Tuesday, 08. July 2025

08.30–09.00 **ICSA2025 Opening Ceremony**

09.00–10.15 **Keynote Gabriela Carrillo & Carlos Facio, An Fonteyn**

10.15–10.45 **Morning Coffee Break**

10.45–12.30 **Morning Sessions**

MS-Architectural Engineering Design and the Circular Economy: Methodologies

Chairs: Sigrid Adriaenssens, Ruben Verstraeten

Fostering Creativity using AI towards a Circular Economy in Architectural Engineering Design
Vanessa Schwarzkopf, Pei-Yu Wu, Tobias Nolte, Catherine De Wolf

An extensive database of Swiss building structures to predict the availability of materials and components
Malena Bastien-masse, Barbara Lambec, Aldrick Arceo, Corentin Fivet

Rethinking concrete reuse workflow in Hong Kong: a comparative study with Swiss models
Hanbing Zhao, Shuaizhong Wang

BIM-Based Application of Level(s) for Circular Economy: Recyclability Case Study
Alireza Fereydooni Eftekhari, Fulvio Re Cecconi, Ornella Iuorio, Bruno Daniotti

A digital workflow proposal for circular economy in building design
Hanne Rangnes Seeberg, Marcin Luczkowski, Sofie Friis Dahl-Nielsen

SS-Ecologies of Stone: Structures and Architecture

Chair: Jonathan Foote

The sandiness of sand
Frans Drewniak, Guillem Alloy

6 Social housing units in Mallorca: a contemporary and sustainable stone structure
Javier Gómez Mateo, Alejandro Bernabeu Larena, Isabel Sáez Alonso, Carles Oliver Barceló

Criteria for digitalparametric design tools for economical loadbearing elements from solid natural stone
Tim Mahn, Matthias Beckh

Reimagining hyperbolic paraboloid umbrellas in stone blockwork
Richard Harpin, Zoe Nicholls

One Thousand Years or More: Re-Using Stones from the Thames River Wall
Oliver Wilton, Matthew Barnett Howland

SS-Efficient applications of concrete structures for a sustainable built environment

Chairs: Jonathan Michael, Mohamed Ismail

Sourcing and designing with reused precast concrete elements: the ReCrete H22 pilot
Helena Westerlind, José Hernández Vargas, Erik Stenberg

Analyzing the minimum degree of shear connection for composite beams with prestressed dismountable shear connections
Adil Ahmad, Jean-François Demonceau, Jie Yang, Christoph Odenbreit

3DCP Composite Systems: Additive manufacturing of a concrete and cellulose interlocking wall
João Ribeiro, Tatiana Campos, Filipe Brandão, Bruno Figueiredo, Paulo J.S. Cruz

Winding Fibre Threads for 3D Concrete Robotic Printing
Filipe J. S. Brandão, Bruno Figueiredo, Paulo J. S. Cruz

SS-Kind structures and architecture: celebrating human-nonhuman cohabitation

Chairs: Sareh Saeidi Derakhshi, Matthew Dylan Anderson

Speculative Frictions of Cohabitation: Storytelling and Diegetic Prototyping in More-Than-Human Architecture
Antonio Bernacchi, Alicia Lazzaroni

Adaptive reuse in industrial farm buildings: nesting critical (infra)structures of trans-species care
Ruby Natasha Sleigh

Covering Ground: Identifying the Risk of Forced Labor in Five of the Most Specified Landscape Architecture Materials in the US
Franca Trubiano, Noriko Maeda, Ivanna Dudych

Building Material Supply Chains and Forced Labor: The Case of Fossil Fuel based Polymers
Franca Trubiano

From wood to tree: designing with wood's natural degradation processes
Liz Galvez

Multispecies architecture in postpandemic urban nature – Three typologies of connectedness
Sirid Bonderup, Marie Stender

SS-Structural and Architectural Spolia – Exploring Reuse as a Cultural and Aesthetic Practice

Chairs: Shuaizhong Wang, Pedram Ghelichi

New tectonics of concrete through rubble reuse
Maxence Grangeot, Tanguy Auffret-Postel, Stefana Parascho, Corentin Fivet

The modernist Spolia
Ulrik Stylsvig Madsen, Henriette Ejstrup, Line Kjær Frederiksen

FÓRUM NADA NOVO: Artistic explorations of reuse potential in Portugal
Cláudia Escaleira, Jonny Pugh

A Digital Approach Integrating Robotics for Sustainable Restoration of a Historic Structure in Hong Kong
Yangzhi Li, Xiheng Yan, Yi Zhang, Shuaizhong Wang, Adam Fingrut

Industrial spolia: Expanding discrete design systems towards material reuse
Lukas Allner, Daniela Kröhnert, Andrea Rossi

Flow and Expansion – A Design Approach for Building Transformation Based on Structural Underpinning Technology
Yuchen Han, Fangchen You

Urban Structures & Architecture

Chair: N.N.

