	David Serero, Dimitri Toubanos and Dorothee Sipp
225 PDF	On the development of structural models of existing buildings based on different knowledge levels to enable new design operations in structural design education	Natalia Pieroni, Jacqueline Pauli and Federico Bertagna
289 PDF	Rubble Reimagined: A Digital-Physical Workflow Showcased by the Transformation of Concrete Waste into Urban Furniture	Muchen Yan, Kristina Schinegger and Stefan Rutzinger

Structural Origami (WG15)

Date: Monday, September 14 **Time slot:** 14:40-16:20

Room: 5i

Chairs: Tomohiro Tachi, Rupert Maleczek

ID	Title	Authors
385	Distributed actuation by spontaneous curvature and fold interactions in active curved crease origami	Antonio De Simone and Luciano Teresi
324 PDF	In-plane stiffness anisotropy in origami structures based on Tachi-Miura Polyhedron	Daiki Ueda, Kenji Minesugi, Kosei Ishimura and Hiromi Yasuda
266	Optimisation of Curved-Crease Origami-Inspired Structures	Sutharsanan Navaratnarajah, James Kratz and Mark Schenk
137 PDF	Predicting the Fabricability of Curved Folding Structures: Comparative Approaches via FEA and IGA	Ren Maruyama and Keisuke Nomura

Case Studies of Tensioned Membrane Structures: From Concept to Completion (WG6)
Date: Monday, September 14 **Time slot:** 14:40-16:20
Room: 2i
Chairs: Andrea Micheletti

ID	Title	Authors
23 PDF	Simulation and Comparison of Tensioning Schemes for Spoke-Type Cable-Truss Structures	Zhining Jiang, Jinghai Gong and Guozhi Qiu
46 PDF	Research on Improving the Static Performance of an Existing Corroded Spatial Grid Structure Based on New Circular Cable Bearing System	Weijing Zhang, Zhiyong Xu and Zheng Dong
81 PDF	Damaged Membrane-Covered Sports Facilities in Serbia	Vuk Milošević, Danijela Đurić Mijović, Dragan Kostić and Todor Vacev
110 PDF	Dynamic response of radial and orthogonal cable roof systems: implications for structural design and erection	Andoni Borjabaz Fernández and Javier Llarena
134 PDF	Wind Response Characteristics and Equivalent Static Wind Loads of Roof Structures Consisting of Radially Arranged Cables	Akira Oshiumi, Naoya Miyasato, Akira Okada and Shuzo Hiroishi

Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Date: Monday, September 14Time slot: 14:40-16:20

Room: 8i

Chairs: Toru Takeuchi, SuDuo Xue

ID	Title	Authors
732 PDF	<i>IWSS Keynote Lecture</i> Design, Fabrication and Installation of Kuwait University Administration Facilities Convocation Hall Space Frame Structure	Ali Faik Ulusoy, Gurkan Akdogan and Firat Bezir
744 PDF	Structural analysis and parametric optimization of long-span steel cantilever terraces: the case of "Stella di Pila" Pila-Couis station	Andrea Alberto, Pier Paolo Cairo and Matteo Buschini
471 PDF	A Design Approach Bridging Theory and Reality in Structural Design: Validating Design Judgments through Construction-Stage Verification of Curved Truss Structures	Tsukiji Satoh and Tatsuo Yasuda
174 PDF	Renovation of 70- to 160-Year-Old Buildings in Japan: A Comparative Study of Timber, Masonry, Steel, and Reinforced Concrete Structures	Norihide Imagawa

Design for disassembly, reconfigurable structural systems (WG18)

Date: Monday, September 14 **Time slot:** 14:40-16:20
Room: 12i
Chairs: Olivier Baverel

ID	Title	Authors
265 PDF	Robotic Timber Frame Assembly: Cycle Time and Joint Quality Evaluation	Maria Georgiades and Benjamin Kromoser
403	Geometric Interlacing as a Spatial Design Framework for Disassemblable Timber Systems	Yasaman Yavaribajestani, Michael Kling, Marco Brönimann and Jacqueline Pauli
440 PDF	Building by Unbuilding, From Recycling to Reuse: Design Strategies for the Buildings of the Future	Alberto Raimondi and Marco Zoli
481 PDF	Experimental bamboo and timber construction for temporary post-disaster relief structures in Indonesia	Andry Widyowijatnoko, Hafshah Salamah and Rakhmat Fitranto Aditra
495 PDF	Towards Load-bearing Module-based Interlocking Spatial Structures: The Case of a "Minimal Making Grammar"	Sohyun Jin, Juney Lee and Daniel Cardoso Llach

Monday, September 14, 16:50-19:10

Historic Precast Concrete Shells (WG17)
Date: Monday, September 14 **Time slot:** 16:50-19:10
Room: 7i
Chairs: Marisela Mendoza, Ronan Bolaños

ID	Title	Authors
382	St. Mary’s Cathedral and the Norfolk Scope: Two Late Shell Structures by Pier Luigi Nervi	Thomas Leslie
452 PDF	The Conservation Plan and recovery project for Torino Esposizioni	Rosario Ceravolo
454	Heritage concrete structures life management: the Palazzetto dello Sport in Rome by A. Vitellozzi and P.L. Nervi	Francesco Romeo and Jacopo Ciambella
469 PDF	Torino Esposizioni: an integrated framework for the Study, Conservation, and Maintenance of Nervi’s Ferrocement	Irene Matteini
501 PDF	Reinforced concrete shells in post-war Poland: analysis of innovative construction systems driven by material scarcity and time constraints.	Sara Madej and Bartosz Dominik Bukowski
694 PDF	Advanced experimental characterization of ferrocement elements: a full-scale study on Pier Luigi Nervi’s corrugated beams	Gerardo Sorrentino, Erica Lenticchia, Francesco Tondolo and Rosario Ceravolo

AI-Informed Structural Engineering and Design (SG1)
Date: Monday, September 14 **Time slot:** 16:50-19:10
Room: Sala Fucine
Chairs: Pierluigi D’Acunto, Kam-Ming Mark Tam

ID	Title	Authors
238 PDF	Early-Stage Cost Estimation of Bridge Structures Using Large Language Models and Synthetic Data	Thibault Coninx, Ahmed Soliman, Léopold Sepulchre and Lars De Laet
298 PDF	Towards Holistic Structural Design: AI-Enabled Connection Design for Large-Span Steel Roof Structures	Dominykas Acas, Aleksander Franus, Shibo Ren, Krzysztof Welik and Zbigniew Czajewski
314 PDF	Generative Structural Form-Finding from Annotated Sketches	Lazlo Bleker, Kam-Ming Mark Tam, Karla Saldaña Ochoa and Pierluigi D’Acunto
319 PDF	Mechanics-Guided Member Grouping for Cross-Section Optimization with Heterogeneous Graphs	Shaoyi Wang, Tao Sun, Ramon Weber and Simon Scheicher
321 PDF	Material-Informed Gridshell Formation: Integrating Natural Bamboo Morphology into Inventory-Constrained Grid Optimization	Jui-Shen Chen and Pei-Hsien Hsu
114	An AI-Based Framework for Circular Steel Construction	Vittoria Laghi, Elisabetta Savino, Emma Ghini, Antonio D’Anna and Giada Gasparini

Pavilion presentations (WG21, IW)

Date: Monday, September 14 Time slot: 16:50-19:10
Room: Sala Duomo
Chairs: Rana Nazifi Charandabi

ID	Title	Authors
375 PDF	A form-active reclaimed timber system for multi-storey construction shaped by stock variability and grain orientation	Renan Prandini, Lorenz Riedel, Aaron Wagner, Zuardin Akbar, Thomas Wortmann, Achim Menges and Jan Knippers
411 PDF	Design and Fabrication of a Bistable Collapsible Gridshell	Davide Pellis, Francesco Laccone, Luigi Malomo and Paolo Cignoni
456 PDF	Chimeric Cube: A Regenerative Structure for Collective Re-Use	Z. Melis Oguz and Juan Jose Castellon
585 PDF	Structural performance of thin multi-curved Strawboard	Johannes Belz, Roman Myna and Benjamin Kromoser

Local and Global Buckling in Shell and Spatial Structures: Eigenshapes and Desired Morphologies (IW)

Date: Monday, September 14 Time slot: 16:50-19:10
Room: 10i
Chairs: Fabio Bazzucchi, Amedeo Manuello Bertetto

ID	Title	Authors
152 PDF	Structural Interpretation of Minimum Stiffness Fields in Stability-Driven Design of Thin Shells	Alex Seiter
537	Study on buckling behavior of inflatable arches and development of rigid flexible combined inflatable arches	Junbin Zhao and Yue Wu
687	Snap-Through as Signal: Interpreting Progressive Collapse through Musical Signatures	Fabio Bazzucchi and Amedeo Manuello
688	Anticipation of Nonlinear Buckling in Pre-Strained Shallow Arches	Gianfranco Piana, Fabio Bazzucchi, Giovanni Anglani and Amedeo Manuello Bertetto
19 PDF	Fire Resistance of Tapered Circular Concrete-Filled Steel Tubular Columns under Fire	Mengyao Yang, Xiaoming Xu, Fengjie Tan, Yuanfang Yang and Jianqi Zhang

Bioinspired geometries & biomaterials for shells & spatial structures (IW)

Date: Monday, September 14 **Time slot:** 16:50-19:10

Room: 9i

Chairs: Stefano Invernizzi, Cecilia Surace

ID	Title	Authors
901	<i>IWSS Keynote Lecture</i> MECHANO-BIOINSPIRATION	Nicola M. Pugno
206 PDF	Fabrication and experimental performance of a cross-laminated timber groin vault floor	Shane Hossell, Will Hawkins and Antony Darby
401 PDF	From Gaudí’s Shells to Today’s Biomaterial Spans: Hidden Structures and Toroidal Timber as One Logic	Norihide Imagawa and Wataru Akune
419 PDF	Title: Structural Performance of a Funnel-Shaped Bamboo Kagome Woven Structure	Naoki Kamihara, Hiroyuki Shinohara and Masamiti Sasatani

Bridging high-tech design and low-tech construction (WG22)
Date: Monday, September 14 **Time slot:** 16:50-19:10
Room: 1i
Chairs: Toby Mitchell, Eike Schling

ID	Title	Authors
168 PDF	Geogami: A Covered Geodesic Gridshell built with Reclaimed Skis	Nicolas Montagne, Cyril Douthe, Corentin Fivet and Olivier Baverel
430 PDF	As-Grown Material-Informed Computational Modelling	Juan Cuevas Durán and Gunther H Filz
447	Evaluation of Robotic Toolpath Strategies for Wattle-and-Daub Construction Using Spray Earth Additive Manufacturing	Diana Zavaleta, Hannes Eichler and Harald Kloft
490	Joint design for industrial fabrication of elastic timber gridshells built from Asymptotic and Geodesic lamellas	Sebastian Hoyer, Stanislav Levchuk, Pierluigi D’Acunto and Eike Schling
507 PDF	The structural potential of wicker: hybrid bio-based timber and wicker structures	Héloïse Douin, Marc Leyral, Quentin Chef and Cyril Douthe
400 PDF	(Remote presenter) Integrated Design-to-Production of Tripartite Hybrid Vault Structures Using Non-Planar Large-Format Additive Manufacturing	Mark Segovia, Sina Mostafavi and Erin Hunt

Advances in design and analyses of deployable structures (IW)

Date: Monday, September 14 **Time slot:** 16:50-19:10

Room: 4i

Chairs: Davide Pellecchia, Helmut Pottmann

ID	Title	Authors
180 PDF	Rigid-folding path and kinematic bifurcation of grid origami structure with thick panels	Kentaro Hayakawa
210	Kinetic Asymptotic Structures	Eike Schling
260 PDF	Symmetry-Based Single-Degree-of-Freedom 3D Spatial Origami Structures: Design, Kinematics, and Prototype Validation	Sicheng Li, Ping Xiang, Minger Wu and Jae-Yeol Kim
288 PDF	Design of a Small-Scale Model of a Fully Openable Ceiling Membrane Using Twisted Cylindrical Membrane Patterns	Mashu Kurata, Ken’Ichi Kawaguchi, Kengo Hayashi and Rumi Rokkaku
625	Designing for Deployability and Reconfigurability: The HyperSphere Pavilion within the MADEMOSHE Project	Eleonora Orefice, Domenico Castello, Massimo Cuomo, Leopoldo Greco, Domenico Magisano, Leonardo Leonetti, Giovanni Garcea and Francesco Marmo
22	(Remote presenter) Surface-based Inflatables	Yingying Ren

Advances in Computational Modeling and Structural Analysis (WG13)

Date: Monday, September 14 Time slot: 16:50-19:10
Room: 3i
Chairs: Roland Wüchner, Carlos Lázaró

ID	Title	Authors
28 PDF	A CAD Integrated Isogeometric Workflow for Thin Shell Form-finding and Analysis	Ann-Kathrin Goldbach and Carlos Lázaró
78 PDF	Various perspectives on the design and assessment of structures using the redundancy matrix and its homogenization	Nicolai Grünvogel, Simon Briem, Malte von Scheven and Manfred Bischoff
84 PDF	A holistic digital process-characterization paradigm for advancing non-deterministic manufacturing	Pascal Mindermann
98 PDF	Image-based modelling approaches for the mechanical assessment of natural-fibre coreless filament wound structures	Quentin Chef, Otto Lindstam and Tzu-Ying Chen
121 PDF	Quality control workflows in parametric modelling	Hassan Nawaz
600 PDF	Conformal Robotic Deposition on Double-Curved Aluminum Panels: A Graph-Based Path Optimization Framework for Structurally Informed Façades	Juan Ojeda, Daniel Andrade, Alexander Wolf and Ulrich Knaack
700 PDF	Influence of Form-Finding Strategy on the Nonlinear Behavior of Corrugated Barrel-Vault Shells	Luigi Fenu, Alireza Hosseini, Briseghella Bruno and Giaccu Gian Felice

Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)
Date: Monday, September 14 **Time slot:** 16:50-19:10
Room: 11i
Chairs: Elena Mele, Maura Imbimbo

ID	Title	Authors
47 PDF	REUSE STEEL IN THE DELIVERY OF OPTIMISED PUBLIC INFRASTRUCTURE.	Camille Chevrier and Stephen Melville
75 PDF	Design-to-Fabrication of Hyperbolic Arch Module Using Recycled Concrete Rubble and Robotic Assembly	Yangzhi Li, Xiheng Yan, Yinan Xiao and Shuaizhong Wang
164	Re-design Based on Dismantled Steel Elements	Vittoria Laghi, Elisabetta Savino, Neira Babovic and Giada Gasparini
258 PDF	Bikes under an Airbus A-350, a structural re-use method.	Yann Fraysse, Matthieu These, Krittika Walia, Cyril Douthe and Olivier Baverel
343 PDF	Designing with Reclaimed Steel: An Integrated Assessment Framework for High-Quality Structural Reuse	David Gallego, Jonas Thorn, Stefan Lang, Katja Rinderspacher, Diellza Elshani, Thomas Wortmann and Achim Menges
169 PDF	Design space exploration of structural optimized timber-concrete composite floors	Mohamed Ismail and Paul Louis Mayencourt
295	Beyond the Technical Challenge of Steel Reuse	Raffaele Cucuzza, Gian Andrea Rassati, Konstantinos Tsavdaridis and Stergios Aristoteles Mitoulis

Active Bending (WG15)

Date: Monday, September 14 Time slot: 16:50-19:10

Room: 5i

Chairs: Julian Lienhard, Christoph Gengnagel

ID	Title	Authors
117 PDF	Mechanical and geometric fundamentals for the inverse design of spatial geodesic strips	David Andersson Largueche, Jiahao Li, Weicheng Huang and Riccardo La Magna
136 PDF	Predicting and Minimizing Shape Deviations in Curved Structures Formed by Active Bending of Planar Members	Mikoto Egara and Keisuke Nomura
181 PDF	Braced and Corrugated Elastic Gridshell	Haruto Kamijo, Sigrid Adriaenssens and Tomohiro Tachi
200 PDF	Exploration of Hybrid Bending-Active Structures Integrating Fibre-Wound Bio-Composites with Engineered Timber	Kalaivanan Amudhan, Şennur Ficicioglu, Nathan Dupas and Marta Gil Pérez
257 PDF	Stiffening of a free-form inflatable tube using laminar jamming	Noam Ovazza, Romain Mesnil, Olivier Baverel and Arthur Lebée

Shells and Spatial Structures Beyond Earth: Computational, Structural, and Constructive Frameworks for Off-World Habitats and Industrial Systems (IW)

Date: Monday, September 14 **Time slot:** 16:50-19:10

Room: 2i

Chairs: Valentina Sumini, Amedeo Manuello Bertetto

ID	Title	Authors
555 PDF	<i>IWSS Keynote Lecture</i> AI-enabled Space Architecture Computing	Valentina Sumini, Amedeo Manuello Bertetto, Marta Rossi and Moritz Rietschel
369 PDF	INVERTED DOME ENCLOSURE FOR A FUTURE INHABITED BASE ON MOON OR MARS	Marco Peroni, Giacomo Ravaglia and Cristina Actis
627 PDF	Generative Form-Finding of a Bioinspired Multimaterial Shell for Lunar Settlements	Michele Barone, Valentina Sumini, Giuseppe Carlo Marano and Amedeo Manuello Bertetto
629 PDF	Experimental Design of Regolith-Based Fiber-Reinforced Composites for Lunar and Martian Shell Structures	Matteo Pavese, Michele Barone, Amedeo Manuello Bertetto, Valentina Sumini and Giuseppe Carlo Marano

Research and applications of Aluminum Grid Structure (WG8)

Date: Monday, September 14Time slot: 16:50-19:10

Room: 8i

Chairs: Qilin Zhang, Toru Takeuchi

ID	Title	Authors
94 PDF	Stability Analysis of CFRP-Aluminum Alloy Suspend-dome Structures	Yaoyue Zhang and Weijing Zhang
474 PDF	Research progress and future prospects of aluminum alloy grid structures in China	Qilin Zhang, Yuanwen Ouyang, Xiaowei Liu and Zhiqiang Li
565 PDF	Design and fire protection of a long-span steel–aluminum hybrid single-layer reticulated shell with high-pressure water mist cooling	Xiaowei Liu, Yuanwen Ouyang, Yue Yang and Zhiqiang Li
572 PDF	Mechanical behavior and construction control of a cable-supported aluminum structure	Zhu Zipeng, Zhang Guodong, Luo Xiaoqun and Zhang Qilin
576 PDF	Research on effective length factors of the members of Aluminum alloy portal frames	Pengben Bai, Yongzhong Pei, Jinzhi Wu and Guojun Sun
17 PDF	COUPLED SEISMIC RESPONSE AND ITS EFFECTS BETWEEN LONG-SPAN STADIUM ROOFS AND SUBSTRUCTURES	Xiaoming Xu, Feng Gao, Fengjie Tan, Jiaxin Kang, Mengyao Yang and Yao Jiang

Reuse of structural components (WG18)
Date: Monday, September 14 **Time slot:** 16:50-19:10
Room: 12i
Chairs: Olivier Baverel

ID	Title	Authors
128 PDF	The Sound of Brick	Damon Bolhassani, Miriam Perel and Rachel Whitlow
247 PDF	Reusable Pavilion Using Scaffolding Pipes Designed for GREEN×EXPO 2027 Part1: Overview of Structural Design	Yuki Kaneko, Takuya Kinoshita, Nanzaki Go, Kazuki Ito, Sota Kuruma, Kota Mizuno, Fumi Ushiwata, Toru Inaba and Akira Moriya
327 PDF	Virtual Surface Restoration of Reclaimed Timber Using CT Scanning-Guided Deep Learning	Musaab Ahmed Mahjoub Ahmed, Osama Abdeljaber, Anders Olsson, Dario Parigi and Jørgen Munch-Andersen
379 PDF	Forsti Altholz: A Reclaimed Timber Pavilion with Wooden-Nail Composite Plates	Hyo Wook Kim, Dongyuan Liu, Julian Lienhard and Philipp Eversmann
387 PDF	Experimental investigation of a modular precast concrete beam system for demountable structures	Inge Donovan, Jenna Schnitzler, Caitlin T Mueller, Javier Cañada and Keith J Lee
801	Geometry-Driven Structural Reuse: The case study of a new fire station	Valeria Gozzi and Cristina Zanini Barzaghi