Mapping Trondheim's building stock
Pasi Aalto, Nils Dittrich, Georgios Triantafyllidis, Lombe Mutale, Beatrice Stolz

Designing Small-Scale Adaptive Urban Spaces with Deployable Structures
Yaxin Li, Ping Shu

Revisiting the Wild: The Role of Invisible Architecture in Reimagining Urban Spaces
Mariam Tharwat, Dag Boutsen

Study of the Space Compositional Rules of the Macau Pátio Houses, a Computational Approach to Shape Grammars
Filipe Afonso, Pedro Gomes Januário, Paulo Almeida

12.30–01.30 **Lunch Break**

SS = Special Session, MS = Mini-Symposium

01.30 – 03.15

Afternoon Sessions

SS-Hybrid Structures – Mimetic Dialogues Between Old and New Rethinking Reconversion Strategies

Chairs: Caroline Voet, Eireen Schreurs

Rehabilitating the ward into a design studio: getting in dialogue with hygienic structures, through design
Paulo Providência, Diogo Rodrigues

Atlas of Typological Affordances – Drawing Architectural Research
Andreas Lechner, Gennaro Postiglione

Afterlives of Architectural Fragments: Exploring Hybrid Structures Through Spolia
Zümrüt Şahin, Bilge Ar

Winter Gardens Structures – Climate devices as mediating forms: landscape intelligences and bio climatic structures
Alejandro Haiek Coll, Rebecca Rudolph, Tomas Mena

Bond Behaviour of Wood Reinforcement in a Clay Matrix
Theresa Zschäbitz, Selina Vaculik, Thomas Matschei, Alex Seiter, Martin Trautz, Ken De Cooman, Laurens Bekemans

MS-Architectural Engineering Design and the Circular Economy: Materials

Chairs: Sigrid Adriaenssens, Ruben Verstraeten

Fire-safety aspects of long-span timber structures in industrial buildings
Sander Løkkegaard Benner, Xan Browne, Olga Popovic Larsen

Structural reclaimed wood – reuse, rereuse, and repurposing
Felix Heisel, Dan Bergsagel

A digital circularity approach to leverage waste lumber in dowellaminated timber slabs
Rachel M Blowes, Keith J Lee, Paul Mayencourt, Sheila Kennedy, Caitlin Mueller

Inventory-constrained optimization of grid shells driven by reuse
Francesco Laccone, Andrea Favilli, Paolo Cignoni, Luigi Malomo, Daniela Giorgi

Reducing the environmental impact of a singlefamily house through renovation using biobased and reclaimed materials
Els Van de moortel, Karen Allacker

Nested Stone Pasts and Futures: Stone Reuse Prototyping at St Leonard's Hill
Oliver Wilton, Matthew Barnett Howland, Thomas Parker

Building envelopes / Facades 1

Chair: N.N.

Monocoque Systems: The Reuniting of Divergent Agencies for Architecture
Bruce Wrightsman

Shedding light on architecture – sketching daylight under an overcast sky
Arnkell Jonas Petersen

Form Versus Reality: The Impact of Geometry on the Detailing of the Building Envelope
Terri Boake

Numerical Analysis of Perforated Bending-Active Plates integrated in Unitized Curtain Wall
Charis Sergidis, Marios C. Phocas

Post-Consumer Flexible Polyolefine (FPO) as a Material for Bespoke 3D Printing Facades
Francesco Milano, Benhur Baiju, Roy ZRotz, Martin Eckl, Alessandro Fischer, Nik Olivo Eftekhar, Valeria Piccioni, Fabio Gramazio, Matthias Kohler

Advancing the building materials reclamation: an evaluation method for the disassembly potential of glass façade systems
Angelica Rota, Giammarco Montalbano, Marco Zaccaria, Giovanni Santi, Francesco Fiorito

Concrete & masonry structures 1

Chair: N.N.

How digital approach can help reintroduce masonry buildings as a basic construction method
Romane Maudru, Etienne Antuszewicz, Pierre Marquis-Lhuillier, Vishnukumar Rajasekar

Echoes of the Past: Enhancing Masonry Historic Structures with Cable Net Systems for Compatibility
Ali T. Dinani

Mechanical Strength and Quality of Concrete Incorporating Asian Hard Clam Shell Waste as Partial Replacement of Coarse Aggregates
Mia Ardiati Tedjosaputro, Silas Oluwadahunsi

Investigation of the embodied carbon-water footprint of readymixed concrete mixtures in four U.S. metropolitans
Jonathan Michael Broyles, Juan Pablo Gevaudan, Wil V. Srubar III

MS-From Earth to Earth: Vernacular and Contemporary Earthen Architecture and Structures – Education and Contemporary Practice in Earthen Construction

Chairs: Marwa Dabaieh, Jorge Fernandes

From the Mediterranean to the Nordic: Unveiling the Potential of Earth Construction in Contemporary Architecture
Jorge Fernandes, Marwa Dabaieh

Shovelling and Studying: The 1980s Revival of Earthen Construction in German Universities
Andrea Alberto Dutto, Leonie Bunte

The implementation of earth blocks in Belgium and Luxembourg: a case study analysis
Elke Knapen, Nijs de Vries, John Silvertand, Erik Pelicaen, Lieve Weytjens

The Durability of Earthen Materials: A Post-Occupancy Survey
Pauline Lefebvre

Timber construction 1

Chair: N.N.

Load bearing capacity of pine timber connections using different types of connectors
Gastón Bruzzone, Daniel Godoy, Diego Passarella, Stephany Arrejuría, Laura Moya

Design method for roundwood construction using database of trees
Damien Gilliard, Yves Weinand

Rebuilding the Yao Stilt Houses Through Tree Graphs Generative Method
Filipe Afonso, Pedro Gomes Januário, Paulo Almeida

RETHINKING ELASTIC TIMBER GRIDSHELLS
Antonio José Lara-Bocanegra, Carlos Martínez-Criado, Antonio Roig, Almudena Majano-Majano

03.15 – 03.45

Afternoon Coffee Break

03.45–05.30

Evening Sessions

Building envelopes / Facades 2

Chair: N.N.

Overlapping H.W. (Heat Wave) with U.H.I. (Urban Heat Island) in calculating the energy efficiency of buildings at nZEB standard
Emilian Cojocaru, Ionuț Ciprian Mătieș, Daniel Mihai Muntean

Thermal Performance Improvement of Brick Design via 3D Printing
Esraa Mohamed Mahmoud Saad, David Correa

Criteria for enhancing comfort and liveability conditions in homogenous built contexts through innovative façade interventions
Carlo Antonio Stival, Paola Limoncin, Bisiani Thomas

A Comparative Study of Structural and Environmental Performance in Two Cable-Driven Curved-Line Folding Façade Systems
Marius Klamt, Pinar Neseliler, Yenal Akgun, Lucio Blandini

REviewing Desert Architecture: Recent Architecture in the United Arab Emirates
Igor Peraza, Samar Halloum

Concrete & masonry structures 2

Chair: N.N.

Polibrick Plugin: A Parametric Tool for Studying Complex Brick Pattern Shells
Mohammad Pourfouladi, Natalia Pingaro

Stone Slurry Waste: Circularity and Additive Manufacturing
David Miguel Maia Alcobia, Bruno Acácio Ferreira Figueiredo

Neo-Brutalism: The Digital and Cultural Micro-Landscape of 3D-Printed Concrete
Giancarlo Di Marco, Juan Carlos Dall'Asta

Crossdisciplinary design

Chair: N.N.

Folding at the threshold of architecture and engineering
Toni Kotnik

The Intersection Between the Theory of Circularity and the Built Environment
Zeynep Melis Oguz, Omer Sukru Deniz

ZOOMSEs: Prototyping a Consultancy Design Studio Model for Advanced Structural Integration in Architecture
Thomas Fowler, Sat Rihal

Designing engineers: Tautology or Peculiar Combination?
Tilke Devriese

Structuring Googie: How early 20th century developments in structural forms and materials helped shape a unique subset of US mid-century modern architecture
Deborah Oakley

Detecting rainwater flow paths as a methodology for nature-responsive architectural planning
Tizian Alkewitz