Tuesday, September 15, 14:20-16:00

Historiography, Archives and the Collaborations of Structural Engineers

Date: Tuesday, September 15 **Time slot:** 14:20-16:00

Room: 7i

Chairs: John Ochsendorf, Guy Nordenson

ID	Title	Authors
87	Collaborative Evolution of Generative and Optimized Modeling: The parametric logic of the Munich Olympic Roof (1967-72)	Rob Whitehead
170 PDF	Massive lightness: Structural expression in the Philippines	Mohamed Ismail and Dima Hamza
363 PDF	Structure as Form: the Fifth Pavilion of the Turin Exhibition by Riccardo Morandi (1958-1959)	Giorgia Sala, Nicola Grillanda, Riccardo Giacometti and Vincenzo Mallardo
123	"Inevitably Translated:" Harry Seidler and Pier Luigi Nervi’s Collaborations	Thomas Leslie
451 PDF	Rethinking Maillart: The collaborative network of Maillart & Cie. in Kharkiv, 1915–1918	Olga Konovalova and Giulia Boller

Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Date: Tuesday, September 15 **Time slot:** 14:20-16:00

Room: Sala Fucine

Chairs: Raffaele Cucuzza, Giuseppe Carlo Marano

ID	Title	Authors
772	<i>IWSS Keynote Lecture</i> Learning Structures through the Intrinsic Dimension of Form-Finding: From Human Parametric to AI Latent Spaces	Giuseppe Carlo Marano
232	An Integrated Design-to-Manufacturing Workflow for Thin-Walled Structures in Additive Manufacturing using Isogeometric Analysis	Moritz Wesseler, Michael Loibl and Josef Kiendl
654 PDF	Form-Finding vs. Resource Allocation: A Circular Approach to Gridshell Design	Paolo Pagliuca, Giuseppe Marano, Bernardino Chiaia and Amedeo Manuello
590 PDF	Graph-based design space exploration for structural and architectural shells	Wonuola Abiodun, Adam Burke, Chloe Hong and Caitlin Mueller

Advanced Manufacturing and Materials (WG21)

Date: Tuesday, September 15 Time slot: 14:20-16:00

Room: Sala Duomo

Chairs: Rana Nazifi Charandabi

ID	Title	Authors
50 PDF	A Masonry-Type Stay-in-Place Formwork System for Disassemblable Double-Curved Inlaid Façade Panels	Hiroki Awaji
133 PDF	Intelligent Fabrication of Spatial Structures: A Conceptual Digital Twin Architecture Coupling Probabilistic Performance Modelling with Semantic Defect Interpretation in Robotic Adaptive 3DCP	Giancarlo Di Marco
149 PDF	Advancement of Robotic Timber Joinery through Enhanced Positional Accuracy	Arne Tischer, Alexander Stahr, Jan Berthold, Olaf Thieme, Carsten Hochmuth and Oleksandr Burdin
188 PDF	Reusable Pavilion Using Scaffolding Pipes Designed for GREEN×EXPO 2027 Part2: Engineering of Metal 3D-Printed Joints	Takuya Kinoshita, Yuki Kaneko, Nanzaki Go, Kazuki Ito, Sota Kuruma, Kota Mizuno, Fumi Ushiwata, Toru Inaba and Akira Moriya
221 PDF	PineWall – A robotic fabrication strategy for mass-customized timber components using geometric locking interfaces	Martin Dembski, Felix Schmidt-Kleespies, Henri von Mulert, Laurenz Andritz and Alexander Stahr

Recent Advances in the Mechanics and Design of Thin-Shell Structures Subjected to Seismic and Wind Loads (IW)
Date: Tuesday, September 15 **Time slot:** 14:20-16:00
Room: 10i
Chairs: Carlo Olivieri, Luigi Sibille

ID	Title	Authors
771	<i>IWSS Keynote Lecture</i> When the envelope drives the structure: integrated design of the steel-ETFE spatial roof of the Lamezia Terme Sports Hall	C. Micono, G. Zanzottera, F. Bazzucchi, G. Piccarreta, G. Chiellino
773	Steel frames for adaptive reuse: portal frames and single-span roof trusses in the structural renovation of the historic De Sonnaz bartracks, Turin	F. Bazzucchi, C. Micono, F. Canobbio, G. Piccarreta, G. Chiellino
721 PDF	On the Validity of the Membrane Theory in the Analysis of Thin Concrete Shells in the Form of Polynomial Shells of Revolution	Alphose Zingoni and Patrick Mwaka
390	Interference effect and wind-resistant design for grouped cooling towers based on time-variant reinforcement envelope criterion	Xu Dong and Lin Zhao

Morphing and Shape Analysis (IW)

Date: Tuesday, September 15 Time slot: 14:20-16:00

Room: 9i

Chairs: Valerio Varano, Arianna Venettoni

ID	Title	Authors
38	Expanding Morphological Freedom in Frustrated Composites: From Self-Morphing Sheets to Kirigami-Inspired Architectures	Arielle Blonder
147 PDF	Optimal reciprocal log floor patterns	Martin Steinmetz, Luca Sgambi and Pierre Latteur
337 PDF	Targeting prescribed shapes via optimized transitions in morphing shells	Lucia Mariani, Valerio Varano, Stefano Gabriele, Leopoldo Vincenzo Greco and Massimo Cuomo
598 PDF	Coupling Structural Form Finding and Ray-Traced Acoustic Optimisation for Compression-Dominant Structures	Giacomo Montiani, Alessandro Dell’Endice, Achilleas Xydis, Tom Van Mele and Philippe Block
608 PDF	Long-Term Structural Monitoring with a Low-Cost Multi-Camera RGB-D System for Emerging Material Systems	Martin Tamke, Shahriar Akbari and Mette Ramsgaard Thomsen

**From Architectural Geometry to Structural Geometry
(WG22)**

Date: Tuesday, September 15 **Time slot:** 14:20-16:00

Room: 1i

Chairs: Cyril Douthe, Toby Mitchell

ID	Title	Authors
61 PDF	Parametric study on the climate–force constraints of folded roof structures in stilted timber dwellings:a case study in southern Yunnan	Ming Fang, Toni Kotnik, Sichen Dong and Ling Zhou
62 PDF	Michell structures made from two materials carrying their own weight	Emil Adiels, Samar Malek and Christopher Williams
101 PDF	Design of joint system for free-form structure from planar materials based on circle packing meshes and their structural and environmental evaluation	Keiya Sago, Demi Fang and Kazuki Hayashi
142 PDF	Spatial arches coupled by straight bars: funicularity and free-form design	Ágoston P. Szesztay and Péter L. Várkonyi
45 PDF	(Remote presenter) From Surface to Solid: Fabrication of the 'Barkat' Timber Folded Plate Shell	Muhammed Emin Akyürek and Erdem Köymen

Intelligent Design and Mechanical Behavior of Tensegrity Structures and Metamaterials
Date: Tuesday, September 15 **Time slot:** 14:20-16:00
Room: 4i
Chairs: Xiaodong Feng

ID	Title	Authors
65 PDF	Actuation Optimization of Tensegrity Robotics Based on Minimization of Input Energy	Xiaodong Feng, Shubin Zhao, Ao Zhao, Zicheng Zhuang and Yao Chen
79 PDF	Design and Construction of a 7 x 7 m Modular Stainless Steel Tensegrity Pavilion	Basile Payen, Adèle Thiry, Joao Almeida and Pierre Latteur
186 PDF	An Integrated Framework for the Crystallographic Programming and Automated Design of Deployable Kirigami Metastructures	Ruoqi He, Yao Chen, Jian Feng and Pooya Sareh
239 PDF	On Weavings, Grillages, Tensegrities, and Frameworks	Cameron Millar, Bernd Schulze and Louis Theran
307	Computational study of mechanically graded tensegrity-inspired cellular lattices	Anna Al Sabouni-Zawadzka, Maciej Kołodziejczak, Adam Zawadzki and Wojciech Gilewski

Numerical methods for form finding and optimization (WG13)
Date: Tuesday, September 15 **Time slot:** 14:20-16:00
Room: 3i
Chairs: Makoto Ohsaki

ID	Title	Authors
52 PDF	Multi-Load Form-Finding: A Truss-Based Optimization Approach	Jian-Xiang Xiong, Hung Chen and Yu-Chou Chiang
122 PDF	Physics-Inspired Structured Triangular Meshing with Coupled Scale–Orientation Optimization for Free-Form Single-Layer Reticulated Shells	Qiang Zeng, Shaojun Zhu and Xiuzhi Zheng
135 PDF	Optimization of Load-Bearing Capacity and Hydraulic Permeability of Plastic Structures for Underground Installation	Hiroki Iwai and Keisuke Nomura
209	Layout and geometry optimization of grid shell structures	Linwei He, Ashnah Bufion, Helen Fairclough and Andrew Liew
698 PDF	V-Form: manufacturing of vaulted concrete floors with pneumatic formworks	Rudolf Neumerkel, Martin Hutter, Peter Bauer and Werner Sobek

Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)
Date: Tuesday, September 15 **Time slot:** 14:20-16:00
Room: 11i
Chairs: Elena Mele, Maura Imbimbo

ID	Title	Authors
276 PDF	Promoting structural sustainability through the reuse of decommissioned tubular wind turbine towers	Sokratis Sideris, Vasiliki Vavouli and Charalampos Gantes
294 PDF	Design and fabrication of a concrete gridshell using universal formwork and parametric–funicular form-finding	John Mikesch Assoc. Aia, Ali Tabatabaie Ghomi, Arek Mazurek Phd Pe Se F.Asce, Sooik Cho, Ali Seyedahmadian, Raha Sadat Kamravafar, Davide Zampini Phd, Alexandre Guerini and Enrique Terrado
358 PDF	A Reuse-Based Optimization Approach for the Design of Sustainable Steel Gridshell: Re_Grid project	Valentina Tomei, Ernesto Grande, Marina Serpe and Maura Imbimbo
359 PDF	Non-linear Assessment of Gridshells designed with Reuse-Based Optimization Approaches incorporating Reclaimed Structural Elements	Marina Serpe, Valentina Tomei, Ernesto Grande and Maura Imbimbo
361 PDF	Innovative Connectors for Enhanced Disassembly of Timber Structures	Pietro Rigo, Andrea Polastri, Riccardo Fanti, Liam Ottenhaus and Luca Pozza

Transformable Structures (WG15)

Date: Tuesday, September 15 Time slot: 14:20-16:00

Room: 5i

Chairs: Simon Guest, Ann Christine Sychterz

ID	Title	Authors
12 PDF	Comparing computational and experimental behaviour of deployable ground anchors	Ann Sychterz
150 PDF	A triangular spherical foldable grid	Florian Tucek
172 PDF	Directions of circularity in architecture	Szymon Jankowski
185 PDF	Cellular rigid origami based on icosahedral quasicrystals	Kanata Warisaya, Kazuya Saito and Tomohiro Tachi
224 PDF	A Movable Stainless Steel Structure Low Carbon Design Near Sea	Leming Gu, Mingzhuo Rui, Haixia Liu, Laizhu Jiang, Jian Zhou and Jie Chen

Stability and Dynamics of Metal Spatial Structures and Gridshells (WG8)

Date: Tuesday, September 15 Time slot: 14:20-16:00
Room: 8i
Chairs: Toru Takeuchi, Jinzhi Wu

ID	Title	Authors
91 PDF	SEISMIC FORCE REDUCTION FACTOR EVALUATION OF DOUBLE-LAYERED DOMES SUPPORTED BY MULTISTORY SUBSTRUCTURES	Yuki Terazawa, Tomohiko Kumagai and Toru Takeuchi
131 PDF	Estimation of Elastic Buckling Loads of Single-Layer Lattice Shells Using Only Linear Buckling Analysis	Takahiro Obata and Kenji Yamamoto
145 PDF	Experimental modal analysis of a triplex tensegrity tower	Paulina Obara, Andrzej Rutkiewicz and Edyta Kowalska
274 PDF	Design and Research of Rigid Catenary Structure in Performing Art Center	Chao Peng, Jian Zhou and Haixia Liu
281 PDF	Load Redistribution Approach for Enhancing Robustness in Highly Optimized 3D Spatial Frame Structures	Matt Aldham, Guixin Lin and Camille Chevrier

Tuesday, September 15, 16:30-18:10

Shell Builders (in memoriam of R. Sundaram) (WG5, WG17)

Date: Tuesday, September 15 Time slot: 16:30-18:10

Room: 7i

Chairs: Satwant Rihal, Marisela Mendoza and Sigrid Adriaenssens

ID	Title	Authors
37 PDF	Jack Christiansen: Shell Builder of the American Pacific Northwest	Tyler Sprague
292 PDF	Precast Concrete Shells in Mexico. Past and Future	Juan Gerardo Oliva-Salinas and Marcos Javier Ontiveros-Hernandez
348 PDF	The Shell Builder as System Innovator: The South Brothers and the Patented Monolithic Dome	Andrew South
662 PDF	RESCUING FÉLIX CANDELA’S MASTERPIECE: LOS MANANTIALES SHELL IN XOCHIMILCO	Juan Ignacio del Cueto, Andrés López and Marisela Mendoza
717 PDF	Construction of UHPC gridshells and shells	Luigi Fenu, Alireza Hosseini, Bruno Briseghella and Gian Felice Giaccu

AI-Informed Structural Engineering and Design (SG1)

Date: Tuesday, September 15 Time slot: 16:30-18:10

Room: Sala Fucine

Chairs: Robert K. Otani, Kam-Ming Mark Tam

ID	Title	Authors
630 PDF	Asterisk 2.0: A Directed Acyclic Graph Framework for Scalable AI/ML Prediction in Structural Engineering	Robert Otani
653 PDF	Quantitative multifractal damage assessment of prefabricated concrete components using Random Forest regression model	Zheng He, Hongzhe Zhang, Haotian Chen, Liang Li and Shulan Lang
666 PDF	Can AI Co-Design Structures? An AI Agent for Early-Stage Structural Design	Ricardo Maia Avelino, Tom Van Mele, Mennatallah El-Assady and Philippe Block
691 PDF	AI-Integrated Workflows for Structural Form-Finding and Performance Optimization in Architecture	Edgar Stach and Antoinette Heberling
728 PDF	(Remote presenter) Beyond the modal-rank ceiling: nonlinear optimal sensor placement for digital-twin wind-pressure monitoring of large-span spatial structures	Zi-Xuan Zeng, Jin-Hui Zhang, Qi-Lin Zhang, Jin-Yu Li, Yan-Ke Tan, Bin Yang and Peng Huang

Pavilion presentations (WG21, IW)

Date: Tuesday, September 15 Time slot: 16:30-18:10

Room: Sala Duomo

Chairs: Claudio Intrigila, Juan Jose Castellon

ID	Title	Authors
730 PDF	ReBuild a Curved-Folding Dome	Kevin Moreno Gata, Jil Schneider, Alex Seiter, Thorsten Pofahl, Denis Grizmann and Martin Trautz
342 PDF	CC-Chair: Reconfigurable Multistable Curved-Crease Origami Chair Block	Munkyun Lee, Joseph Gattas, Kumiko Hayashi, Yuya Kurusu, Toshiyuki Morishima, Hiroshi Sato, Mizuki Shigematsu, Maiko Takiguchi, Hiroki Tamai, Issei Tanaka and Tomohiro Tachi
317 PDF	From Stress Fields to Built Form: Optimization and Discretization Strategies for Textile Reinforced Concrete Shells	Edoardo Sesti, Valerio Varano, Agnes Weitland and Stefano Cammareri
267 PDF	Origami-inspired modular system made of thin-walled carbon-textile reinforced concrete	Carlos G. Gomes, Linda Cortes Satizabal, Kira Heins, Alexander Scholzen, Thomas Gries and Rostislav Chudoba
619 PDF	Tracing Motion: Lightness of Self-Shaping Composite Architecture	Yuval Harel, Ron Fisher, Avigail Rich, Guy Austern and Arielle Blonder

Masonry shell structures: from historical principles to contemporary and future applications (IW)
Date: Tuesday, September 15 **Time slot:** 16:30-18:10
Room: 10i
Chairs: Vittorio Paris, Antonino Iannuzzo

ID	Title	Authors
228 PDF	Design and Construction of Ceramic Tile Vaulting in the Roofs of La Sagrada Familia, Barcelona.	Steve McKechnie, Esteve Umbert, Ramon Ferrando Rios and Christopher Noble
251 PDF	Preliminary study on stability analysis of movable dome structure in a simple configuration	Takara Muto and Ken’Ichi Kawaguchi
252	Structural optima of fan vaults: influence of geometric design on the limit load capacity.	Kristóf R. Varga and Tamás Ther
335 PDF	Funicular Lithics: Bridging Natural Stone and Additive Manufacturing in Segmented Shell Structures	Robert Fuse
241 PDF	(Remote presenter) An Integrated Digital Workflow for Discretized Funicular Shells Using Reusable 3D-Printed Clay Formwork	Piyush Khairnar and Erin Hunt

Timber and Bio-based Spatial Structures (WG12)
Date: Tuesday, September 15 **Time slot:** 16:30-18:10
Room: 9i
Chairs: Andrea Micheletti

ID	Title	Authors
263 PDF	Contemporary Timber Gridshell Design: Case Studies of Three Freeform Roof Structures	Florian Meier and Filip Götborg
290 PDF	Fabrication of Doubly Curved Densified Wood Panel for Continuous Timber Shell Structure	Daniel Sang-Hoon Lee, Haewon Moon and Natalie Mossin
370 PDF	Numerical and experimental study of a two-way tensile timber floor system	Cynthia Hoffmann, Stanislav Levchuk and Eike Schling
389 PDF	Structural Performance and Constructability of Joints in a Bamboo Lattice Shell Structure with Glass Panels as Cladding	Nanami Iribe, Yuya Yokoyama, Hiroki Awaji, Kazunori Nakayama and Takuo Nagai
453 PDF	Wooden Diagrid double curvature interactive frame for structural real time behavior visualization	Ronan Bolaños Linares, José Antonio Vázquez Rodríguez and Rodrigo Shiordia López

Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Date: Tuesday, September 15 **Time slot:** 16:30-18:10

Room: 1i

Chairs: Daniele Lancia, Davide Pellecchia

ID	Title	Authors
13 PDF	Numerical vs. Physical Modelling: Comparisons on Form-Finding and Buckling Load Testing of an Interlaced Kagome Gridshell	Marc Leyral and Quentin Chef
199 PDF	AI-Supported Fractal-Curved Toolpath (FCT) Design for 3D Concrete Printing of Space-Filling Lattice Shell Structures	Iasef Md Rian, Yuhan Li and Toshifumi Mae
272 PDF	An innovative sunflower-patterned three-strut fully hinged suspen-dome with varying geometric parameters: Geometric characterization and prestress sensitivity analysis	Yuan Tu, Shi L Dong, Yuan Feng, Xin An Xiang, Aicheng Song, Yongc Dong, Jia Zeng and Xing-Fei Yuan
315 PDF	Active bending of Arundo donax bundles: from interlayer slip analysis to full-scale gridshell prototyping	Pierfrancesco Corbo, Giacomo Iovane, Daniele Lancia, Luigi Alini and Beatrice Faggiano
731	Gridshells optimization with multiple load scenarios	Stefano Invernizzi

Adaptive and Deployable Spatial Structures (IW)
Date: Tuesday, September 15 **Time slot:** 16:30-18:10
Room: 4i
Chairs: Fernando Fraternali, Rana Nazifi Charandabi

ID	Title	Authors
623	Data-Efficient Learning of Nonlinear Dynamics in Tensegrity Prism Chains using Physics-Informed Neural Networks	Hazar Etteyeb, Fernando Fraternali, Muhao Chen, Ada Amendola and Rana Nazifi Charandabi
334 PDF	Load-bearing capability analysis of Core-Expander tensegrity cells	Muhao Chen, Andrea Micheletti, Gaetano Pavone and Mario Daniele Piccioni
246 PDF	Analytical and Experimental Studies on Mechanical Properties of Deployable Lenticular CFRP booms	Yudan Jin, Minger Wu, Yang Zhou, Wenxi Ge and Wencong Huang
115 PDF	A reconfigurable hardware-geometry system for the assembly of multiple structures from finite panel kits and adaptable nodes	Sam Wilcock, Emil Korkis and Ornella Iuorio
802	Kinetic language: meaning through motion	Matteo Mosca and Andrea Galli

Nonlinear Computational Mechanics of Materials and Structures (IW, GIMC)

Date: Tuesday, September 15 **Time slot:** 16:30-18:10
Room: 3i

Chairs: Francesco Marmo, Davide Pellecchia

ID	Title	Authors
51 PDF	Multi-Objective Optimisation of sustainable shell structures under geometric and performance constraints.	Francesco Ascione, Alessandro Leonardi and Saverio Spadea
67 PDF	Design Optimization of Prestressed Functionally Graded Concrete Beams	Noëlle Ariaux, David Nigl, Andreas Gienger, Lucio Blandini and Oliver Sawodny
233 PDF	A novel dynamic relaxation method with finite rotations for the nonlinear analysis of lightweight structures	Marcio de Souza and Ruy Marcelo Pauletti
332 PDF	Form finding using a coupled condensed implicit scalar field	Ashish Doma
338 PDF	Topology optimization of density-graded architected shells in a multiscale design framework	Lucia Mariani, Giuseppe Rosi, Arnaldo Casalotti, Valerio Varano and Massimo Cuomo