From Earth to Earth: Vernacular and Contemporary Earthen Architecture and Structures – Innovation and Technological Advances in Earthen Construction

Chairs: Marwa Dabaieh, Jorge Fernandes

Automated earthconstruction: scale up and potential for soil bioremediation
Guillem Perutxet Olesti, Kenneth Wilson Rozas, Laetitia Morlie, Anete Krista Salmane, Pradeep Devadass, Marcos Cruz, Brenda Parker

Material Informed Computational Design for a Stereotomic Rammed Earth Vault
Pedro Azambuja Varela, Necmettin Sancak, Sema Alaçam, Orkan Guzelci, Rui Póvoas, Edgar Brito

Tilt-up pisé: investigations on the v iability and aesthetic possibilities of tilt-up rammed earth
Maxwell C Rodencal, David Costanza, Felix K Heisel

Structural design with rammed earth – a shear strength design procedure and case study
Dan Bergsagel, Marta Heisel-Wisniewska, Maxwell Rodencal

Lightweight structures

Chair: N.N.

Volte realine. A description and analysis of a vernacular technique for defining and designing new thin shells
Salvatore Di Maggio, Calogero Di Maggio, Rossella Corrao

Adjustable Connection Systems for Reusable Modular Plate Structures
Ellen Leemans, Niels De Temmerman, Lars De Laet

Comparative Load-Deformation Ana-lysis of an Adaptive Lightweight Canopy System with Thin-Film Photovoltaics
Marios C. Phocas, George Tryfonos, Maria Matheou, Eftychios G. Christoforou

Lightweight structures on unstable surfaces: strategic intervention approaches in ravine
Ana Julia Claro

Seismic and Thermal Performance of modular innovative lightweight steel buildings within the ECCELSA project
Alessia Campiche, Luigi Fiorino, Raffaele Landolfo

Timber construction 2

Chair: N.N.

Some Tectonic Features of Bulgarian Traditional Postsand-Planks Houses from the Period of National Revival XVIII–XIX century
Nora Stoycheva Yordanova, Lucas Alcaide De Wandeleer

Bahareque as an opportunity for adequate housing and sustainable construction in rural Colombia
Andrés Fernando Real Jiménez, Iván Fernando Otálvaro Calle, Ingrid Elizabeth Madera Sierra

Review of disassemble-able building systems in Iranian timber structure
Farkhondeh Vahdati, Mia Tedjosaputro

DIY mass timber: development of low-tech and lowcost structural mass timber manufacturing to support forest utilization in California
Paul Mayencourt

03.15–03.45

Welcome Apero

08.30–09.45 **Keynote Hanaa Dahy, Phil Bernstein**

09.45–10.15 **Morning Coffee Break**

10.15–12.00 **Morning Sessions**

MS-Collaborative Practices of Architects and Structural Engineers – The Nature of Collaboration

Chairs: Anne-Catrin Schultz, Christina McCoy

Restructuring Collaborations between Architects and Engineers
Clare Jessica Olsen, Sinead Mac Namara

Industry views on optimization in architectural and engineering practice: A CMM study
Paranaz Mansourimajoumerd, Stephanie Bunt, Catherine Berdanier, Nathan Brown

Prototypes in collaboration: practice-based research and research-based practice
Michelle Laboy, Matthew Webster, Paul Kassabian, Jerome Hajjar

Design Engineers: Engineers, Creativity, and Architecture
Marci Uihlein

MS-Eco-Logic Structures: New Design Paradigms based on Hybrid Systems, Alternative Materials, and Disassembly Processes – Hybrid Systems and Re-Use

Chairs: David Jenny, Patric Fischli-Boson, Jay Renée Thalmann

Parametric Analysis for Ecological-Structural Efficiency: A Systematic Approach to Sustainable Slab Structures
Yasaman Yavaribajestani, Patric Fischli-Boson

Tectonics of the hybrid: Constructing the Viennese Gründerzeit
Thomas Sommerauer

CONNECT4C: High-strength steel connections for circular construction
Alejandro Bernabeu Larena, Guillermo González Sanz, Tiago Alves, Neda Janković, Filip Ljubinković, Luis Simões da Silva, Jorge Conde Conde, Antonio José Lara Bocanegra, Almudena Majano Majano, Laurent Duchêne, Arnaud Neutelers, Jean-François Demonceau, Adriano Silva De Carvalho, Teodora Bodgan, Christoph Odenbreit, Kristo Mela

Circular Bridge: A Case Study Project on Innovative Demountable Structural Hybrid Systems with Reused Components
Guido Brandi, Adrian Kiesel, Stefan Hausherr, Patric Fischli-Boson

Experimental Study of Resource-Efficient Folded Steel and Cementfree Concrete Composite Systems
Jay Renée Thalmann, Yasaman Yavaribajestani, Christian Stocker, Peter Kobel, Samuel R. Garcia, Valentino Vigneri, Andreas Taras, Patric Fischli-Boson

Circular by nature or by design? Opportunities and challenges of timber circularity – Reclaiming the value of timber

Chairs: Rafael Novais Passarelli, Felipe Riola-Parada

No Time, No Space – Circular Material Hubs' Challenges for Reclaimed Wood Structural Reuse
Esther Vandamme, Mario Rinke

From waste streams to high-value biobased building materials
Niels Vonk, Martijn Droesbeke, Jan Niederwestberg, Ron Oorschot, Jan de Jong, Marc Souverein

Structuring architecture with salvaged timber: exploring an interlocking modular system and beyond
Gengmu Ruan, Günther H. Filz, Gerhard Fink

Circular timber construction: Approaching material defects for reuse
Wolfgang Schwarzmann, Livia Audrey Herle

Structural potential of reclaimed and local timber as new resources in The Netherlands
Jan Niederwestberg, Harrie Weijs, Niels Vonk

MS-Mycelium-based composites: from forest to design research – Material design of myceliumbased composites

Chairs: Adrien Rigobello, Andrea Rossi

MycoPly: Laminated, naturalfiber-reinforced mycelium-based composite panels for architectural applications
Marta H. Wisniewska, Andrew Boghossian, Felix Heisel

Biofabrication and Performance of Mixed-Density Mycelium Modules
Selina Bitting, Vita Rossi, Hannah Möwes, Sandro Stucki, Stefan Schoenwald, Tom Van Mele, Philippe Block

Bioluminescent Mycelium: An Exploration into the Cultivation of Pannellus stipticus
Pietro Augusto Falcinelli, Marco Tira, Lucia Castellani, Roberta Salierno, Ingrid Maria Paoletti

Advancing Mycelium-Based Composites: Integrating Strength Optimization and Porosity Control for Alternative Construction Materials
Dana Saez, Marlen Zschaetzsch, Dóra Márföldi, Tristan Beihsner, Anett Werner, Denis Grizmann, Martin Trautz

MS-Structural adaptations: the role of existing structures in adaptive reuse projects – A tectonic approach for adaptive reuse

Chair: Matteo Robiglio, Elena Guidetti

Case Study: Adaptive Reuse of Abandoned Industrial Buildings in Oklahoma
Shideh Shadravan, Negar Heidari Matin, Francesco Cianfarani

Towards Sustainable Structures with Reused Timber: Validation of Enhanced Technical Standards and Practical Guidelines
Thieme Engelborghs, Jean-François Rondeaux, Aline Vergauwen

Timber-based Retrofitting of Unreinforced Masonry: An Experimental Approach to Repair and Reuse
Philip Tidwell, Daniele Malomo, Bora Pulatsu, Daniel Chung, Yifan Xie

Hidden in Plain Sight: Exploring Roofs in the Reuse of Flemish Post-war Parish Churches
Femke Van der Meulen, Stephanie Van de Voorde, Sven Sterken

Connecting Spaces and User Contexts – Topology as an Architectural Circulation Analysis Tool in Conversion Projects
Zena Ndiaye, Robbe Pacquée, Mario Rinke

MS-Structures & Crafts: Digital Assemblies

Chair: Ornella Iuorio, Juan Jose Castellon Gonzalez

Revisiting Structural Lazo Carpentry: Geometry, Mechanics, and Construction
Wesam Al Asali, Angel Maria Lopez Martin, Robin Oval, Orsolya Gaspar, Antonio Jose Lara Bocanegra, Maria Almudena Majano Majano, Sigrid Adriaenssens

Towards automating the workflow for design, manufacturing, and assembly process feedback of discrete panel structures
Sam Wilcock, Ornella Iuorio

Parametric Material Autopsies for Generative Crafting
Özgür Kavurmacıoğlu, Betül Ozar, Fitnat Cimşit Koş, Zehra Delerel

The Art of Joining: Challenging Planar Joints in Robotically Printed Ceramic Assemblies
Maria Smigielska, Suzi Pain, Muslima Rafikova, Joaquin Tobar