Adaptive Futures: Urban Mining and Structural Reuse as Generative Design Practice (IW)

Date: Tuesday, September 15 **Time slot:** 16:30-18:10

Room: 11i

Chairs: Elena Guidetti, Matteo Robiglio

ID	Title	Authors
293 PDF	In-Situ Assessment of Timber Structures for Predictable Reclaimed Timber Supply	Henri von Mulert, Luisa Sander, Prof. Dr.-Ing. Alexander Stahr, Prof. Dr.-Ing. Mike Sieder and Jan Grobe
449 PDF	Structural Efficiency as Digital Metaphor: Lightweight Interventions in Italy’s First Bitcoin Hub	Enrico Pontello
568 PDF	From urban waste to lightweight construction: Experimental performance of recycled "bovedilla" blocks	Mauricio Díaz Valdés and Ronan Bolaños Linares
596 PDF	"power*stage: Transforming decommissioned wind turbine blades into innovative shell structures"	Ina-Marie Orawiec, Marcin Orawiec, Andreas Büter and Matthias Oppe

Graphical Methods (WG15)

Date: Tuesday, September 15 **Time slot:** 16:30-18:10

Room: 5i

Chairs: Masoud Akbarzadeh, Corentin Fivet

ID	Title	Authors
39 PDF	Quantifying the Nervi Gap in Ribbed Concrete Floors: Isostatic-Line Design versus Shell-Based Topology Optimization	Ahmad Majdoub and David M. Ruggiero
306 PDF	Moment Functions and Static-Geometric Duality in Plates	Cameron Millar and Petia Tzokova
341 PDF	Topology-aware identification of independent edges in algebraic 3D graphic statics	Yao Lu, Yefan Zhi and Masoud Akbarzadeh
486	Conceptual Structural Design of Nets via Discrete Airy Stress Functions and the Force Density Method	Marina Konstantatou and Allan McRobie
597 PDF	Balancing Technology and Tradition: Assessment and Repair of a Guastavino Dome in Brooklyn	Javier Cañada, Vicente Galván, Vicki Arbitrio, Max Brown, Julián Feldberg, Dara Hecht, Celia Julve, Olivia Kalban, Susanne Mackiw, Marcelo Mazón, Miryam Varona, Ramón Gilsanz and John Ochsendorf

Case Studies of Tensioned Membrane Structures: From Concept to Completion (WG6)
Date: Tuesday, September 15 **Time slot:** 16:30-18:10
Room: 2i
Chairs: Paolo Beccarelli

ID	Title	Authors
280 PDF	Rehabilitation of a Hurricane-Damaged Cabledome: Membrane Failure, Assessment, and Replacement at Tropicana Field	Eric Dahl, David Campbell and Sarah Harms
396 PDF	Implementation of an archeological roof design through form-finding processes	Giulio Fanni, Andrea Secondino, Stefano Gabriele, Luigi Franciosini, Giulia Marasco and Amedeo Manuello Bertetto
427 PDF	Parashade: A prototypical re-use lightweight shading structure	Stephan Engelsmann and Florian Klein
458 PDF	Advances in building envelopes based on architectural membranes	Paolo Beccarelli, Roberto Maffei and Rakhmat Fitranto Aditra
504	X-Madrid. From white paper to reality	Santiago Guerra, Guillermo Capellán and Julio González

Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Date: Tuesday, September 15 **Time slot:** 16:30-18:10

Room: 8i

Chairs: Suduo Xue, Toru Takeuchi

ID	Title	Authors
25 PDF	Cloud City Aalborg: A Fusion of Art, Engineering, and Computational Design	Viktoría Henriksson Bratt, Jeroen Janssen and Daniel Bosia
86 PDF	Strategies of sustainable design concepts for future architecture and structural engineering	Martin Trautz
227	Optimization Strategies for Large-Scale Steel Gridshells: The Jawharat Mall Project in Riyadh	Goni Josu, Ascaso Ivan, Batuecas Yeray, Quintana Aitor, Giardino Francesco and Irigoyen Asier
269	An Efficient Form-finding Process of Curvilinear Steel Bar Structures	Jolanta Dzwierzynska
636 PDF	THE PARAMETRIC OUTER FACADE OF ROIG ARENA, VALENCIA	Enrique Goberna, Knut Stockhusen, Pedro Peña and Fernando Escamilla

Design for disassembly, reconfigurable structural systems (WG18)

Date: Tuesday, September 15 **Time slot:** 16:30-18:10
Room: 12i
Chairs: Olivier Baverel

ID	Title	Authors
270 PDF	Inventory-Driven Generation of Isosceles Triangulations for Gridshell Structures	Saba Salehi Sheijani, Robin Oval, Jagoda Cupać and Christian Louter
582 PDF	A Reversible fastener for Robotic and Aerial Assembly	Valentina Beatini and Alessandro Tasora
634 PDF	Structural design of a long-span demountable timber beam grillage roof for an urban research pavilion in Stuttgart, Germany	Jan-David Kleefeldt, Gregor Neubauer and Prof. Dr.-Ing. Jan Knippers
669 PDF	Adaptive Assembly of Found Objects: A Structural Prototype from Discarded Bicycle Frames	Lukas Allner, Daniela Kröhnert, Andrea Rossi and Naomi Neururer
712 PDF	Adaptive Human-Robot Assembly of Reconfigurable Discrete Rh12 Structures using a Multiscalar Vision-based Feedback System	Tahmures Ghiyasi, Sina Mostafavi and Ali Ghazvinian

Wednesday, September 16, 14:10-15:50

100 Years Heinz Isler - Sergio Musmeci - Frei Otto Role Models for Form Finding (WG17)

Date: Wednesday, September 16 Time slot: 14:10-15:50

Room: 7i

Chairs: John Chilton, Giulia Boller

ID	Title	Authors
153 PDF	Frei Otto’s Experimental Approach – From Physical Models to Lightweight Structures	Baris Wenzel and Christiane Weber
207 PDF	Form-finding the shells of Michael Balz	John Chilton and Markus Balz
244	Otto’s First Studios: Introducing Physical Modeling of Experimental Structures to U.S. Architecture Students (1958-1962)	Rob Whitehead
355 PDF	Flat slabs made of Ferrocement designed by Pier Luigi Nervi	Satoru Kimura
529	Digital Models of Architectural Precast Concrete Shell	José Luis Encarnación Miranda, Juan Gerardo Oliva Salinas, Ronan Bolaños Linares, Mauricio Enrique Reyes Castillo, Carlos Arce León, Eduardo Ruiz Vallejo, Eduardo Daniel Ocón Olivares and Juan Carlos Soto Romero

**On Tectonics in Architecture between Aesthetics and Ethics:
Form and Structure (IW)**

Date: Wednesday, September 16 **Time slot:** 14:10-15:50

Room: Sala Duomo

Chairs: Amedeo Manuello Bertetto, Stefano Gabriele, Federica Joe Gardella

ID	Title	Authors
34 PDF	Historic precast concrete shells. Eduardo Torroja and Heinz Hossdorf	Pepa Cassinello
69 PDF	"Popped up like mushrooms" A Record of more than one hundred concrete shell structures in Guadalajara, Mexico	Luis Manuel Ochoa Sosa
154 PDF	Integrating form-finding into architectural design of post-formed timber gridshells	Maria Ilwikal Verhulst Babb, Jacob Voorthuis, Rob Wolfs and Jan Schevers
166 PDF	Integrating Acoustics as a Design Parameter: A Comparative Study in Spatial Structures	Şennur Fişicioğlu, Cédric Van Hoorickx and Marta Gil Pérez
213 PDF	Geometric Eligibility Criteria for Manually Constructible Doubly-Curved Block Structures	Aly Abdelmagid and Olivier Baverel

AI-Informed Structural Engineering and Design (SG1)
Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: Sala Fucine
Chairs: Kam-Ming Mark Tam

ID	Title	Authors
340 PDF	Reverse Grammar: Towards Machine-Assisted Rule Discovery for Generative Structural Design with MichellGPT	Jihyun Kim, Kam-Ming Mark Tam and Juney Lee
351 PDF	Generative design of structures under multi-criteria Life Cycle Assessment thresholds	Maxime Pollet, Adélaïde Feraille and Olivier Baverel
418 PDF	Capturing structural intuition: Human-gated imitation learning for structural design with flow matching	Tao Sun, Shaoyi Wang, Ramon Elias Weber and Simon Schleicher
530 PDF	(Remote presenter) A computer vision approach for the load time history estimation of lively individuals based on YOLO-v8 machine vision	Qilin Zhang, Yueru Wu and Bin Yang
325 PDF	(Remote presenter) From Semantic Intent to Equilibrium: A Text-Driven Neuro-Symbolic Form-Finding Framework for Spatial Structures	Jianguo Zhou and Wang Pan

Masonry shell structures: from historical principles to contemporary and future applications (IW)

Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 10i
Chairs: Elham Mousavian, Vittorio Paris

ID	Title	Authors
380	Structural Role of Ribbing in Roman Domes: A Parametric Shell-Based Analysis of the Octagonal Hall in Rome	Claudio Sebastiani, Arianna Venettoni, Stefano Gabriele and Silvia Santini
398 PDF	Graph Neural Networks for Fast Kinematic Limit Analysis of Virtually Generated Minarets	Mohammad Pourfouladi, Sare Nur Avcı and Gabriele Milani
517 PDF	Mixed material patterning strategy for reclaimed brick masonry dome	Adam Ackermann, Vittorio Paris and Orsolya Gaspar
656 PDF	A Digital Framework to Integrate Multi-Domain Workflows in Carbon-Negative Compression-Dominant Construction	Daniele Florenzano, Alessandro Dell’Endice, Ricardo Maia Avelino, Tom Van Mele and Philippe Block

Timber and Bio-based Spatial Structures (WG12)
Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 9i
Chairs: Gaetano Pavone

ID	Title	Authors
460 PDF	Mechanical modeling of joints using 3D-printed carbon-fiber-reinforced resin blocks for full-culm bamboo structures and their application to the trial design of a 10 m-span truss	Yo Harada, Takuo Nagai and Toshiaki Kimura
465 PDF	The Ottenburg: From Reciprocal Frame Research into Organic Architecture	Tom Godthelp and Arjan Habraken
494	EXPLORING THE POTENTIAL OF LOCAL HARDWOOD RESOURCES FOR MODULAR GRIDSHELL DEVELOPMENT	Carlos Martínez Criado, Almudena Majano-Majano, Manuel Antonio Robles-Jiménez and Antonio José Lara-Bocanegra
493	MODULAR ELASTIC TIMBER GRIDSHELLS: DEVELOPMENT AND LOAD TESTING OF A FULL-SCALE PROTOTYPE FABRICATED FROM EUCALYPTUS LVL	Carlos Martínez-Criado, Antonio José Lara-Bocanegra, Juan Ortiz-Sanz and Almudena Majano-Majano
519 PDF	Efficient Timber Structural Systems Using Short-Length Regional Timber: A Case Study of a High School Gymnasium	Yosuke Kinoshita

Bridging high-tech design and low-tech construction (WG22)
Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 1i
Chairs: Eike Schling, Cyril Douthe

ID	Title	Authors
523 PDF	From archive to analysis: A computational workflow for structural reconstruction and assessment of complex existing buildings	Jenna Schnitzler, Alexandra Steelman, Jonathan Gagnon and Guy Nordenson
638 PDF	Digitally Fabricated Bio-based Structural Systems: Experimental Validation of a CNC-milled Interlocking Joint Component	Giorgio Castellano, Federica Pradella, Peiran Liu, Marco Simoncelli, Fabio Bazzucchi and Ingrid Maria Paoletti
657 PDF	Irregular Material - Design Interaction: Combinatorial Tetrahedral Assemblies from Vulcanized Fiber	Lukas Allner, Gonzalo Vaíllo and Karolin Schmidbaur
683 PDF	Discrete 3D Printed Clay Columns: Structural Drums, Core–Skin Systems and Post-Tensioning Strategies	Cristina Nan, Nikolett Ásványi and Arjan Habraken
693 PDF	Design and Development of Foldable Aquatic Play Structures: Transitioning from Rigid GFRP to Flexible TPU-Mesh Composites	Amir H. Khalili, Nadia Abdollahi, Abbas Milani and Rudolf Seethaler

Advances in design and analyses of deployable structures (IW)
Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 4i
Chairs: Davide Pellecchia, Helmut Pottmann

ID	Title	Authors
104 PDF	Geometric Inverse Design of Collapsible Gridshells	Davide Pellis
262 PDF	Vacuum formwork system for thin shells	Aymeric Manté, Olivier Baverel and Romain Mesnil
313 PDF	Programmable Size-Dependent Locking of Stacked Miura-ori-Based Deployable Pillars	Chaewon Baek, Jinkyu Yang and Hiromi Yasuda
322 PDF	Modeling of Crease Patterns in the Deployable Leaves of Victoria amazonica and Their Implications for Design Methodology	Takuto Maruoka, Mika Araki, Kazuya Saito and Chisaki Kitajima
668 PDF	3D-Printed Multi-Material Tension-Compression Deployable Structures: Programmable Shape Transformation through Additive Manufacturing	Teng Teng, Yefan Zhi, Yi Yang and Masoud Akbarzadeh

Advances in Computational Modeling and Structural Analysis (WG13)

Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 3i
Chairs: Ann-Kathrin Goldbach, Roland Wüchner

ID	Title	Authors
223	Parametric Equivalent Frame Modelling: Bridging Traditional Masonry Practices and Modern Seismic Standards	Romane Maudru, Etienne Antuszewicz and Klaas De Rycke
245 PDF	Design and engineering of the Freedom Mobile Arch: World’s largest free-span arch mass timber roof structure	Kent Pretorius and Robert Jackson
299	An Analytical Evaluation of ultra-thin layered, 3D-printed, hollow-core section, recyclable formwork for casting complex concrete geometries	Mohsen Vatandoost, Peter von Buelow and Wes Mcgee
436 PDF	Managing Complex Parametric Structural Models: Geometry, Metadata, and Interaction Concepts	Adam Orlinski, Clemens Preisinger, Marc Serra Ureta, Matthew Tam and George Lobe

Computational Methods and Design Strategies for Structural Reuse

Date: Wednesday, September 16 Time slot: 14:10-15:50
Room: 11i
Chairs: Ornella Iuorio, Gabriele Mirra

ID	Title	Authors
30 PDF	Interlocking: 3D Biomass Shell Structure Modules	Maria Paz Gutierrez and Kahong Lam
32 PDF	Standardized Pre-Assessment of Existing Building Components for Reuse: A Measurement-Efficient Workflow	Maximilian Klammer and Benjamin Kromoser
89 PDF	Design Space Exploration for Inventory-Aware Structural Reuse through Distributional Supply–Demand Alignment	Raman Suliman and Iva Kovacic
195 PDF	Shape design for timber reciprocal-framed grid shell with three-axis machined interlocking joints.	Shunki Imai, Toshiaki Kimura and Hiroaki Kawamura
92 PDF	(Remote presenter) Design for reuse of reclaimed concrete components: A pedagogical framework	Hanbing Zhao, Kwong Lau Hung and Shuaizhong Wang

Structural Origami (WG15)

Date: Wednesday, September 16 Time slot: 14:10-15:50

Room: 5i

Chairs: Tomohiro Tachi, Rupert Maleczek

ID	Title	Authors
163 PDF	Folding stone : Structural design of origami-based stone structures by load decomposition	Léo Wichlacz, Romane Boutillier, Olivier Baverel and Cyril Douthe
415	Preliminary study on the shape design and mechanical behavior of developable tubular structures generated from curved origami	Tianhao Zhang
417 PDF	Kirigami-Snap: Geometric Design Methods for Bistable Multi-Layer Cores	Chisaki Kitajima, Rupert Maleczek and Ynon Toledano
475 PDF	The Miura–Sarrus Deploying Structure: A One-DOF Transformable Cellular System for Deployable Architecture	Anastasia Ioannidi and Katherine Liapi
648 PDF	Experimental plastic folded-plate structure using a special joining technique	Stephan Engelsmann

Materials and Lifecycle Performance of Architectural/Structural Membranes (WG6)
Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 2i
Chairs: Siddhartha Ghosh

ID	Title	Authors
44	Transparent radiative cooling films for green-house building: mechanical properties and thermal performance	Junting Xiang, Jianhui Hu, Wujun Chen, Paolo Beccarelli, Jingtao Xu, Takhir Razykov and K.M. Kuchkarov
113 PDF	Calibration of Partial Safety Factors for Tensile Membrane Structures via Active Learning Based Reliability Analysis	Ajmal Babu Mahasrankintakam, Siddhartha Ghosh and Dunggam Gao
378 PDF	Central tearing behaviors and residual strength predicting models of PVC coated fabrics with initial slits	Tengfei Wang, Yang Yu and Ying Sun
442 PDF	A PINN model for response prediction of inflatable membrane structure	Zhi Zheng, Jianhui Hu, Zhen Yang, Xiang Li, Wujun Chen, Chengjun Gao, Kazuki Hayashi, Igor Ilin, Anastasia Levina and Hua Suo
120 PDF	(Remote presenter) Masserberg Health Centre – renewal of the membrane roof	Bernd Stimpfle

Stability and Dynamics of Metal Spatial Structures and Gridshells (WG8)

Date: Wednesday, September 16Time slot: 14:10-15:50

Room: 8i

Chairs: Ying XU, Yuki Terazawa

ID	Title	Authors
112 PDF	Graph-Based Intelligent Prediction of Non-linear Buckling Capacity for Single-Layer Spherical Gridshells under Topology-Constrained Imperfection Fields	Chenyu Wu, Shouchao Jiang, Qiang Zeng, Yang Xiang and Shaojun Zhu
194 PDF	Design of a Long-Span Steel Roof Structure Partially Supported by Stay Cables in an Airport Terminal	Jian Zhou, Haixia Liu, Yaokang Zhang, Ruifeng Wang, Leming Gu and Chao Peng
202 PDF	Axial Compression Behavior of Angle Steel Members Reinforced Non-Destructively with Double-Sided GFRP	Junxia Qiu, Bin Xu, Huajie Wang, Hongliang Qian, Erxian Zeng, Heng Feng and Feng Fan
352	Full-Process Dynamic Simplified Method for Super-Large Steel Cooling Towers under Turbulent Wind	Xiaolei Zhao and Lin Zhao
727 PDF	Experimental investigation of the progressive collapse behavior of suspendome with suspended substructure	Ganping Shu, Haoxiang Liao, Rui Pan, Jin Chen and Baofeng Zheng

Reuse of structural components (WG18)
Date: Wednesday, September 16 **Time slot:** 14:10-15:50
Room: 12i
Chairs: Olivier Baverel

ID	Title	Authors
405 PDF	A Digital Workflow for Structural Reuse of Timber Elements in Buildings – A Case Study of Circular Transformation	Hanne Seeberg, Sofie Friis Dahl-Nielsen, Marcin Luczkowski and Francesco Mirko Massaro
491 PDF	Current understanding on unscrewing fully threaded screws from wood	Maria Naïssi, Denis Grizmann and Martin Trautz
528 PDF	Reuse and Repurposing of Materials in the Reconstruction of the Crystal Palace (1852-1854)	Yosuke Komiyama
531	Assessment of acoustic non-destructive methods for determining mechanical properties of structural timber	Bartłomiej Osowski, Kacper Wasilewski and Jan Pełczyński
631 PDF	Life cycles of the temporary spatial structure TemporActive: processes of use, reuse, and experimental assessment	Carol Monticelli, Alessandra Zanelli, Maria Giovanna Di Bitonto, Ketankumar Solanki and Haya Alhussaini

Wednesday, September 16, 16:20-18:00

Historiography, Archives and the Collaborations of Structural Engineers

Date: Wednesday, September 16 **Time slot:** 16:20-18:00

Room: 7i

Chairs: John Ochsendorf, Guy Nordenson

ID	Title	Authors
505	The Anti-Hero: Using Archives to Examine Professional Systems and Their Influence on Collaboration	Marci Uihlein
521 PDF	Concept and Structure: Candela’s Palacio de los Deportes, Ciudad de México	Guy Nordenson, Ana Nuno de Buen, Caio Soares-Azeredo and Alexandra Steelman
543	Archival Insights into Structural Collaboration on the Munich Olympic Roofs	Giulia Boller and Ekkehard Ramm
635 PDF	The Palavela in Turin: connecting sources and retracing histories of an iconic large span prestressed vault (1961-2006)	Ilaria Giannetti, Martina Russo, Federica Ricci, Chiara Pagnotta Proietti and Edoardo Currà
664 PDF	CATALOGUE OF CUBIERTAS ALA: A QUANTITATIVE APPROACH TO THE PROFESSIONAL PRACTICE OF FÉLIX CANDELA	Juan Ignacio del Cueto

Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Date: Wednesday, September 16 **Time slot:** 16:20-18:00

Room: Sala Fucine

Chairs: Raffaele Cucuzza, Gianfranco Piana

ID	Title	Authors
641	Data driven Design to Production for Large Scale Projects in Computational Design	Ricardo Enrique Morelos Perez and Christian Wolkowicz
624	Accelerating inverse form-finding of materially efficient structural systems: Least-squares warm-starts for gradient-based optimizers	Adam Burke and Caitlin Mueller
603 PDF	Cable-net floor systems: a new type of tensile structures	Victor Ramirez
594 PDF	Shape to Inflate: A Simplified Workflow for Free-Form Inflatable Structures	Argyro Kleniati, Paraskevi Ioulia Chatziparaskevaidou, Filippos Valsamos, Panagiota Papamanou, Antigoni Kalykaki, Serra Susut, Christos Trompoukis and Dimitris Papanikolaou
318 PDF	A Framework for the Computational Design of Unbraced Timber Gridshells with Semi-Rigid Joints	Kaj Hasenaar, Arjan Habraken and Joey Janssen

Pavilion presentations (WG21, IW)

Date: Wednesday, September 16 **Time slot:** 16:20-18:00
Room: Sala Duomo
Chairs: Gaetano Pavone

ID	Title	Authors
237 PDF	Wood Hybrids: Multi-Species Spatial Timber Structures	Gengmu Ruan and Isak Worre Foged
103 PDF	ArchiCrochet: Failure Localization in Stitch-Based Structures	Skylar Vollmer and Farzaneh Oghazian
85 PDF	The Virtue of Looseness: Learning from Isler and Friedman	Timothy Ingleby
76 PDF	Pneumatically Stabilized and Actuated Structures Derived From Rigid-Ruling Curved Origami	Yiwei Zhang, Toru Inaba, Yuki Idosako, Takumi Kobayashi, Akira Moriya and Tomohiro Tachi
722	Out of the Basket: Rethinking a Fuller Dome through Making	Federica Pradella, Maria Giovanna di Bitonto, Luca Ofria, Mattia Giannetti, Simone Oggiano, Matteo Lomaglio, Fabio Bazzucchi, Mariacristina Loi, Deacon Marvel and Ingrid Maria Paoletti

Shells and Artificial Intelligence (WG5, SG1)
Date: Wednesday, September 16 **Time slot:** 16:20-18:00
Room: 10i
Chairs: Sigrid Adriaenssens, Stefano Gabriele

ID	Title	Authors
99 PDF	Dynamic Behaviour of Wind Turbine Towers as Slender Spatial Structures: Implications for Structural Health Monitoring	Marco Civera, Anita Maria Rubino, Luca Taiariol, Sérgio Pereira and Filipe Magalhães
132	Geometry Dataset for Statistical Mapping and AI-Assisted Design of Gridshell Structures	Chi-Tathon Kupwiwat and Putthiporn Suriyaporn
226 PDF	Exploring the multimodal latent space of free-form architectural shapes	Andrea Favilli, Matteo Giuntoni, Francesco Laccone, Paolo Cignoni, Luigi Malomo and Daniela Giorgi
639 PDF	Towards Physics Informed Machine Learning in Structural Design: Lessons Learned from Feature Engineering for Fiber Composite Lattice Buckling	Yanan Guo and Marta Gil Pérez
672	Generative AI for Gridshell Design: From Form-Finding to Structural Optimization	Daniel Bichara, Amedeo Manuello, Giuseppe Carlo Marano and Bernardino Chiaia

Bio-Inspired Design Across Scales: From Structural Engineering to Advanced Material Design (IW)
Date: Wednesday, September 16 **Time slot:** 16:20-18:00
Room: 9i
Chairs: Valentina Perricone, Stephanie Bachir

ID	Title	Authors
275 PDF	Exploring root architecture - Entanglement of Cultivation, Design, and Building	Petra Gruber, Andreas Körner, Camille Breuil, Clemens Preisinger, Damjan Minovski, Rebekka Waters, Dominik Einfalt and Thibaut Houette
297 PDF	Iterative Prototyping of Hybrid Timber–Mycelium Systems: Exploring Biological Bonding in Structural Connections	Celina Hunschok, Annette Bögle, Karsten Schlesier, Anika Wallbrecher and Lennard Thier
336 PDF	Engineering Plant Roots for Textile Structural Reinforcement	Dasani Madipalli and Ehsan Baharlou
347 PDF	Programming Incompatibility: Bio-Inspired Mechanisms for Mouldless Self-Shaping Architectural Surfaces	Arielle Blonder
271 PDF	(Remote presenter) Integrating Mycelium in Earth Construction: Redefining Structural Performance for Low-Carbon Building Materials	Ipsita Datta and Ehsan Baharlou

**From Architectural Geometry to Structural Geometry
(WG22)**

Date: Wednesday, September 16 **Time slot:** 16:20-18:00
Room: 1i
Chairs: Eike Schling, Cyril Douthe

ID	Title	Authors
151 PDF	Funicular free-form arches with spoke members	Lenke Sára Marozsi, Ágoston Péter Szesztay and Peter Varkonyi
162 PDF	Form-finding of funicular shapes with spectral geometry	Romain Mesnil and Kazuki Hayashi
243 PDF	Exploration of molded veneer structural typologies	Jitske Swagemakers, Kayla Ignatia Sidik and Paul Mayencourt
489 PDF	Accuracy in Measuring the Shape of Spatial Structures Using Photogrammetry of Aerial Drone Images	Eisuke Mitsuda, Tomohiro Inoue and Tomoka Maruhashi
539 PDF	Estimation of the equivalent continuum stiffness of periodic space frames	Alexandra Éva Kis and István Sajtos

Intelligent Design and Mechanical Behavior of Tensegrity Structures and Metamaterials

Date: Wednesday, September 16 **Time slot:** 16:20-18:00

Room: 4i

Chairs: Xiaodong Feng

ID	Title	Authors
408 PDF	Under-Deck Cable-Stayed Tensegrity Footbridge	Valentin Gomez-Jauregui, Jose-Andres Diaz-Severiano, Noemi Barral-Ramon and Sara Nuñez-Coronado
455	Second-order prestress stability and third-order rigidity in geometric constraint systems	Zeyuan He and Daniel Robertz
573 PDF	Impact of Design Standards on Energy Consumption of PCM-Integrated Large-Span Buildings	Guoqing Song, Zheng Li, Shaotao Xiao, Xudong Zhi and Feng Fan
680 PDF	Developable Tubular membrane tensegrity structures: design method and large-scale pavilion verification	Yuta Shimoda and Tomohiro Tachi
377	(Remote presenter) Interactive Design of Planar Quadrilateral Grid Shell Based on Self-Equilibrium Condition of Tensegrity	Jingyao Zhang and Sosuke Uemura

Numerical trends in Architectural Geometry (WG22)
Date: Wednesday, September 16 **Time slot:** 16:20-18:00
Room: 3i
Chairs: Toby Mitchell

ID	Title	Authors
231 PDF	On the relation between graph theory, redundancy and states of self-stress	David Forster and William F. Baker
311	Merging mechanical and geometrical constraints for the design of elastic gridshells using the guided projection algorithm	Nicolas Montagne, Romain Mesnil, Cyril Douthe and Olivier Baverel
502 PDF	Form-finding of multi-layer tensioned cable stadium roofs using the Airy function	Toby Mitchell and Alloy Kemp
628 PDF	Smooth Freeform Facades from Spherical, Conical, and Flat Panels	Anthony Ramos-Cisneros and Helmut Pottmann
546 PDF	The structures shaped by geometry	Claudia Cennamo

Membrane Structures at a Crossroad: Innovation and Design
Between Synthetic and Natural Materials (IW)

Date: Wednesday, September 16 Time slot: 16:20-18:00

Room: 11i

Chairs: Alessandra Zanelli

ID	Title	Authors
68 PDF	Suspended or flying?	Josep Llorens
431 PDF	Design Guidelines for Double-Layer Textile Façades with Integrated Fog Harvesting Panels: A Focus on Cavity Dimensioning	Bin Liu and Maria Giovanna Di Bitonto
448 PDF	Material-Informed Design and Fabrication Strategies for CNC-Knitted Natural-Fibre Membranes in Adaptable Indoor Screening Systems	Ilaria Pugliese, Giuseppe Noventa and Alessandra Zanelli
506 PDF	Durability-driven life cycle assessment framework for photovoltaic textile components: a comparative study of integration strategies	Siman Zhang, Carol Monticelli and Alessandra Zanelli
563 PDF	Harnessing the potential of scales for domed structure envelopes	Liangang Tong, Gian Luca Brunetti and Alessandra Zanelli

Transformable Structures (WG15)

Date: Wednesday, September 16 Time slot: 16:20-18:00

Room: 5i

Chairs: Niels De Temmerman, Ann Christine Sychterz

ID	Title	Authors
316 PDF	Formation Method of Saddle-shaped Surfaces with Negative Gaussian Curvature Using Auxetic Structures	Naoki Miyamoto, Mika Araki, Hirotaka Ujioka and Chinatsu Ofusa
362 PDF	Deploying kirigami structures under various loads	Joo-Won Hong, Alejandro Ibarra, José Bico, Etienne Reyssat and Benoit Roman
372 PDF	Discovering the Limits of Scissor Linkages	Çetin Süalp, Feray Maden and Nilay Coşgun
426	Morphable metasheets: a general and modular approach to reusable shape-shifting structures	Marino Arroyo, Antonio DeSimone, Giovanni Noselli, Jan Zavodnik and Kimia Banihashem
679 PDF	Alternating Space Truss (AST): Integrating Geometric Configuration and Structural Performance in Tower Structures	Takahiro Kishimoto

Shape-Changing Spatial Structures in Space: Design, Deployment, and Operational Frameworks for Orbital and Extraterrestrial Systems

Date: Wednesday, September 16 **Time slot:** 16:20-18:00

Room: 2i

Chairs: SeungDeog Kim

ID	Title	Authors
108 PDF	Design of Kirigami-Inspired Bistable Polyhedral Structures	Zhenglong Wang, Junwei Pan, Seungdeog Kim and Jianguo Cai
148 PDF	One-Degree-of-Freedom Kirigami-Based Deployable Mechanisms	Xiaoru Li, Junwei Pan, Marco Meloni and Jianguo Cai
173 PDF	An origami-based one-DOF deployable structure	Xiao Zhang, Minglve Liu, Yan Chen, Tianshu Wang and Gang Feng
187 PDF	Reconfigurable modules based on tangentially arranged scissor units	Yuan Liao, Hetao Hou, Jingjing Xu and Yaxin Li
724 PDF	Beyond PVC: Practice-Based Insights into Natural Fibre Membrane Structures	Milan Dragoljevic, Roberto Canobbio and Lais Meirelles Borsari

Teaching of Shell and Spatial Structures (WG20)
Date: Wednesday, September 16 **Time slot:** 16:20-18:00
Room: 8i
Chairs: Alireza Behnejad, Olga Popovic Larsen

ID	Title	Authors
43 PDF	Optimization of Lightweight Roofs Using Bamboo and Adobe: A Computational Approach Based on Dynamic Relaxation and Additive Manufacturing for Sustainable Construction	Nayar Cuitláhuac Gutierrez Astudillo
109 PDF	Interactive Augmented Reality Platform for Embodied Learning of Structural Design	Daehong Kim and Juney Lee
116 PDF	Building with Textiles: Teaching proceedings on model-based membrane design and experimental form-finding	Fabian Gottfried, Denis Grizmann, Alex Seiter and Martin Trautz
130 PDF	Timber Wave: Modular Reciprocal Timber Vault at the University of Washington	Tyler Sprague and Leif Johnson
365 PDF	Teaching Statics through Movement: Using Augmented Reality to Intuitively Teach Force Equilibrium	Lee Friedman, Yasushi Ishida, Eric Peterson, Nurit Kirshenbaum and Zelda Cole

Thursday, September 17, 11:10-12:50

100 Years Heinz Isler - Sergio Musmeci - Frei Otto Role Models for Form Finding (WG17)

Date: Thursday, September 17 **Time slot:** 11:10-12:50

Room: 7i

Chairs: John Chilton, Giulia Boller

ID	Title	Authors
424 PDF	Comparative assessment of Isler shell structures through stress ratio and Relaxed-Funicularity evaluation methods	Arianna Venettoni, Andrew Borgart, Valerio Varano and Stefano Gabriele
435 PDF	Scarcity as a Foundational Principle in the Works of Frei Otto, Heinz Isler, and Sergio Musmeci	Leon Hidalgo Alberca
601 PDF	Frei Otto 100: Reassessing the Spirit of Lightweight Construction	Lucio Blandini and Daria Kovaleva
690 PDF	Sergio Musmeci: Exploring structural form through integrated modeling methods	Lukas Ingold

AI-Informed Structural Engineering and Design (SG1)

Date: Thursday, September 17Time slot: 11:10-12:50

Room: Sala Fucine

Chairs: Pierluigi D’Acunto, Robert K. Otani

ID	Title	Authors
445 PDF	Constructability-aware assembly sequence planning of spatial trusses via tokenized reinforcement learning	Jingyang Liu, Jiangyang Zhao, Yang Song and Iasef Md Rian
482 PDF	ObjectiveFrame: An Interactive and AI-Augmented Tool for Form-Finding in 3D Beam and Spatial Structures	Jonas Lindemann and Karl-Gunnar Olsson
487 PDF	Bayesian Optimization for Simulation-Efficient Building Cost-Energy Design	Xue Zeng, Nils Jaeger, Rakhmat Fitranto Aditra and Paolo Beccarelli
583 PDF	Seismic damage evolution of masonry walls via a data-driven surrogate model	Yanfeng Zheng, Yufeng Kang, Boyuan Chen and Yaozhi Luo
604 PDF	Clustering principal stress directions for modular beam network design using machine learning	Rafael Pastrana, Robin Oval, Sigrid Adriaenssens and Ryan P. Adams

Advanced Manufacturing and Materials (WG21)

Date: Thursday, September 17 Time slot: 11:10-12:50

Room: Sala Duomo

Chairs: Stefano Gabriele, Andrea Micheletti

ID	Title	Authors
235 PDF	Toward a Roadmap for Non-Standard Structural Testing of Fibre-Wound Bio-Composites	Marta Gil Pérez
283 PDF	A Parametric Design Framework for Evolutionary Optimization and Robotic Fabrication of Flat Slab Systems	Niklas Mueller, Jan Bielak and Martin Classen
291 PDF	Fiber-Reinforced Compliant Hinges with Shape Memory Alloy Actuation for Responsive Façades	Edith A. Gonzalez, Hastia Asadi, Lisa Weiß, Masaki Tetsu, Kimia Jafarlavasani, Axel Körner, Götz T. Gresser, Larissa Born and Jan Knippers
391 PDF	Spatial Hollow-Core 3DP of ultra-lightweight building components: from extreme overhangs to lattice structures	Nik Eftekhari Olivo and Benjamin Dillenburger
242 PDF	(Remote presenter) A Computational Design-to-Fabrication Workflow for Freeform Deployable Structures Using Auxetic Lattice Mechanisms	Pepijn Feijen, Gabriele Mirra and Mauro Overend

Masonry shell structures: from historical principles to contemporary and future applications (IW)
Date: Thursday, September 17 **Time slot:** 11:10-12:50
Room: 10i
Chairs: Vittorio Paris, Antonino Iannuzzo

ID	Title	Authors
548 PDF	Construction and equilibrium of scaffold-free masonry shells	Vittorio Paris, Giulio Mirabella Roberti, Alessandro Beghini, Sigrid Adriaenssens, Davide Prati, Giuseppe Ruscica and Attilio Pizzigoni
549 PDF	DEM-Based Analysis of Flat Interlocking Vaults Using Rigid and Deformable Block Idealizations	Ghulam Kibriya and Elham Mousavian
659 PDF	Historical vaults and arches: conservation through permanent monitoring systems	Davide Bracale, Catalin Stratan, Nida Nayci, Andrea Micheletti, Hidayet Tağa, Alessandro Tiero, Evren Değirmenci, Nicoletta Marconi, Emre Akin, Simona Coccia, Ilaria Giannetti, Vincenzo Nicotra, Claudio Intrigila, Sreymom Vuth, Carlo Marocchini and Donato Abruzzese
661 PDF	DEM Analysis of masonry barrel vaults with different brick patterns subjected to settlements of the supports	Enrico Filippi, Marialorenza Vescovi, Erica Lenticchia and Daniele Ferretti
695 PDF	A combined DEM and smart monitoring approach for investigating a 3D-printed small-scale stereotomic flat vault	Lino Cusano, Terry Bennet, Francesco Picariello, Jane Burry and Antonino Iannuzzo

Timber and Bio-based Spatial Structures (WG12)

Date: Thursday, September 17 Time slot: 11:10-12:50

Room: 9i

Chairs: Stefano Invernizzi

ID	Title	Authors
551 PDF	Design of a reciprocal structure from construction wood waste: a design from a limited stock approach	Gabrielle Nicolas, Ahmed Soliman, Didier Snoeck and Lars De Laet
581 PDF	Exploring Timber Shell Forming: An Incremental Method for Continuum Shells	Haewon Moon, Daniel Sang-Hoon Lee, Olga Popovic Larsen and Natalie Mossin
612 PDF	Viable Simplicity and the Hangar Museum: benchmarking Beaver3D for a 50 m-span timber arch roof	João Pini, Renan Prandini, Marcio Sartorelli, Lucas Nunes and Hélio Olga
622	A Multi-Output Artificial Intelligence Framework for Seismic Response Prediction and Sensitivity Analysis of Timber Spatial Structures	Hazar Etteyeb, Ada Amendola, Fernando Fraternali, Raimondo Luciano and Magdalini Titirla
677 PDF	Numerical evaluation of topology optimization method for materially efficient timber beam designs	Jackson Jewett and Paul Mayencourt

Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Date: Thursday, September 17 **Time slot:** 11:10-12:50

Room: 1i

Chairs: Davide Pellecchia, Salvatore Sessa

ID	Title	Authors
74 PDF	Structural Network Organization of LVL Shell Roofs	Sichen Dong and Toni Kotnik
344 PDF	From Form-Finding to Construction: Grid Pro, an Integrated Workflow for Active-Bending Timber Gridshells	Daniele Lancia, Pierfrancesco Corbo and Sergio Pone
368 PDF	Design of a reticulated zonohedron dome using natural bamboo and spherical nodes	Silvia Akemi Shiraki Donatangelo, Letícia Scantamburlo, Ricardo Granata, Marcelo Bianco, Ruy Pauletti and Leila Meneghetti
428 PDF	Survey of Geodesic Methodologies	Christopher Kitrick
485 PDF	Funicular Load Space: States of Self-stress as Analysis Freedoms	Marina Konstantatou, Giancarlo Torpiano, Arek Mazurek, William Baker, Cameron Millar and Allan Mcrobie

Adaptive and Deployable Spatial Structures (IW)

Date: Thursday, September 17 Time slot: 11:10-12:50

Room: 4i

Chairs: Rana Nazifi Charandabi, Gaetano Pavone

ID	Title	Authors
538 PDF	Study on Mechanisms and Motion Analyses of Deployable and Expandable Structures for Space Habitation	Momoe Terata, Inoue Fumihiro, Kazuya Kato, Yasuhiro Fuchita, Yoji Ishikawa and Satoshi Yuzawa
614	Enumeration of lattice space frames using a one-piece interlocking module	Sohyun Jin
615 PDF	Drop2Deploy: Design and Development of a Bistable Unit for Modular Deployable Ultralight Truss Structures	Victor Ferdinand Guimbretiere, Jacob Matthew Gasper, Fani Derveni and Marirena Kladeftira
446 PDF	Transformable Spatial Structures Based on Discrete Tessellation: The Wood Beehive System	Vincenza Savino, Ginevra Salerno, Valerio Varano, Stefano Gabriele and Nicola Parisi
483 PDF	(Remote presenter) Air Teeter: Computational Design and Fabrication of Networked Reciprocating Pneumatic Structures	Sofia Papastathopoulou, Maria Ioanna Pantazi, Mario Gherase, George Dimopoulos, Georgia Deli, Christos Trompoukis and Dimitris Papanikolaou

Nonlinear Computational Mechanics of Materials and Structures (IW, GIMC)
Date: Thursday, September 17 **Time slot:** 11:10-12:50
Room: 3i
Chairs: Luciano Rosati, Francesco Marmo

ID	Title	Authors
219 PDF	A cracked elastic collapse model for slender masonry arches	Emil Adiels, Baraa Elmoussa, Tom Van Mele, Philippe Block and Chris J K Williams
371 PDF	Numerical modeling of fabric formworks for concrete shells	Ruy Marcelo Pauletti, Leila Cristina Meneghetti and Murilo Schmidt Oliveira Soto
651 PDF	Topology Optimization of Passive–Active Continua Under Eigenstrain Actuation with a Controlled-Compliance Objective	Gennaro Senatore, Filippo Castriota Scanderbeg and Gianni Bartoli
349 PDF	Continuous Fiber Reinforcement for Thin Freeform Concrete Façade Panels	Fatemeh Salehi Amiri, Osman Zihni, Philip Thiele, Christian Huehne, Harald Kloft and Norman Hack
774	A joint you can take apart: structural limits of dry-assembled cross-panel timber shells	Daniele Lancia, Ruben Agostino and Amedeo Manuello Bertetto

Computational Methods and Design Strategies for Structural Reuse

Date: Thursday, September 17 **Time slot:** 11:10-12:50
Room: 11i
Chairs: Ornella Iuorio, Gabriele Mirra

ID	Title	Authors
230 PDF	Computational workflows for structural component reuse: a review of top-down, bottom-up, and hybrid approaches	Lisa-Marie Mueller, Michela Turrin and Gabriele Mirra
309 PDF	Load Space Adventures: applications of Generality Load Space	Alessio Pelagalli and Lennert Loos
310	Reusing entire load-bearing structures through equilibrium modelling and geometry optimisation	Alessio Pelagalli and Lennert Loos
658 PDF	Computational Structural Design Workflow for Unreinforced and Post-Tensioned Discrete 3D-Printed Concrete Floor Systems	Baraa El Moussa, Ricardo Maia Avelino, Alessandro Dell’Endice, Tom Van Mele and Philippe Block
264 PDF	(Remote presenter) Reusable Textile Formwork: Stitch-Based Material Programming for One-Way Vaulted Concrete Slabs	Ertunc Hunkar and Lavender Tessmer

Active Bending (WG15)

Date: Thursday, September 17 Time slot: 11:10-12:50
Room: 5i
Chairs: Marisela Mendoza

ID	Title	Authors
234 PDF	TimberTwist — Wood in Rotation: A CNC-milled, actively-bent Timber-Membrane Canopy Prototype	James Koch, Andreas Schedler, Martin Ostermann and Jan Knippers
248 PDF	Bending-Active Gabions: A Computational Form-Finding Framework for Structural Upcycling of Concrete Rubble	Kwong Lau Hung and Shuaizhong Wang
303 PDF	Form Follows Force: Shell Structures through Active Form-Finding	Balaji Rajasekaran
308 PDF	Towards Inverse Pattern Design of Bending-Active Structures using Shape Grammars and Graph Neural Networks	Jing Hymn Joseph Wong, Zongshuai Wan and Kam-Ming Mark Tam
524 PDF	Development of Active Bending Shell Structures Using Kerf-Bending Technology	Yuki Ozawa, Kosuke Tsukimi, Jugo Suginaga and Seru Yoshihiro

Materials and Lifecycle Performance of
Architectural/Structural Membranes (WG6)

Date: Thursday, September 17 Time slot: 11:10-12:50
Room: 2i
Chairs: Robert Roithmayr

ID	Title	Authors
402 PDF	Mechanical Performance of Heat-Sealed Lap Connections in PTFE Architectural Membranes Considering Heat-Sealing Process Parameters	Qilin Zhang, Xiaoqun Luo and Yifei Wang
476 PDF	Fire resistance tests and analysis of frame-supported PTFE-coated membrane structures	Chengjun Gao, Yuqi Yi, Wujun Chen, Jiachun Cui and Ye Chen
557	Mechanical response and failure behaviors of PVDF fabric membrane materials under uniaxial tension subjected to flat-blade penetration	Sen Wang, Jianwen Chen, Chaoyu Lu, Wujun Chen and Bing Zhao
733	Carbon-Aware Form Finding: A Digital Workflow for EPD-Based Design Optimization of Tensioned Membrane Structures	Robert Roithmayr and Bruce Danziger
463 PDF	(Remote presenter) Comprehensive study on mechanical behaviors and aging mechanism of a Polytetrafluoroethylene-coated fabric after 25 years of service	Guangpeng He, Bin Yang and Qilin Zhang

Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Date: Thursday, September 17Time slot: 11:10-12:50

Room: 8i

Chairs: Yiyi Zhou, Yuki Terazawa

ID	Title	Authors
388 PDF	Research on Reliability Assessment Method for Corroded Space Grid Structures Based on BP Neural Network	Xudong Zhi, Renjie Liu and Feng Fan
407 PDF	AI-Informed Parametric Geometric Reconstruction of Metal Spatial Grids During Construction Using Multi-Modal UAV Data	Chengyu Zheng
441 PDF	Non-Gaussian Extreme Wind Pressure Estimation for Large-Span Roofs Based on Field Measurements and Bayesian Model Averaging	Mingchuan Hu and Yaozhi Luo
450 PDF	A Strain Measurement-Based Method for Tension Monitoring of Locked Coil Cables in Long-span Spatial Structures	Xinrong Li and Yaozhi Luo
277 PDF	Structural Response of Steel Support Frame Structures for Highway Signs with Castellated Members under Natural and Traffic-Induced Wind Pressures	Maria Lida Karamani, Stefanos Gkatzogiannis and Charis J. Gantes

Structures to improve ecosystem services, biodiversity (WG18)
Date: Thursday, September 17 **Time slot:** 11:10-12:50
Room: 12i
Chairs: Olivier Baverel, Xavier Tellier

ID	Title	Authors
119 PDF	Cradle-to-gate life cycle assessment of Fibre-Wound Bio-Composite structures.	Nathan Dupas and Marta Gil Pérez
125 PDF	Design and Fabrication of Stress-Aligned Biogenic Tension Reinforcement for Hybrid Earth Slab Modules	Javier Fuentes Quijano and Moritz Dörstelmann
302 PDF	MOSC: A Design-to-fabrication method for Lightweight Spanning Components out of Shape-and-fiber-optimized Strand Composites	Jorge Christie, Tzu-Ying Chen, Andreas Michanickl and Jan Knippers
513	Design, realization and on-site testing of a double layer tensegrity grid offshore platform for sea accessibility	Jeanne Jacintha Naby, Jerome Quirant and Julien Averseng
567 PDF	The 'Corolles' of Urban Canopee: a gridshell to provide ecosystemic services and services to ecosystem	Olivier Baverel, Xavier Tellier, Romain Mesnil, Julien Cravero and Jean-François Caron

Thursday, September 17, 14:20-16:20

On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Date: Thursday, September 17 **Time slot:** 14:20-16:20

Room: 7i

Chairs: Patrizia Trovalusci, Amedeo Manuello Bertetto, Federica Joe Gardella

ID	Title	Authors
366 PDF	FLYING CARPET COVERING A NEW NURSERY SCHOOL IN LUGO	Marco Peroni and Nicolo’ Minguzzi
645 PDF	Vitruvian Firmitas in Architectural Design: a classification of its declinations across the centuries	Patrizia Trovalusci and Roberto Panei
647 PDF	Disembodied Forms: AI-Generated Impossibilities as a Critical Terrain for Rethinking Tectonics	Federica Joe Gardella and Amedeo Domenico Bernardo Manuello Bertetto
711 PDF	A Tensegrity Canopy Structure for Environmental Education: Form Exploration and Tectonics	Katherine Liapi
723 PDF	Integration of Technique and Art in the Form Optimization of Large-Span Ice Shell Architecture in Severe Cold Regions	Peng Luo, Haonan Zhang, Shuoyong Yang, Tianshuo Ren and Olivier Ottevaere

Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Date: Thursday, September 17 **Time slot:** 14:20-16:20

Room: Sala Fucine

Chairs: Raffaele Cucuzza, Gianfranco Piana

ID	Title	Authors
584	Optimization of Dissipative Steel Exoskeletons for Seismic Retrofit of Buildings	Jana Olivo, Raffaele Cucuzza, Goffredo Orsi, Amedeo Manuello Bertetto, Gabriele Bertagnoli and Giuseppe Carlo Marano
562 PDF	AI as an Interface for Integrating Design Intuition in Structural Optimization	Jonathan Melchiorre and Sigrid Adriaenssens
561	Layout optimization of bi-material trusses with stress constraints	Qi Cai, Yiyi Zhou, Hanyi Li and Yi Min Xie
409	Split pylon cable-stayed bridges: a study for material-efficient concept design	Edward Whiteside and Helen Fairclough
331 PDF	Mixed-Integer Topology Optimization for Large-Scale Additive Manufacturing	Zane Schemmer, Hajin Kim-Tackowiak and Josephine Carstensen
330 PDF	Coupled equilibrium form-finding for tensile membranes and compression-only concrete shells	Anass Kariouh, Lazlo Bleker, Valentin Lorenzen da Silva, Mariana Popescu and Pierluigi D’Acunto

Advanced Manufacturing and Materials (WG21)

Date: Thursday, September 17 Time slot: 14:20-16:20

Room: Sala Duomo

Chairs: Filipe Amarante dos Santos

ID	Title	Authors
439 PDF	Mechanical Performance of PMMA-Grafted Natural Rubber Latex Composites with Lignocellulosic and Mineral Fillers	Malik Qdeimat and Martin Trautz
444 PDF	TrussWrap: Load-responsive 3D Concrete Printed Wall Envelopes Using Truss Layout Optimization	Ali Alhussain, Amirhossein Fakhr Ghasemi, José P. Duarte and Nathan C. Brown
461 PDF	From Plywood Sheets to Optimized Three-Dimensional Reciprocal Frame Structures	Max de Munnik, Arjan Habraken, Faas Moonen and Tom Godthelp
558 PDF	Harnessing Offshore Renewable Energy from High-Intensity Focused Ocean Waves Using 3D-Printed Undulating Porous Structures	Andrea Machado Romero, Yefan Zhi, Maximilian Ororbia, Amir Motavaselian, Mohammad-Reza Alam, Shu Yang and Masoud Akbarzadeh
602 PDF	Computer vision based approach for functionally graded 3D printing of biopolymer material process monitoring	Shahriar Akbari, Martin Tamke, Paul Nicholas and Mette Ramsgaard Thomsen
670 PDF	3D Printed Concrete Joints for Structurally Optimised Prefabricated Systems	Junaid Nabi, Hyunchul Kwon and Roberto Naboni

Recent Advances in the Mechanics and Design of Thin-Shell Structures Subjected to Seismic and Wind Loads (IW)
Date: Thursday, September 17 **Time slot:** 14:20-16:20
Room: 10i
Chairs: Carlo Olivieri, Luigi Sibille

ID	Title	Authors
364	A NURBS-based numerical approach for dynamic analysis of rigid block shell structures	Nicola Grillanda and Vincenzo Mallardo
282	On multistable beam-lattice structures	Victor A. Eremeyev, Emanuele Reccia and Matteo Lai
63	Structural advantages of variable-thickness shells from machine-learning-based form-finding under seismic loading	Generoso Vaiano, Carlo Olivieri, Luigi Sibille, Alessandro Beghini, Francesco Fabbrocino, Sigrid Adriaenssens and Francesco Marmo
58 PDF	Seismic Response Analysis of a Double-Laminated HP Shell Using Fiber Reinforced Concrete	Tetsuya Ishizuka and Masafumi Tanaka
54	Machine learning and physics-informed neural networks for form-finding of compression-only shells in seismic areas	Luigi Sibille, Alessandro Beghini, Sigrid Adriaenssens and Carlo Olivieri
16 PDF	Integrated Design and Robotic Fabrication of a Translucent Media Facade for a Spherical Grid Shell: The Digital Planet Multimedia Hall	Shitong Wang, Jiyu Liu and Philip F. Yuan

Bio-Inspired Design Across Scales: From Structural Engineering to Advanced Material Design (IW)

Date: Thursday, September 17 **Time slot:** 14:20-16:20

Room: 9i

Chairs: Valentina Perricone, Stephanie Bachir

ID	Title	Authors
356 PDF	Economical and Environmental Optimization of Timber-Cable Photovoltaic Structures	Benjamin Dardenne and Pierre Latteur
591	Morphological complexity and structural integrity of modular, thin shelled invertebrates (echinoids) as a template for bio-inspired spatial structures.	James Henry Nebelsick, Andrea Mancosu and Valentina Perricone
643 PDF	Parameter identification of seashell’s mathematical model for quantification of geometric properties of Bivalvia shells: Morphological changes during growth	Minori Ogoshi
655 PDF	Agriculture to Architecture: Structural Performance and Computational Validation of Load-Bearing Compressed Straw Systems	Alexandra Steelman, Patty Hazle, Guy Nordenson and Paul Lewis
686	Mechanical Optimization in Diatom Silica Webs: Reverse Engineering with Graphic Statics	Stephanie Bachir
704	The Echinoid Multiscale Design: From Load-Bearing Shells to Porous Microstructures	Valentina Perricone, Pasquale Cesarano, Carla Langella, Kestin Forsberg, Gianluca Tozzi and Francesco Marmo

**From Architectural Geometry to Structural Geometry
(WG22)**

Date: Thursday, September 17 **Time slot:** 14:20-16:20
Room: 1i
Chairs: Eike Schling, Cyril Douthe

ID	Title	Authors
20 PDF	Structure as Architecture: Re-enchantment of the Arch in Rammed Earth Structure Design	Sichen Dong and Shunsuke Koya
217 PDF	From structural glass to structural technology	Niccolò Baldassini, Frank Tarazi and Alexander Freund
588 PDF	Vertical Extensions of Post-War Housing Estates: Design Strategies, Structural Systems, and Design Space Exploration Using an Innovative Point-Supported Multi-Storey Timber Construction System	Maria Papadimitraki, Lorenz Riedel, Hans Jakob Wagner, Jan Knippers and Achim Menges
550 PDF	Frame Analysis of Spatial Structure with Fractal Geometries Based on Koch Curve And Equilateral Triangle	Toshifumi Mae, Yoshimasa Oono and Iasef Md Rian
682 PDF	Structured intelligence: Implementing agentic AI for transparent, deterministic structural engineering reasoning systems	Natasha Hirt, Jonathan Broyles and Caitlin Mueller
203 PDF	STRUCTURAL MORPHOLOGY OF 3D SPACE	Michael Burt

Advances in design and analyses of deployable structures (IW)
Date: Thursday, September 17 **Time slot:** 14:20-16:20
Room: 4i
Chairs: Davide Pellegrchia, Helmut Pottmann

ID	Title	Authors
102 PDF	Morphogenesis of closed tower by singular generalized Miura-ori with non-canonical arrangements	Hiroyuki Tagawa, Sanako Suzuki and Riko Kokawa
326 PDF	Multistable Deployable Shelter for Emergency and Disaster Relief	Abhijeet Kumar, Abhijeet Choudhry, Shivendra Srivastav and Ayan Haldar
413 PDF	Deployability in Bending-Active Inflatable Structures	Slade Gellin and Romuald Tarczewski
443 PDF	Geometric optimization of deployable gridshells for target surface and compact planar configuration	Davide Pellegrchia, Eleonora Orefice and Francesco Marmo
592 PDF	Structural Morphology and Equilibrium of Plate-Based Tensegrity Systems	Gunnar Tausch and Jan Friedrich
620 PDF	From Fold to Full-Scale: A Computational Design-Analysis-Fabrication Framework for Rigid Thick-Panel Deployable Structures	Yunning Feng, Junwang Yu, Linxu Xie, Suming Li, Ueki Wong and Philip F Yuan

Numerical methods for form finding and optimization (WG13)
Date: Thursday, September 17 **Time slot:** 14:20-16:20
Room: 3i
Chairs: Kai-Uwe Bletzinger

ID	Title	Authors
273 PDF	Computational workflow for funicular analysis and quadrangulation of solar structures	Kazuki Hayashi, Kentaro Hayakawa and Jianhui Hu
499 PDF	Dragonfly3D: Interactive exploration of equilibrium-based structural concepts in early-stage design	Jonas Warmuth and Corentin Fivet
569 PDF	Research on evaluation method of sliding failure effect of isolation bearing	Meilin Liu, Wei Wang, Xiongyan Li and Suduo Xue
613	Offset parabola mesh antenna form-finding considering concentrated supports optimization	Julien Averseng and Jerome Quirant
667 PDF	Analytical Form Finding of Arch Bridges under Geometry-Dependent Loading	Juan Pablo Osman Letelier, Maximiliano R. Vergara, Arno Richter, Lupus Siegert and Hanna Domnick
660 PDF	(Remote presenter) Contextualized Forces: Exploring Load-Sensitive Structural Optimization in Timber Trusses	Yidan Hu and Yiqing Wang

Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)
Date: Thursday, September 17 **Time slot:** 14:20-16:20
Room: 11i
Chairs: Elena Mele, Maura Imbimbo

ID	Title	Authors
386 PDF	Demountable Architectural Interventions: Reusable Robotic Molding and Waste Reduction in Interlocking Concrete Structures	Milad Showkatbakhsh, Angel Fernando Lara Moreira, Alexander Krolak, Mauricio Díaz Valdés, Elizabeth Frias Martinez and Jingping Wu
420 PDF	Multi-Objective Optimization of Gridshells with Realistic Reused Steel Elements through Simplified Nonlinear Modeling	Fabrizio Ascione, Francesco Esposito, Diana Faiella and Elena Mele
541 PDF	Polycarbonate large-scale robotic 3D printed shell - Design and prototyping	Francesco Milano and Ole Ohlbrock
676	From Stone Waste to Structural Systems: 3D Printing and Form-Finding for Vault and Dome Reinforcement	Sara Fasana, Marco Zerbinatti, Silvia Parmigiani and Amedeo Manuello Bertetto
681 PDF	Data-driven parametric design for structural efficiency in reinforced concrete element reuse	Numa Bertola, Célia Küpfer and Maléna Bastien Masse
739 PDF	Acoustic Emission monitoring for the assessment of ductility loss in corrosion-degraded ferrocement elements	Francesca Taddeo, Erica Lenticchia, Amedeo Domenico Bernardo Manuello Bertetto and Oscar Borla

Graphical Methods (WG15)

Date: Thursday, September 17 Time slot: 14:20-16:20

Room: 5i

Chairs: Corentin Fivet, Marina Konstantatou

ID	Title	Authors
500 PDF	Statical determinacy for Graphic Statics methods for moment-resisting frames	Georgios Spyridon Athanasopoulos and Allan McRobie
498	Fast generation of 3D graphic statics force diagrams with minimal edge duplication	Corentin Fivet
497 PDF	On Graphical Methods Applied to Domes with an Oculus	Giancarlo Torpiano and Allan McRobie
492 PDF	Beyond Pure Compression: Funicular Shellular Structures with Integrated Tension Networks	Hua Chai, Sharva Paralkar and Mostafa Akbari
350 PDF	Towards a Constructive-Morphological Framework for Architectural Thin-Sheet Metal Shells	Cedric Wehren and Martin Trautz

Shape-Changing Spatial Structures in Space: Design, Deployment, and Operational Frameworks for Orbital and Extraterrestrial Systems
Date: Thursday, September 17 **Time slot:** 14:20-16:20
Room: 2i
Chairs: Marco Meloni

ID	Title	Authors
190	Generative Geometric Morphology Design and Programmable Mechanical Performance of Irregular Metamaterials	Changlong Shi, Qian Zhang, Jian Feng, Seungdeog Kim and Jianguo Cai
197 PDF	A Kirigami-Inspired Globally Actuated Adaptive Façade for Multi-Objective Optimization of Daylight and Visual Comfort	Marco Meloni, Daniel Sang-Hoon, Qian Zhang, Seungdeog Kim and Jianguo Cai
208 PDF	Conceptual Design Method for Hingeless Circular Flexible Solar Array: Parametric Structural Modeling and Deployment Mechanics Analysis	Xiang Mi, Xiaozhao Zhang and Wujun Chen
222 PDF	Mars Colony	Emiliia Kuzmina, Anna Krylova, Javier Arreola, Marta Rossi and Valentina Sumini
301 PDF	Modular Deployable Habitat Capsules Enabled by Origami–Scissor Structural Interfaces	Junyao Wang, Marco Meloni, Seungdeog Kim and Jianguo Cai
533 PDF	Process of Generating Future Growth Space Structure Adapting Variable Geometry Truss	Fumihiko Inoue, Momoe Terata, Hideaki Tanaka, Yasuhiro Fuchita, Yoji Ishikawa and Satoshi Yuzawa

Teaching of Shell and Spatial Structures (WG20)

Date: Thursday, September 17 Time slot: 14:20-16:20

Room: 8i

Chairs: Alireza Behnejad, Olga Popovic Larsen

ID	Title	Authors
21 PDF	Bridging Education and Practice: Structural Learning for Architecture Students at NCKU, Taiwan	Ting-Jia Zhang and Yi-Hsuan Tu
296 PDF	Learning to care for structures: Educational approaches to concrete heritage	Celina Hunschok, Annette Bögle, Giulio Zani and Elisabetta Margiotta Nervi
333 PDF	Leaf Vein Systems as Structural Models: A Comparative Analysis of Geometry and Load Transfer for the Optimization of Lightweight Structures	Rafael Vazquez Fuentes and Litzahaya Nataly Aguilar Rosas
395 PDF	Embedding an understanding of form-active structures in the education of civil engineers	Tom Hay, Tijana Vuletic, Mariya Haris and Santiago Rivero Fafian
479 PDF	Teaching Spatial Structures through Experiential Learning: International Implementation of the Design, Assemble and Dismantle (DAD) Project	S Alireza Behnejad, Nor Ashikin Muhamad Khairussaleh and Ying Xu
775 PDF	From Computational Design to Physical Making: Evaluating the Impact of Parametric Design and Digital Fabrication Approaches on Architectural Education	Ülkü Şimşek Şengüla, Elvan Elif Özdemira and Nida Nayci

Thursday, September 17, 16:50-18:10

Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Date: Thursday, September 17 Time slot: 16:50-18:10

Room: Sala Fucine

Chairs: Raffaele Cucuzza, Gianfranco Piana

ID	Title	Authors
650 PDF	Shape-section optimization of free-form latticed shells based on the RSM and NSGA-II algorithm	Jiuyi Gao, Yufeng Gai, Jiarui Gao and Ying Xu
287 PDF	Patch-Based Diffusion Guidance for Structurally Informed Parametric Shell Surfaces	Patrick Danahy, Marc Gibson and Joseph Choma
105 PDF	Beyond Form Generation: Parametric Ecosystems for Shell Design	Davide Lorenzo Dino Aschieri and Federica Joe Gardella

Pavilion presentations (WG21, IW)

Date: Thursday, September 17 Time slot: 16:50-18:10

Room: Sala Duomo

Chairs: Filipe Amarante dos Santos

ID	Title	Authors
220 PDF	T-Umbrella 2.0: Fabrication-Driven Redesign of an Inflatable Curved-Folding Pavilion	Rupert Maleczek, Ursula Klein, Georg Nawratil, Clemens Preisinger, Kiumars Sharifmoghaddam, Tomohiro Tachi and Yiwei Zhang
31 PDF	Locked by Geometry: A Kinematic Framework for the XenaForm Pavilion	Edmond Saliklis and Alden Quandt
9 PDF	Generative Symphony Pavilion (Generative Form-Finding Canopy)	Luis Manuel Ramírez Pérez, Erika Elizabeth Pérez Múzquiz and Habid Becerra Santacruz

Contemporary engineering uses of physical models of spatial structures (IW)

Date: Thursday, September 17 Time slot: 16:50-18:10

Room: 10i

Chairs: Fiammetta Venuti, Alessia Monaco

ID	Title	Authors
88 PDF	Experimental assessment of Kagome weaving for architectural structures using physical models	Xan Browne, Shayla Nikzad, Ji You-Wen, Oliwia Pindel, Jack Young and Phil Ayres
284 PDF	Form-finding of spatial trusses for an innovative shallow foundation structure	Sarah Ropert, Romain Mesnil, Nicolas Montagne and Olivier Baverel
433 PDF	Methods for Creating Small-Scale Polylactic Acid (PLA) and Wood Gridshell Models	Madison Lee, Joyce Xu, Taylor Yeh and Edward Segal
633 PDF	Shear test on full-scale prototype and small-scale model of brick masonry cross vaults	Alessia Monaco, Marco Alforno, Chiara Calderini, Federica Ciusani, Luca Facconi, Chiara Ferrero, Emanuele Gandelli, Leonardo Gatti, Giulia Pasquale, Giacomo Patrucco, Giulia Sammartano, Nazanin Valaei Barhagh and Fiammetta Venuti

Bioinspired geometries & biomaterials for shells & spatial structures (IW)

Date: Thursday, September 17 **Time slot:** 16:50-18:10
Room: 9i
Chairs: Carlo Olivieri, Luigi Sibille

ID	Title	Authors
522 PDF	Material and form coherence for environmental compatibility of structures	Romuald Tarczewski
526 PDF	Application of Durian Fiber and Spine Structures to Architectural Structures Using Genetic Algorithm-Based Multi-Objective Optimization	Teruyoshi Kaneko, Orfeas Rachiotis and Maria Paula Aranzales
649 PDF	Computational Framework for Bio-Based 3D-Printed Gridshells Using FEM and Physics-Informed Neural Networks	Islam Yerzhanuly, Marco Civera and Cecilia Surace
678	New Paper Materials for the Building Industry: Adaptation of traditional Forming Techniques for Low-Impact Applications in the AEC Sector	Ines Burdiles and Ulrich Knaack

Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Date: Thursday, September 17Time slot: 16:50-18:10

Room: 1i

Chairs: Salvatore Sessa, Pierfrancesco Corbo

ID	Title	Authors
118	From Discrete Rod Networks to Continuum Shells: A Cosserat-Based Framework for Gridshell Form-Finding	Giambattista Romano, Salvatore Sessa, Daniele Lancia and Luciano Rosati
560	Advancing Design and Construction for Gridshells	Ryan Maloney and Rui Liu
575 PDF	Random vibration analysis method for large-span stands due to crowd jumping loads	Zheng Li, Qingwen Zhang, Guoqing Song and Feng Fan
609	Optimising emergent behaviour in reclaimed timber wall panels: cellular, circular, customised	Antiopi Koronaki

Advances in Computational Modeling and Structural Analysis (WG13)

Date: Thursday, September 17 Time slot: 16:50-18:10
Room: 3i

Chairs: Carlos Lázaro, Ann-Kathrin Goldbach

ID	Title	Authors
579 PDF	Parametric Design and Structural Optimization of Interlocked Timber Roofs: A Digital Workflow for Interdisciplinary Collaboration	Marc Serra Ureta, Maximilian Carlos Schmid, Klaus Bollinger, Bernhard Franken and Sebastian Pajakowski
595 PDF	Isogeometric Shape Optimization of Nonlinear Shallow Arch for Tailoring Snap-Through Load	Deepak Kumar, Ayan Haldar and Sasankasekhar Mandal
438 PDF	R-Funicularity-based assessments of Félix Candela’s shells	Davide Passeri, Patrizio Lollobrigida, Valerio Varano and Stefano Gabriele
611	A continuum topology optimization approach for generating efficient beam layouts in concrete floor systems under varying boundary conditions	Simone Maria Peter, Caitlin Mueller and Josephine Carstensen

Graphical Methods (WG15)

Date: Thursday, September 17 **Time slot:** 16:50-18:10
Room: 5i
Chairs: Marina Konstantatou, Masoud Akbarzadeh

ID	Title	Authors
384 PDF	Point Group Symmetry of Polyhedral Diagrams in Graphic Statics	Yefan Zhi, Yao Lu and Masoud Akbarzadeh
564	Exploratory Study of Polyhedral Lattice Morphologies for Modular Tower Systems	Jared Parker
577 PDF	Enduring Form: The Long-Term Performance of the Kimbell Cycloid Shells	Gabriel Carrera, Robert Devine, Gina Morrow, Xiaoxiao Wu and Guy Nordenson
610 PDF	An Extended Vector-based Graphic Statics Method for Interactive Form-finding via Residual Minimization	Feifan He, Yinan Xiao, Yuchi Shen and Pierluigi D’Acunto

Teaching of Shell and Spatial Structures (WG20)

Date: Thursday, September 17 Time slot: 16:50-18:10

Room: 8i

Chairs: Alireza Behnejad, Olga Popovic Larsen

ID	Title	Authors
556 PDF	From Objective Space to Design Space: Analysing the Relationship Between Pareto Front Diversity and Geometric Diversity in Multi-Criteria Optimisation	Vincent Stiehle and Annete Bögle
605 PDF	Exploring form and force through topology and stiffness: Tools for early sketching processes in architectural education	Karl-Gunnar Olsson, Jonas Lindemann, Pierre Olsson, Morten Lund and Emil Adiels
617 PDF	Single-Sack Structures: Streamlining Synthetic Materials while Stretching Spatial Outputs	Christopher Romano, Randy Fernando and Michael Hoover
692 PDF	Structural Typologies of Daylight: Integrating Light Modulation and Structural Systems in Museum Architecture	Edgar Stach and Michael Esposito

Thursday, September 17, 16:50-17:30

Adaptive and Deployable Spatial Structures (IW)

Date: Thursday, September 17 **Time slot:** 16:50-17:30

Room: 4i

Chairs: Gaetano Pavone, Fernando Fraternali

ID	Title	Authors
346	Omnidirectional Compliant Hinge: A Caterpillar-Inspired Joint for Multi-Axis Motion	Orion Strayer, Danica Kostić, Phoebe Kleinau, Mariia Hruntes, Axel Körner, Edith Anahi Gonzalez San Martin and Jan Knippers
404	Kinemorphics: A Geometry-first Design Framework for Transforming Structures	Sameera Bommisetty, Théo Calais, Johnny Moughames and Frédéric Demoly

Thursday, September 17, 17:30-18:10

Computational Methods and Design Strategies for Structural Reuse

Date: Thursday, September 17 **Time slot:** 17:30-18:10

Room: 4i

Chairs: Ornella Iuorio, Gabriele Mirra

ID	Title	Authors
535 PDF	Structural Design and Creep Performance Verification of a Tension System Using Carbon Fiber Composite Cables for the Expo 2025 Osaka NTT Pavilion	Naoya Kishimoto, Takahiro Katayama and Yoshiki Nishizaki
422 PDF	Linear Pavilion:A Reusable Strut-and-Membrane System for Freeform Surface Structures	Jiatao Huang, Ting Cao and Shengkun Liang

Plenary Lectures

Each **plenary lecture** consists of a 40-minute presentation followed by 7 minutes of discussion.

The **plenary round table** represents a cross-generational dialogue, moderated by Giulia Boller, celebrating the centenary of Heinz Isler, Sergio Musmeci, and Frei Otto. Panelists include Lucio Blandini, John Chilton, Tullia Iori, Paolo Musmeci, Ekkehard Ramm, Roberto Spagnuolo, and Romuald Tarczewski. The round table will unfold as an open discussion, without a predefined speaking order, although some panelists have chosen to contribute a written paper.

Two **plenary sponsor presentations** are also included in this program. They are offered by key supporters of the IASS–IWSS 2026 Joint Conference, each lasting 20 minutes.

Some lectures are delivered by experts during the **Gala Dinner** and **Technical Tours** highlighting the most significant architectural, structural, historical, and technical aspects of the sites visited.

Title	About the beauty of form finding and numerics
Author(s)	Kai-Uwe Bletzinger
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Tuesday, September 15, 09:00-10:30
Contribution	PDF

Title	Tensioned Membrane Structures Through My Eyes: A Personal Journey
Author(s)	Marijke Mollaert
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Monday, September 14, 11:30-13:10
Contribution	PDF

Title	Superstructure / Infrastructure
Author(s)	Dominique Perrault
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Monday, September 14, 11:30-13:10
Contribution	PDF

Title	Built to Perfection: The Spirit of the Genius Fabricae
Author(s)	Odine Manfroni
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Tuesday, September 15, 11:00-12:50
Contribution	PDF

Title	Continuous shells of revolution: Static-kinematic duality and identification of the related elastic problem matrix-operator
Author(s)	Alberto Carpinteri
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Wednesday, September 16, 09:00-10:30
Contribution	PDF

Title	Transformative Architecture
Author(s)	Yuko Nagayama
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Wednesday, September 16, 11:00-13:00
Contribution	PDF

Title	Smart Structural Concepts as Key for Embodied Carbon Reduction in Construction
Author(s)	Christoph Paech
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Thursday, September 17, 09:00-10:40
Contribution	PDF

Title	The Philosophy of Structures in the Digital Age: How to Preserve a 'Tectonic' Ethic? The paradigmatic examples of Nervi, the 'technology', and Musmeci, the 'technique'
Author(s)	Patrizia Trovalusci
Session	Plenary lecture
Room, Date, Time	Sala Fucine, Thursday, September 17, 09:00-10:40
Contribution	PDF

Title	100 Years Heinz Isler – Sergio Musmeci – Frei Otto
Author(s)	Giulia Boller, Lucio Blandini, John Chilton, Tullia Iori, Paolo Musmeci, Ekkehard Ramm, Roberto Spagnuolo and Romuald Tarczewski
Session	Plenary round table
Room, Date, Time	Sala Fucine, Wednesday, September 16, 11:00-13:00

Title	Considerations on the meaning of the shape
Author(s)	Roberto Spagnuolo
Session	Plenary round table
Room, Date, Time	Sala Fucine, Wednesday, September 16, 11:00-13:00
Contribution	PDF

Title	New Design Paradigms for Landmark Stadium Roofs: From the World’s Largest Cable Net in Casablanca to the Steel Shell of Dammam Stadium
Author(s)	Federico Bosetti and Federico Selvi
Session	Plenary Sponsor Presentation
Room, Date, Time	Sala Fucine, Tuesday, September 15, 09:00-10:30
Contribution	PDF

Title	Innovations and Applications of Novel Large-Span Aluminium Spatial Structures and Complex Façade Systems
Author(s)	Yuanwen Ouyang
Session	Plenary Sponsor Presentation
Room, Date, Time	Sala Fucine, Tuesday, September 15, 11:00-12:50
Contribution	PDF

Title	Reconnecting the City: The Lingotto Linear Garden and the Olympic Arch Elevated Walkway
Author(s)	Benedetto Camerana
Session	Gala Dinner
Room, Date, Time	Pista 500, Lingotto rooftop, Wednesday, September 16, 20:00-23:00
Contribution	PDF

Title	From the Nervi Pavilion to Turin’s New Library: Structural Design and Transformation
Author(s)	Pierluigi Violetto
Session	Technical Tour 1
Room, Date, Time	Torino Esposizioni construction site, Friday, September 18, 08:00-17:00
Contribution	PDF

Hangai Prize Lectures

Hangai Prize Lectures consist of a 20-minute presentation. Exceptionally, five Hangai Prize Lectures will be presented this year, as one corresponds to a lecture originally scheduled for the IASS Symposium 2025 in Mexico City.

Title	Chiral Multi-stable Kirigami Metamaterials (2025 Hangai Prize Lecture)
Author(s)	Junwei Pan, Xiushi Li, Qian Zhang, Seung-Deog Kim and Jianguo Cai
Session	Hangai Prize Lecture
Room, Date, Time	Sala Fucine, Tuesday, September 15, 09:00-10:30
Contribution	PDF

Title	Prototyping a reconfigurable hybrid beam-plate system for reusable temporary structures
Author(s)	Ellen Leemans, Niels De Temmerman and Lars De Laet
Session	Hangai Prize Lecture
Room, Date, Time	Sala Fucine, Wednesday, September 16, 09:00-10:30
Contribution	PDF

Title	On the Geometric Interpretation of Discrete Airy Stress Functions for Funicular Grid-shell Design
Author(s)	Constantinos Frangoulides, Allan McRobie and William F. Baker
Session	Hangai Prize Lecture
Room, Date, Time	Sala Fucine, Tuesday, September 15, 11:00-12:50
Contribution	PDF

Title	A Stock-Conditioned Generative Force Density Method Graph Machine Learning Framework for Structural Reuse
Author(s)	Yifan Xie, Lazlo Bleker and Kam-Ming Mark Tam
Session	Hangai Prize Lecture
Room, Date, Time	Sala Fucine, Wednesday, September 16, 09:00-10:30
Contribution	PDF

Pavilion Exhibition

The Pavilion Exhibition presents a selection of innovative lightweight structures developed by international research teams as part of a dedicated design and construction contest.

The contest promotes originality in materials, fabrication techniques, assembly strategies, and construction systems. Each pavilion represents a synthesis of research, creativity, and engineering precision within a compact yet ambitious architectural scale and embodies original research in architecture and structural design.

ID - Title	1101 - Generative Symphony Pavilion (P1) - Corresponding paper: 9
Author(s)	Luis Manuel Ramírez Pérez; Erika Elizabeth Pérez Múzquiz; Habid Becerra Santacruz; Estrella Cordoba María Margarita; Galinzolga Castillo Alondra; Uribe Quintana Kimberly
More info	File

ID - Title	1102 - The XenaForm (P2) - Corresponding paper: 31
Author(s)	Edmond Saliklis; Hua Chai; Sarah Hipzer; Ruta Saliklis
More info	File

ID - Title	1103 - Bloom (P3) - Corresponding paper: 85
Author(s)	Timothy Ingleby; Amir Dehghan; Sarah Leeson; Matt Phillips
More info	File

ID - Title	1104 - ArchiCrochet II (P4) - Corresponding paper: 103
Author(s)	Skylar Vollmer; Farzaneh Oghazian
More info	File

ID - Title	1105 - ReBuild a Curved Folding Dome (P5) - Corresponding paper: 730
Author(s)	Kevin Moreno Gata; Denis Grizmann; Maria Naissi; Malik Qdeimat; Alex Seiter; Martin Trautz; Cedric Wehren; Thorsten Pofahl
More info	File

ID - Title	1106 - T-Umbrella 2.0 (P6) - Corresponding paper: 220
Author(s)	Rupert Maleczek; Ursula Klein; Georg Nawratil; Clemens Preisinger; Kiumars Sharifmoghaddam; Tomohiro Tachi; Yiwei Zhang
More info	File

ID - Title	1107 - Wood Hybrids (P7) - Corresponding paper: 237
Author(s)	Gengmu Ruan; Isak Worre Foged
More info	File

ID - Title	1109 - Balloon Balancing (P9)
Author(s)	Zixuan Xu; Sodai Harada; Mayu Higashi; Shota Kawahara; Tomohiro Kawai; Maki Kawamoto; Amane Kido; Reo Kobayashi; Tomoya Matsuki; Kotaro Matsuo; Reina Murakami; Jun Sato
More info	File

ID - Title	1110 - Plug and Lock (P10) - Corresponding paper: 267
Author(s)	Carlos Guilherme Gomes Cruz; Alexander Scholzen; Kira Reins; Linda Cortes Satizabal; Rostislav Chudoba; Thomas Gries
More info	File

ID - Title	1111 - Pneu-gami Pavilion: Pneumatically Stabilized and Actuated Structures Derived from Curved Crease Origami (P11) - Corresponding paper: 76
Author(s)	Yiwei Zhang; Toru Inaba; Yuki Idosako; Takumi Kobayashi; Akira Moriya; Tomohiro Tachi
More info	File
ID - Title	1112 - Re:Active Grain Slab (P12) - Corresponding paper: 375
Author(s)	Renan Prandini; Aaron Wagner; Lorenz Riedel; Zuardin Akbar
More info	File
ID - Title	1114 - ENSA Versailles Intelligent Fabrication - 2026 (P14)
Author(s)	Paul Covillault; Aurore Champagne; Klaas De Rycke; Oriane Guidet; Adam Orlinski; Matthew Tam; Léopold Sepulchre; Augustin Lecomte
More info	File
ID - Title	1115 - Bistable Collapsible Gridshell (P15) - Corresponding paper: 411
Author(s)	Davide Pellis; Paolo Cignoni; Francesco Laccone; Luigi Malomo; Chiara Boni; Marco Callieri; Andrea Favilli - With targeted support from Moni2BSafe (Pop-up Laboratory initiative)
More info	File
ID - Title	1116 - Punkshell (P16)
Author(s)	Il Hwan Kim; Eduardo Cilleruelo Terán; Catherine Wilmes
More info	File

ID - Title	1117 - THReAD BENCH – A Textile Hand-cast REinforced shell with Adaptive Discretization (P17) - Corresponding paper: 317
Author(s)	Edoardo Sesti; Michael Horstmann; Philipp Tolksdorf; Valerio Varano; Agnes Weilandt
More info	File

ID - Title	1120 - CC-Chair: Reconfigurable Multi-stable Curved-Crease Origami Chair Block (P20) - Corresponding paper: 342
Author(s)	Tomohiro Tachi; Joseph M. Gattas; Kumiko Hayashi; Yuya Kurusu; Munkyun Lee; Toshiyuki Morishima; Hiroshi Sato; Mizuki Shigematsu; Maiko Takiguchi; Hiroki Tamai; Issei Tanaka
More info	File

ID - Title	1122 - Kinetic Snap! Gridshell (P22) - Corresponding paper: 553
Author(s)	Janek Zindler; Daniel Borsuk; Simon Nikolas Giebel; Zeinab Hannan ; Diana Istanboul; Van Bao Le; Bije Methasani ; Fatima Sayed; Eike Schling; Hannah Kim Thiemann; Leander Von Meding ; Rita Wahbi ; Kodai Yamada
More info	File

ID - Title	1123 - Event Horizon Pavilion (P23) - Corresponding paper: 559
Author(s)	Valentina Sumini; Konstantinos Gavriil; Marta Rossi; Amedeo Manuello Bertetto; Marco Sumini; Joseph Paradiso - In collaboration with FibR & KUKA (Pop-up Laboratory initiative)

ID - Title	1124 - Chimeric Cube (P24) - Corresponding paper: 456
Author(s)	Juan José Castellón; Z. Melis Oguz
More info	File

ID - Title	1125 - [Re]Press (P25) - Corresponding paper: 514
Author(s)	Jack Halls; Sofia Colabella; Michael Mack; Gabriele Mirra; Alberto Pugnale
More info	File

ID - Title	1126 - Cona (P26) - Corresponding paper: 585
Author(s)	Johannes Belz; Clara Maria Fickl; Kilian Kliegel; Emanuel Zeder
More info	File

ID - Title	1127 - Tracing Motion (P27) - Corresponding paper: 619
Author(s)	Arielle Blonder; Guy Austern; Ron Fisher; Yuval Harel; Avigail Rich
More info	File

ID - Title	1132 - HyperSphere (P32) - Corresponding paper: 621
Author(s)	Francesco Marmo; Eleonora Orefice; Davide Pellecchia
More info	File

ID - Title	1133 - Flexshell (P33) - Corresponding paper: 671
Author(s)	Matteo Lomaglio; Simone Oggiano; Francesco Perego; Massimo Romanato
More info	File

ID - Title	1135 - Hybrid Flax Column (P35)
Author(s)	Tsu-Ying Chen; Rebeca Duque Estrada; Yanan Guo; Fabian Kannenberg; Jan Knippers; Achim Menges
More info	File

ID - Title	1136 - HempHalo (P36) - Corresponding paper: 503
Author(s)	Martin Tamke; Yuliya Sinke; Valentine Troi; Zelma Balode; Lena Fritsch; Avinash Manian; Ilze Baltina; Mette Ramsgaard Thomsen
More info	File

STT Show/Touch/Tell Exhibition

Model making has long played a critical role in advancing architectural and structural understanding. The STT Exhibition highlights this tradition by showcasing physical table-top models created by conference participants.

A dedicated area within the OGR’s Foyer 2 ensures high visibility throughout the conference, and two dedicated time slots during the parallel sessions program will be reserved specifically for the Show/Touch/Tell.

ID - Title	737 - From flat to 3D: Deploying kirigami structures
Author(s)	Joo-Won Hong
More info	File
ID - Title	738 - A Design Study of Inventory-Driven Spatial Structures
Author(s)	Raman Suliman
More info	File
ID - Title	740 - Twenty Thousand Leagues into the Configuration Space of Modular Re-Assembly of Deployable Geodesic Gridshells
Author(s)	Eleonora Orefice, Davide Pellecchia and Francesco Marmo
More info	File
ID - Title	741 - A Modular Tensegrity Metastructure Based on X-Modules
Author(s)	Filipe Santos
More info	File

ID - Title	742 - Model for experimental investigation of a modular precast concrete beam system for demountable structures
Author(s)	Inge Donovan, Jenna Schnitzler, Caitlin T Mueller, Javier Cañada and Keith J Lee
More info	File
ID - Title	743 - A triangular spherical foldable grid - STT-Version
Author(s)	Florian Tuczek
More info	File
ID - Title	745 - Integration of rigid plates with deployable scissor systems for spatial applications.
Author(s)	Ahmed Soliman, Niels De Temmerman and Lars De Laet
More info	File
ID - Title	746 - Bloom: A Loose-Fit Model for Dimensional Precision by Imprecise Means
Author(s)	Tim Ingleby
More info	File
ID - Title	747 - FibR - Reinventing Composites: From Fibre to Form
Author(s)	Nikolai Solovev, Zirui Huang and Christian Dierk
More info	File
ID - Title	748 - Morphable metasheets: demonstration of a general and modular approach to reusable shape-shifting structures
Author(s)	Marino Arroyo and Antonio DeSimone
More info	File

ID - Title	749 - STRUCTURAL MORPHOLOGY OF 3D SPACE, R-EVOLUTION OF NEW SHAPES
Author(s)	Michael Burt
More info	File

ID - Title	750 - A Management Model for Structural Components in the Circular Economy
Author(s)	Szymon Jankowski
More info	File

ID - Title	751 - Multistable Deployable Shelter for Emergency and Disaster Relief (STT)
Author(s)	Abhijeet Kumar, Abhijeet Choudhry, Shivendra Srivastav, Deepak Kumar and Ayan Haldar
More info	File

ID - Title	752 - Mechanical Testing Specimen made of Recycled paper composites for the Built Environment
Author(s)	Ines Burdiles and Ulrich Knaack
More info	File

ID - Title	753 - Bio-Based Double-Shell System
Author(s)	Peiran Liu, Giorgio Castellano, Federica Pradella and Ingrid Maria Paoletti
More info	File

ID - Title	754 - Interlocking Flat Stone Roofing System for Maximum Bending Resistance
Author(s)	Elham Mousavian and Richard Collins
More info	File

ID - Title	755 - An Origami Structure That Transitions Between Two Prescribed Polylines
Author(s)	Yuya Kurusu
More info	File

ID - Title	756 - Plate Tensegrities
Author(s)	Gunnar Taussch, Jan Friedrich and Matteo Tausch
More info	File

ID - Title	757 - A reconfigurable hybrid beam-plate system for reusable temporary structures
Author(s)	Ellen Leemans, Niels De Temmerman and Lars De Laet
More info	File

ID - Title	758 - peco-poco
Author(s)	Haruto Kamijo
More info	File

ID - Title	759 - An Interactive desktop demonstrator of a reversible blind fastener for robotic and aerial assembly
Author(s)	Valentina Beatini and Alessandro Tasora
More info	File

ID - Title	760 - power*stage: transforming decommissioned wind turbine blades into innovative shell structures
Author(s)	Marcin Orawiec, Ina-Marie Orawiec, Andreas Büter and Matthias Oppe
More info	File

ID - Title	761 - Structural design of a deployable origami pavilion
Author(s)	Matteo Benedetti, Ilaria Giannetti and Andrea Micheletti
More info	File
ID - Title	762 - Small-Scale Polylactic Acid (PLA) and Wood Gridshell Models
Author(s)	Madison Lee, Joyce Xu, Taylor Yeh and Edward Segal
More info	File
ID - Title	763 - Touching nonlinear mechanical behaviour of Kresling origami and tensegrity frustums as unified structural models
Author(s)	Claudio Intrigila and Andrea Micheletti
More info	File
ID - Title	764 - MODEL FOR DEVELOPMENT OF A FULL-SCALE MODULAR ELASTIC TIMBER GRIDSHELLS PROTOTYPE FABRICATED FROM EUCALYPTUS LVL
Author(s)	Carlos Martínez Criado, Antonio José Lara-Bocanegra and Almudena Majano-Majano
More info	File
ID - Title	765 - Patch-Based Diffusion Guidance for Structurally Informed Parametric Shell Surfaces S/T/T Exhibition
Author(s)	Marc Gibson, Patrick Danahy and Joseph Choma
More info	File

ID - Title	766 - Kirigami-Snap: From Flat Patterns to Bistable Cores
Author(s)	Chisaki Kitajima, Rupert Maleczek and Ynon Toledano
More info	File

ID - Title	767 - A Scene of a Spatial Structure: Curating Acts of Material, Labor, and Equipment Circulation
Author(s)	Christopher Romano, Randy Fernando and Michael Hoover
More info	File

ID - Title	768 - Coupled condensed implicit scalar field bridge
Author(s)	Ashish Doma
More info	File

ID - Title	769 - Flat-Foldable Bunny Based on Icosahedral Quasilattice
Author(s)	Kanata Warisaya, Kazuya Saito and Tomohiro Tachi
More info	File

ID - Title	770 - Form Creates Strength: Experimental Pasta Gridshells
Author(s)	Michele Barone, Amedeo Manuello Bertetto and Matteo Beni
More info	File

Technical Tours

On September 18, 2026, the final day of the IASS–IWSS 2026 Joint Conference, participants are invited to experience Turin not only as a host city, but as a living laboratory of structural creativity. Our technical tours offer curated journeys through landmarks that embody the dialogue between engineering, architecture, and urban vision across centuries.

Technical Tour 1

A Journey with Pier Luigi Nervi

Organized in collaboration with the *Pier Luigi Nervi Foundation*, Eng. Marco Nevi, Arch. Cristiana Chiorino, Dr. Elisabetta Margiotta Nervi, Prof. Amedeo Manuello Bertetto, and Prof. Erica Lenticchia.

Special On-Site Keynote: Eng. Pierluigi Violetto

Before joining the Technical Tour 1, please read the [Practical Information](#) for detailed instructions, meeting points, schedules, and useful recommendations for your visit.

Torino Esposizioni. The iconic Torino Esposizioni exhibition halls, completed in the late 1940s, represent one of Nervi’s early masterpieces in ferrocement and glass. This vast space reveals his pioneering approach to structural clarity and material efficiency, where form, force, and light merge in elegant harmony.

Palazzo del Lavoro. The monumental Palazzo del Lavoro, designed with Gio Ponti and Gino Covi for Italia ’61, showcases bold modular systems and innovative structural solutions. Its dramatic concrete structure embodies the optimism and technological ambition of postwar Italy.

Serbatoio pensile della Fiat Mirafiori. At Mirafiori stands Nervi’s striking elevated water tower, rising 63 metres above the industrial landscape. Built with prefabricated ferrocement elements, it combines structural daring with sculptural presence, transforming pure infrastructure into architectural expression.

Magazzini del Sale di Tortona. The Magazzini del Sale near Tortona reveal Nervi’s mastery in industrial architecture. Their elegant parabolic concrete vaults demonstrate how structural logic, economy of means, and rhythmic form can elevate even utilitarian buildings into works of enduring beauty.

Technical Tour 2

The Sabaudian City: Power, Architecture and Urban Vision

Organized in collaboration with Prof. Edoardo Piccoli and Prof. Erica Lenticchia of the *Construction History Group* at Politecnico di Torino, this guided tour invites participants to discover the structural audacity and spiritual ambition of Early modern and 19th-century brick architecture in Turin, where complex geometries and sophisticated masonry construction converge in some of the city’s most celebrated domes and vaults.

Before joining the Technical Tour 2, please read the **Practical Information** for detailed instructions, meeting points, schedules, and useful recommendations for your visit.

Cupola di San Lorenzo. The extraordinary dome of the Royal Church of San Lorenzo is one of Guarino Guarini's boldest baroque experiments. Characterized by a complex interplay of intersecting arches and hidden structures, leading to puzzling visual illusions, this dome blurs the line between apparent and actual structure while creating dramatic theatrical effects: an architectural enigma, and a must-see for all those interested in masonry vaults.

Cappella della Sacra Sindone. Visit the Chapel of the Holy Shroud, designed by Guarini to house the Shroud of Turin, former property of the Dukes of Savoy. Its soaring, interlaced cupola frames a rich program of geometry and light, embodying both religious symbolism and structural ingenuity. This baroque masterpiece - a rare case of stone construction in a brick city - challenges conventions of dome design with its intricate shapes, six superposed layers of depressed arches, and skeletal stone "sun-star" on top.

Mole Antonelliana. Turin's iconic Mole Antonelliana, designed by Alessandro Antonelli, stands as one of the tallest masonry buildings in Europe (167.5 m). Originally conceived as a synagogue, it is an extraordinary case study in 19th-century masonry engineering, distinguished by its daring verticality, thin shell vaulting, and structural ambition. A walk up the Mole, through the staircases winding up in-between the two shells of the "volto", the main domical cloister vault supporting the lantern, will allow for the close observation of the thin vaults, the iron tie-bar stiffening system, and the 20th-century reinforced concrete additions.

Teatro Regio. Torino's legendary Teatro Regio designed by Carlo Mollino e Sergio Musmeci unveils its secrets with an exclusive guided tour. Step behind the curtain as you explore the elegant foyer, the grand opera hall—where you might just catch a live rehearsal in progress—the majestic stage, and the backstage areas, including the underground rehearsal rooms and the costume tailoring workshop.

To top off the experience, enjoy a sophisticated aperitivo right in the theater's foyer.

Technical Tour 3

Contemporary Turin: Large-Scale Structures, Architecture and Urban Transformation

This technical tour introduces a selection of contemporary public buildings and large-scale venues in Turin. The itinerary is conceived for the IASS-IWSS community, with emphasis on spatial structures, long-span systems, multifunctional buildings, adaptive reuse, stadium design, institutional architecture and the role of major projects in urban transformation. The selected buildings offer complementary readings of Turin: Olympic legacy and post-event reuse; academic and civic spaces; contemporary sports infrastructure; and new institutional landmarks.

Each stop should be presented not only through its architectural image, but also through questions of structural logic, environmental performance, access, flexibility, operation and lifecycle.

Before joining the Technical Tour 2, please read the **Practical Information** for detailed instructions, meeting points, schedules, and useful recommendations for your visit.

Inalpi Arena. In collaboration with *Eng. Stefano Bompard, Arch. Paola Beccaria, and Eng. Mauro Pizza.*

Originally designed for the 2006 Winter Olympic Games, Inalpi Arena is one of Turin's most significant contemporary event venues. Conceived as a flexible "event factory", the building combines a rigorous external volume with a highly adaptable interior, capable of hosting sports, concerts and large-scale public events. Its parterre level is located approximately 7.5 metres below ground, making the venue particularly interesting in relation to accessibility, crowd management, emergency-sector regulations and multifunctional use.

Campus Luigi Einaudi. In collaboration with *Eng. Mauro Consani.*

Designed by Foster + Partners, the Luigi Einaudi Campus brings together university facilities within a fluid and continuous architectural system. Conceived for approximately 5,000 students, the complex creates new connections between the University of Turin and the surrounding urban fabric. Its distinctive curved buildings, light roofscape and open courtyards offer an example of contemporary academic architecture where environmental comfort, spatial continuity and public permeability are central design themes.

Oval Lingotto. In collaboration with *Dr. Manuela Siletti.*

The Oval Lingotto was built for the 2006 Winter Olympic Games as the speed-skating venue and later converted into a flexible exhibition and event hall. With a main hall of approximately 20,000 square metres, the building is a representative example of post-Olympic reuse, where a specialised sports structure has been adapted for fairs, exhibitions and large public gatherings while retaining the potential for ice-rink use. The absence of intermediate supports in the main hall makes it especially relevant for a technical audience interested in large-span structures.

Allianz Stadium. The Allianz Stadium, home of Juventus FC, is one of the most advanced football venues in Italy and a major architectural symbol of contemporary Turin. Classified as a UEFA Category 4 stadium, it was designed as an accessible, compact and high-intensity arena, with stands placed close to the pitch to enhance visibility, atmosphere and crowd experience. The project is also relevant as an example of stadium redevelopment and as a case for discussing material reuse, environmental impact and the economics of contemporary sports infrastructure.

Chair Schedule

The following table provides the Chair Schedule for Sessions of the IASS–IWSS 2026 Joint Conference. For each Chair, the table indicates the date, time slot, room of the assigned Session. Chairs are kindly invited to check their assignments and be present in the designated room before the beginning of the session.

Alessandra Zanelli

Wednesday, September 16, 16:20-18:00, Room 11i
Membrane Structures at a Crossroad: Innovation and Design Between Synthetic and Natural Materials (IW)

Alessia Monaco

Thursday, September 17, 16:50-18:10, Room 10i
Contemporary engineering uses of physical models of spatial structures (IW)

Alireza Behnejad

Wednesday, September 16, 16:20-18:00, Room 8i
Teaching of Shell and Spatial Structures (WG20)

Thursday, September 17, 14:20-16:20, Room 8i
Teaching of Shell and Spatial Structures (WG20)

Thursday, September 17, 16:50-18:10, Room 8i
Teaching of Shell and Spatial Structures (WG20)

Amedeo Manuello Bertetto

Monday, September 14, 09:00-10:30, Room Sala Fucine

Plenary session

Monday, September 14, 11:00-13:10, Room Sala Fucine

Plenary session

Monday, September 14, 16:50-19:10, Room 2i

Shells and Spatial Structures Beyond Earth: Computational, Structural, and Constructive Frameworks for Off-World Habitats and Industrial Systems (IW)

Monday, September 14, 16:50-19:10, Room 10i

Local and Global Buckling in Shell and Spatial Structures: Eigenshapes and Desired Morphologies (IW)

Wednesday, September 16, 09:00-10:30, Room Sala Fucine

Hangai Prize Lecture

Plenary lecture

Wednesday, September 16, 14:10-15:50, Room Sala Duomo

On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Thursday, September 17, 14:20-16:20, Room 7i

On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Thursday, September 17, 18:20-19:45, Room Sala Fucine

Plenary session

Andrea Micheletti

Monday, September 14, 09:00-10:30, Room Sala Fucine

Plenary session

Monday, September 14, 14:40-16:20, Room 2i

Case Studies of Tensioned Membrane Structures: From Concept to Completion (WG6)

Tuesday, September 15, 11:00-12:50, Room Sala Fucine

Hangai Prize Lecture

Plenary lecture

Plenary Sponsor Presentation

Tuesday, September 15, 16:30-18:10, Room 9i

Timber and Bio-based Spatial Structures (WG12)

Wednesday, September 16, 11:00-13:00, Room Sala Fucine

Plenary lecture

Plenary round table

Thursday, September 17, 11:10-12:50, Room Sala Duomo

Advanced Manufacturing and Materials (WG21)

Thursday, September 17, 18:20-19:45, Room Sala Fucine

Plenary session

Ann Christine Sychterz

Tuesday, September 15, 14:20-16:00, Room 5i
Transformable Structures (WG15)

Wednesday, September 16, 16:20-18:00, Room 5i
Transformable Structures (WG15)

Ann-Kathrin Goldbach

Wednesday, September 16, 14:10-15:50, Room 3i
Advances in Computational Modeling and Structural Analysis (WG13)

Thursday, September 17, 16:50-18:10, Room 3i
Advances in Computational Modeling and Structural Analysis (WG13)

Antonino Iannuzzo

Monday, September 14, 14:40-16:20, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Tuesday, September 15, 16:30-18:10, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Thursday, September 17, 11:10-12:50, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Arianna Venettoni

Tuesday, September 15, 14:20-16:00, Room 9i
Morphing and Shape Analysis (IW)

Carlo Olivieri

Tuesday, September 15, 14:20-16:00, Room 10i
Recent Advances in the Mechanics and Design of Thin-Shell Structures Subjected to Seismic and Wind Loads (IW)

Thursday, September 17, 14:20-16:20, Room 10i
Recent Advances in the Mechanics and Design of Thin-Shell Structures Subjected to Seismic and Wind Loads (IW)

Thursday, September 17, 16:50-18:10, Room 9i
Bioinspired geometries & biomaterials for shells & spatial structures (IW)

Carlos Lázaró

Monday, September 14, 16:50-19:10, Room 3i
Advances in Computational Modeling and Structural Analysis (WG13)

Thursday, September 17, 16:50-18:10, Room 3i
Advances in Computational Modeling and Structural Analysis (WG13)

Cecilia Surace

Monday, September 14, 16:50-19:10, Room 9i
Bioinspired geometries & biomaterials for shells & spatial structures (IW)

Christoph Gengnagel

Monday, September 14, 16:50-19:10, Room 5i
Active Bending (WG15)

Claudio Intrigila

Monday, September 14, 14:40-16:20, Room Sala Duomo
Pavilion presentations (WG21, IW)

Tuesday, September 15, 16:30-18:10, Room Sala Duomo
Pavilion presentations (WG21, IW)

Corentin Fivet

Tuesday, September 15, 16:30-18:10, Room 5i
Graphical Methods (WG15)

Thursday, September 17, 14:20-16:20, Room 5i
Graphical Methods (WG15)

Cyril Douthe

Monday, September 14, 14:40-16:20, Room 1i
Bridging high-tech design and low-tech construction (WG22)

Tuesday, September 15, 14:20-16:00, Room 1i
From Architectural Geometry to Structural Geometry (WG22)

Wednesday, September 16, 14:10-15:50, Room 1i
Bridging high-tech design and low-tech construction (WG22)

Wednesday, September 16, 16:20-18:00, Room 1i
From Architectural Geometry to Structural Geometry (WG22)

Thursday, September 17, 14:20-16:20, Room 1i
From Architectural Geometry to Structural Geometry (WG22)

Daniele Lancia

Tuesday, September 15, 16:30-18:10, Room 1i
Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Davide Pellecchia

Monday, September 14, 16:50-19:10, Room 4i
Advances in design and analyses of deployable structures (IW)

Tuesday, September 15, 16:30-18:10, Room 1i
Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Tuesday, September 15, 16:30-18:10, Room 3i
Nonlinear Computational Mechanics of Materials and Structures (IW, GIMC)

Wednesday, September 16, 14:10-15:50, Room 4i
Advances in design and analyses of deployable structures (IW)

Thursday, September 17, 11:10-12:50, Room 1i
Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Thursday, September 17, 14:20-16:20, Room 4i
Advances in design and analyses of deployable structures (IW)

Eike Schling

Monday, September 14, 14:40-16:20, Room 3i
Numerical trends in Architectural Geometry (WG22)

Monday, September 14, 16:50-19:10, Room 1i
Bridging high-tech design and low-tech construction (WG22)

Wednesday, September 16, 14:10-15:50, Room 1i
Bridging high-tech design and low-tech construction (WG22)

Wednesday, September 16, 16:20-18:00, Room 1i
From Architectural Geometry to Structural Geometry (WG22)

Thursday, September 17, 14:20-16:20, Room 1i
From Architectural Geometry to Structural Geometry (WG22)

Elena Guidetti

Monday, September 14, 14:40-16:20, Room 11i
Adaptive Futures: Urban Mining and Structural Reuse as Generative Design Practice (IW)

Tuesday, September 15, 16:30-18:10, Room 11i
Adaptive Futures: Urban Mining and Structural Reuse as Generative Design Practice (IW)

Elena Mele

Monday, September 14, 16:50-19:10, Room 11i
Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)

Tuesday, September 15, 14:20-16:00, Room 11i
Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)

Thursday, September 17, 14:20-16:20, Room 11i
Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)

Elham Mousavian

Monday, September 14, 14:40-16:20, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Wednesday, September 16, 14:10-15:50, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Elisa Drago

Monday, September 14, 14:40-16:20, Room 7i
Historic Precast Concrete Shells (WG17)

Fabio Bazzucchi

Monday, September 14, 16:50-19:10, Room 10i
Local and Global Buckling in Shell and Spatial Structures: Eigenshapes and Desired Morphologies (IW)

Federica Joe Gardella

Wednesday, September 16, 14:10-15:50, Room Sala Duomo
On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Thursday, September 17, 14:20-16:20, Room 7i
On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Fernando Fraternali

Monday, September 14, 14:40-16:20, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Tuesday, September 15, 16:30-18:10, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Thursday, September 17, 16:50-17:30, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Fiammetta Venuti

Thursday, September 17, 16:50-18:10, Room 10i
Contemporary engineering uses of physical models of spatial structures (IW)

Filipe Amarante dos Santos

Monday, September 14, 14:40-16:20, Room 9i
Timber and Bio-based Spatial Structures (WG12)

Thursday, September 17, 14:20-16:20, Room Sala Duomo
Advanced Manufacturing and Materials (WG21)

Thursday, September 17, 16:50-18:10, Room Sala Duomo
Pavilion presentations (WG21, IW)

Francesco Marmo

Monday, September 14, 09:00-10:30, Room Sala Fucine
Plenary session

Tuesday, September 15, 09:00-10:30, Room Sala Fucine
Plenary lecture
Plenary Sponsor Presentation
Hangai Prize Lecture

Tuesday, September 15, 16:30-18:10, Room 3i
Nonlinear Computational Mechanics of Materials and Structures (IW, GIMC)

Thursday, September 17, 09:00-10:40, Room Sala Fucine
Plenary lecture

Thursday, September 17, 11:10-12:50, Room 3i
Nonlinear Computational Mechanics of Materials and Structures (IW, GIMC)

Thursday, September 17, 18:20-19:45, Room Sala Fucine
Plenary session

Gabriele Mirra

Wednesday, September 16, 14:10-15:50, Room 11i
Computational Methods and Design Strategies for Structural Reuse

Thursday, September 17, 11:10-12:50, Room 11i
Computational Methods and Design Strategies for Structural Reuse

Thursday, September 17, 17:30-18:10, Room 4i
Computational Methods and Design Strategies for Structural Reuse

Gaetano Pavone

Monday, September 14, 14:40-16:20, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Wednesday, September 16, 14:10-15:50, Room 9i
Timber and Bio-based Spatial Structures (WG12)

Wednesday, September 16, 16:20-18:00, Room Sala Duomo
Pavilion presentations (WG21, IW)

Thursday, September 17, 11:10-12:50, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Thursday, September 17, 16:50-17:30, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Gianfranco Piana

Wednesday, September 16, 16:20-18:00, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Thursday, September 17, 14:20-16:20, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Thursday, September 17, 16:50-18:10, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Giulia Boller

Wednesday, September 16, 11:00-13:00, Room Sala Fucine
Plenary lecture
Plenary round table

Wednesday, September 16, 14:10-15:50, Room 7i
100 Years Heinz Isler - Sergio Musmeci - Frei Otto Role Models for Form Finding (WG17)

Thursday, September 17, 11:10-12:50, Room 7i
100 Years Heinz Isler - Sergio Musmeci - Frei Otto Role Models for Form Finding (WG17)

Giuseppe Carlo Marano

Tuesday, September 15, 14:20-16:00, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Guy Nordenson

Tuesday, September 15, 14:20-16:00, Room 7i
Historiography, Archives and the Collaborations of Structural Engineers

Wednesday, September 16, 16:20-18:00, Room 7i
Historiography, Archives and the Collaborations of Structural Engineers

Hangai: Lars de Laet

Tuesday, September 15, 11:00-12:50, Room Sala Fucine
Hangai Prize Lecture
Plenary lecture
Plenary Sponsor Presentation

Hangai: Peter von Buelow

Tuesday, September 15, 09:00-10:30, Room Sala Fucine
Plenary lecture
Plenary Sponsor Presentation
Hangai Prize Lecture

Hangai: William Baker

Wednesday, September 16, 09:00-10:30, Room Sala Fucine
Hangai Prize Lecture
Plenary lecture

Helmut Pottmann

Monday, September 14, 16:50-19:10, Room 4i
Advances in design and analyses of deployable structures (IW)

Wednesday, September 16, 14:10-15:50, Room 4i
Advances in design and analyses of deployable structures (IW)

Thursday, September 17, 14:20-16:20, Room 4i
Advances in design and analyses of deployable structures (IW)

Janguo Cai

Tuesday, September 15, 11:00-12:50, Room Sala Fucine
Hangai Prize Lecture
Plenary lecture
Plenary Sponsor Presentation

Jinzhi Wu

Tuesday, September 15, 14:20-16:00, Room 8i
Stability and Dynamics of Metal Spatial Structures and Gridshells (WG8)

John Chilton

Wednesday, September 16, 14:10-15:50, Room 7i
100 Years Heinz Isler - Sergio Musmeci - Frei Otto Role Models for Form Finding (WG17)

Thursday, September 17, 11:10-12:50, Room 7i
100 Years Heinz Isler - Sergio Musmeci - Frei Otto Role Models for Form Finding (WG17)

John Ochsendorf

Tuesday, September 15, 14:20-16:00, Room 7i
Historiography, Archives and the Collaborations of Structural Engineers

Wednesday, September 16, 16:20-18:00, Room 7i
Historiography, Archives and the Collaborations of Structural Engineers

Juan Gerardo Oliva

Monday, September 14, 14:40-16:20, Room 7i
Historic Precast Concrete Shells (WG17)

Juan Jose Castellon

Monday, September 14, 14:40-16:20, Room Sala Duomo
Pavilion presentations (WG21, IW)

Tuesday, September 15, 16:30-18:10, Room Sala Duomo
Pavilion presentations (WG21, IW)

Julian Lienhard

Monday, September 14, 16:50-19:10, Room 5i
Active Bending (WG15)

Kai-Uwe Bletzinger

Thursday, September 17, 14:20-16:20, Room 3i
Numerical methods for form finding and optimization (WG13)

Kam-Ming Mark Tam

Monday, September 14, 14:40-16:20, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Monday, September 14, 16:50-19:10, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Tuesday, September 15, 16:30-18:10, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Wednesday, September 16, 14:10-15:50, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Ken’ichi Kawaguchi

Monday, September 14, 09:00-10:30, Room Sala Fucine
Plenary session

Tuesday, September 15, 09:00-10:30, Room Sala Fucine
Plenary lecture
Plenary Sponsor Presentation
Hangai Prize Lecture

Leila Cristina Meneghetti

Tuesday, September 15, 09:00-10:30, Room Sala Fucine
Plenary lecture
Plenary Sponsor Presentation
Hangai Prize Lecture

Luciano Rosati

Thursday, September 17, 11:10-12:50, Room 3i
Nonlinear Computational Mechanics of Materials and Structures (IW, GIMC)

Luigi Sibille

Tuesday, September 15, 14:20-16:00, Room 10i

Recent Advances in the Mechanics and Design of Thin-Shell Structures Subjected to Seismic and Wind Loads (IW)

Thursday, September 17, 14:20-16:20, Room 10i

Recent Advances in the Mechanics and Design of Thin-Shell Structures Subjected to Seismic and Wind Loads (IW)

Thursday, September 17, 16:50-18:10, Room 9i

Bioinspired geometries & biomaterials for shells & spatial structures (IW)

Makoto Ohsaki

Tuesday, September 15, 14:20-16:00, Room 3i

Numerical methods for form finding and optimization (WG13)

Marco Meloni

Thursday, September 17, 14:20-16:20, Room 2i

Shape-Changing Spatial Structures in Space: Design, Deployment, and Operational Frameworks for Orbital and Extraterrestrial Systems

Marina Konstantatou

Thursday, September 17, 14:20-16:20, Room 5i

Graphical Methods (WG15)

Thursday, September 17, 16:50-18:10, Room 5i

Graphical Methods (WG15)

Marisela Mendoza

Monday, September 14, 16:50-19:10, Room 7i

Historic Precast Concrete Shells (WG17)

Thursday, September 17, 11:10-12:50, Room 5i

Active Bending (WG15)

Marisela Mendoza and Sigrid Adriaenssens

Tuesday, September 15, 16:30-18:10, Room 7i

Shell Builders (in memoriam of R. Sundaram) (WG5, WG17)

Masoud Akbarzadeh

Tuesday, September 15, 16:30-18:10, Room 5i

Graphical Methods (WG15)

Thursday, September 17, 16:50-18:10, Room 5i

Graphical Methods (WG15)

Matteo Robiglio

Monday, September 14, 14:40-16:20, Room 11i
Adaptive Futures: Urban Mining and Structural Reuse as Generative Design Practice (IW)

Tuesday, September 15, 16:30-18:10, Room 11i
Adaptive Futures: Urban Mining and Structural Reuse as Generative Design Practice (IW)

Maura Imbimbo

Monday, September 14, 16:50-19:10, Room 11i
Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)

Tuesday, September 15, 14:20-16:00, Room 11i
Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)

Thursday, September 17, 14:20-16:20, Room 11i
Reuse-based design approach for environmentally efficient structures - RE_STRUCT (IW)

Niels De Temmerman

Wednesday, September 16, 16:20-18:00, Room 5i
Transformable Structures (WG15)

Olga Popovic Larsen

Wednesday, September 16, 09:00-10:30, Room Sala Fucine
Hangai Prize Lecture
Plenary lecture

Wednesday, September 16, 16:20-18:00, Room 8i
Teaching of Shell and Spatial Structures (WG20)

Thursday, September 17, 14:20-16:20, Room 8i
Teaching of Shell and Spatial Structures (WG20)

Thursday, September 17, 16:50-18:10, Room 8i
Teaching of Shell and Spatial Structures (WG20)

Olivier Baverel

Monday, September 14, 14:40-16:20, Room 12i
Design for disassembly, reconfigurable structural systems (WG18)

Monday, September 14, 16:50-19:10, Room 12i
Reuse of structural components (WG18)

Tuesday, September 15, 16:30-18:10, Room 12i
Design for disassembly, reconfigurable structural systems (WG18)

Wednesday, September 16, 14:10-15:50, Room 12i
Reuse of structural components (WG18)

Thursday, September 17, 11:10-12:50, Room 12i
Structures to improve ecosystem services, biodiversity (WG18)

Ornella Iuorio

Wednesday, September 16, 14:10-15:50, Room 11i
Computational Methods and Design Strategies for Structural Reuse

Thursday, September 17, 11:10-12:50, Room 11i
Computational Methods and Design Strategies for Structural Reuse

Thursday, September 17, 17:30-18:10, Room 4i
Computational Methods and Design Strategies for Structural Reuse

Paolo Beccarelli

Tuesday, September 15, 16:30-18:10, Room 2i
Case Studies of Tensioned Membrane Structures: From Concept to Completion (WG6)

Patrizia Trovalusci

Thursday, September 17, 14:20-16:20, Room 7i
On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Pierfrancesco Corbo

Thursday, September 17, 16:50-18:10, Room 1i
Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Pierluigi D’Acunto

Monday, September 14, 14:40-16:20, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Monday, September 14, 16:50-19:10, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Thursday, September 17, 11:10-12:50, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Qilin Zhang

Monday, September 14, 16:50-19:10, Room 8i
Research and applications of Aluminum Grid Structure (WG8)

Raffaele Cucuzza

Tuesday, September 15, 14:20-16:00, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Wednesday, September 16, 16:20-18:00, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Thursday, September 17, 14:20-16:20, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Thursday, September 17, 16:50-18:10, Room Sala Fucine
Parametric Design and Structural Optimization of Shells and Spatial Structures (IW, ARTISTE)

Rana Nazifi Charandabi

Monday, September 14, 16:50-19:10, Room Sala Duomo
Pavilion presentations (WG21, IW)

Tuesday, September 15, 14:20-16:00, Room Sala Duomo
Advanced Manufacturing and Materials (WG21)

Tuesday, September 15, 16:30-18:10, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Thursday, September 17, 11:10-12:50, Room 4i
Adaptive and Deployable Spatial Structures (IW)

Robert K. Otani

Tuesday, September 15, 16:30-18:10, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Thursday, September 17, 11:10-12:50, Room Sala Fucine
AI-Informed Structural Engineering and Design (SG1)

Robert Roithmayr

Thursday, September 17, 11:10-12:50, Room 2i
Materials and Lifecycle Performance of Architectural/Structural Membranes (WG6)

Roland Wüchner

Monday, September 14, 16:50-19:10, Room 3i
Advances in Computational Modeling and Structural Analysis (WG13)

Wednesday, September 16, 14:10-15:50, Room 3i
Advances in Computational Modeling and Structural Analysis (WG13)

Ronan Bolaños

Monday, September 14, 16:50-19:10, Room 7i
Historic Precast Concrete Shells (WG17)

Rupert Maleczek

Monday, September 14, 14:40-16:20, Room 5i
Structural Origami (WG15)

Wednesday, September 16, 14:10-15:50, Room 5i
Structural Origami (WG15)

Ruy Marcelo Pauletti

Monday, September 14, 09:00-10:30, Room Sala Fucine
Plenary session

Monday, September 14, 11:00-13:10, Room Sala Fucine
Plenary session

Salvatore Sessa

Thursday, September 17, 11:10-12:50, Room 1i
Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Thursday, September 17, 16:50-18:10, Room 1i
Gridshell Structures: Advanced Design, Analysis & Construction (IW)

Satwant Rihal

Tuesday, September 15, 16:30-18:10, Room 7i
Shell Builders (in memoriam of R. Sundaram) (WG5, WG17)

SeungDeog Kim

Wednesday, September 16, 16:20-18:00, Room 2i
Shape-Changing Spatial Structures in Space: Design, Deployment, and Operational Frameworks for Orbital and Extraterrestrial Systems

Siddhartha Ghosh

Wednesday, September 16, 14:10-15:50, Room 2i
Materials and Lifecycle Performance of Architectural/Structural Membranes (WG6)

Sigrid Adriaenssens

Monday, September 14, 11:00-13:10, Room Sala Fucine
Plenary session

Wednesday, September 16, 16:20-18:00, Room 10i
Shells and Artificial Intelligence (WG5, SG1)

Simon Guest

Tuesday, September 15, 14:20-16:00, Room 5i
Transformable Structures (WG15)

Stefano Gabriele

Monday, September 14, 09:00-10:30, Room Sala Fucine
Plenary session

Monday, September 14, 11:00-13:10, Room Sala Fucine
Plenary session

Tuesday, September 15, 11:00-12:50, Room Sala Fucine
Hangai Prize Lecture
Plenary lecture
Plenary Sponsor Presentation

Wednesday, September 16, 14:10-15:50, Room Sala Duomo
On Tectonics in Architecture between Aesthetics and Ethics: Form and Structure (IW)

Wednesday, September 16, 16:20-18:00, Room 10i
Shells and Artificial Intelligence (WG5, SG1)

Thursday, September 17, 09:00-10:40, Room Sala Fucine
Plenary lecture

Thursday, September 17, 11:10-12:50, Room Sala Duomo
Advanced Manufacturing and Materials (WG21)

Thursday, September 17, 18:20-19:45, Room Sala Fucine
Plenary session

Stefano Invernizzi

Monday, September 14, 16:50-19:10, Room 9i
Bioinspired geometries & biomaterials for shells & spatial structures (IW)

Thursday, September 17, 11:10-12:50, Room 9i
Timber and Bio-based Spatial Structures (WG12)

Stephanie Bachir

Wednesday, September 16, 16:20-18:00, Room 9i
Bio-Inspired Design Across Scales: From Structural Engineering to Advanced Material Design (IW)

Thursday, September 17, 14:20-16:20, Room 9i
Bio-Inspired Design Across Scales: From Structural Engineering to Advanced Material Design (IW)

SuDuo Xue

Monday, September 14, 14:40-16:20, Room 8i
Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Tuesday, September 15, 16:30-18:10, Room 8i
Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Toby Mitchell

Monday, September 14, 14:40-16:20, Room 3i
Numerical trends in Architectural Geometry (WG22)

Monday, September 14, 16:50-19:10, Room 1i
Bridging high-tech design and low-tech construction (WG22)

Tuesday, September 15, 14:20-16:00, Room 1i
From Architectural Geometry to Structural Geometry (WG22)

Wednesday, September 16, 16:20-18:00, Room 3i
Numerical trends in Architectural Geometry (WG22)

Tomohiro Tachi

Monday, September 14, 14:40-16:20, Room 5i
Structural Origami (WG15)

Wednesday, September 16, 14:10-15:50, Room 5i
Structural Origami (WG15)

Toru Takeuchi

Monday, September 14, 14:40-16:20, Room 8i
Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Monday, September 14, 16:50-19:10, Room 8i
Research and applications of Aluminum Grid Structure (WG8)

Tuesday, September 15, 14:20-16:00, Room 8i
Stability and Dynamics of Metal Spatial Structures and Gridshells (WG8)

Tuesday, September 15, 16:30-18:10, Room 8i
Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Valentina Perricone

Wednesday, September 16, 16:20-18:00, Room 9i
Bio-Inspired Design Across Scales: From Structural Engineering to Advanced Material Design (IW)

Thursday, September 17, 14:20-16:20, Room 9i
Bio-Inspired Design Across Scales: From Structural Engineering to Advanced Material Design (IW)

Valentina Sumini

Monday, September 14, 16:50-19:10, Room 2i
Shells and Spatial Structures Beyond Earth: Computational, Structural, and Constructive Frameworks for Off-World Habitats and Industrial Systems (IW)

Valerio Varano

Tuesday, September 15, 14:20-16:00, Room 9i
Morphing and Shape Analysis (IW)

Vittorio Paris

Tuesday, September 15, 16:30-18:10, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Wednesday, September 16, 14:10-15:50, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Thursday, September 17, 11:10-12:50, Room 10i
Masonry shell structures: from historical principles to contemporary and future applications (IW)

Xavier Tellier

Thursday, September 17, 11:10-12:50, Room 12i
Structures to improve ecosystem services, biodiversity (WG18)

Xiaodong Feng

Tuesday, September 15, 14:20-16:00, Room 4i
Intelligent Design and Mechanical Behavior of Tensegrity Structures and Metamaterials

Wednesday, September 16, 16:20-18:00, Room 4i
Intelligent Design and Mechanical Behavior of Tensegrity Structures and Metamaterials

Ying XU

Wednesday, September 16, 14:10-15:50, Room 8i
Stability and Dynamics of Metal Spatial Structures and Gridshells (WG8)

Yiyi Zhou

Thursday, September 17, 11:10-12:50, Room 8i
Project and Construction of Metal Spatial Structures and Gridshells (WG8)

Yuki Terazawa

Wednesday, September 16, 14:10-15:50, Room 8i
Stability and Dynamics of Metal Spatial Structures and Gridshells (WG8)

Thursday, September 17, 11:10-12:50, Room 8i
Project and Construction of Metal Spatial Structures and Gridshells (WG8)