Closed Loop: Design and Fabrication of a Circular Workflow for Robotically 3D Printing Recycled Plastic Architectural and Structural Components
David Costanza

12.00–01.00 **Lunch Break**

01.00–02.45

Afternoon Sessions

MS-Collaborative Practices of Architects and Structural Engineers – Case Studies in Collaboration

Chair: Anne-Catrin Schultz, Christina McCoy

Engineering Authorship and Agency in Mid-20th Century Belgian Church Construction
Chiara Kuijpers, Sven Sterken, Stephanie Van de Voorde

Campus SRF Zurich – Systems and the art of construction
Leonore Daum, Christian Penzel, Martin Valier, Pascal Bach, Frederik Lønow

Thermal storage in low-carbon structures: A transdisciplinary perspective
Matan Mayer, Alejandra Albuerne Rodríguez, Aurore Julien

The Collaboratory: Tanzania Build!
Kevin Dong, Tom Fowler

MS-Eco-Logic Structures: New Design Paradigms based on Hybrid Systems, Alternative Materials, and Disassembly Processes – Alternative Materials and Disassembly Processes

Chairs: David Jenny, Patric Fischli-Boson, Jay Renée Thalmann

Beyond the rationale of reduction: exploring a deep ecological architectural practice of care
Thorbjørn Lønberg Petersen

The Kiln Tower of Cham
Joerg Habenberger

Review of Recycled Materials Relevant for 3D Printing Habitats
Atousa Aslaminezhad, Peng Lee, Henriette Bier, Mario Rinke

Reimagining Refurbishment: From Demolition to Innovation
Sevgi Altun, Ko Tsuruta, Francesca Mirone, Ena Lloret Fritschi

Forgotten Resource, Untapped Potential – Rediscovering Swiss Natural Stone as a Load-Bearing Building Material
Nelly Pilz, Singer Franziska, Mosayebi Elli

Circular by nature or by design? Opportunities and challenges of timber circularity – Future recirculation of timber

Chairs: Rafael Novais Passarelli, Felipe Riola-Parada

Designing for timber circularity: potential challenges and approaches from the lens of two educational design/build projects
Rafael Novais Passarelli, Mariapaola Riggio, Nancy Cheng, Elke Knapen

Advancing Circularity in Timber Construction: Design for Disassembly and Resue, and Innovative Wood-Based Connections
Daniel Honfi, Xan Browne, Olga Popovic Larsen, Roberto Crocetti

U.S. perspectives on deconstruction and reuse of structural wood products
Fiona A. O'Donnell, Nathan L. Post, Jack J. Lesko, Amelia E. Landry, Abigail R. Peters, Zoe A. E. Sperduto

Design for Adaptation – Adopting Adaption for Timber Construction at Three Scale
Mette Ramsgaard Thomsen, Stine Dalager Nielsen, Tom Svilans, Ee Pin Choo, Martin Tamke

Circular by Nature: Framing the Need for Design for Circularity in Mass Timber Structures
Tatiana de Oliveira Chiletto, Simone Fernandes Tavares de Melo, Rafael Novais Passarelli, Elke Knapen

MS-Mycelium-based composites: from forest to design research – Upscaling sustainable solutions for mycelium materials

Chairs: Adrien Rigobello, Andrea Rossi

MycoCurva: stayin-place fabric formworks for curved veneerreinforced mycelium building components
Eda Özdemir, Andrea Rossi, Nadja Nolte, Philipp Eversmann

Robotic wickering: fiber-mycelium hybrid modular system
Omar Abdelhady, Victor Sardenberg, Jens-Uwe Schulz, Hans Sachs

Symbiocene Demonstrator: Mycelium Bio-Composites in Architectural Design
Abhinav Chaudhary, Savannah Willits, Michael Polisano, Jenya Andersson, Harjit „Ram" Sembi, Ron Bakker, Darshil U. Shah

From buzz to breakthrough: driving mycelium biocomposites' uptake in Aotearoa NZ's construction industry
Maria Eveline Walker, Emina Kristina Petrović

MS-Structural adaptations: the role of existing structures in adaptive reuse projects – A matter of narrative and metrics

Chairs: Matteo Robiglio, Elena Guidetti

Balancing resources and cultural values in building adaptations
Magnus Reffs Kramhøft, Henriette Ejstrup, Pelle Munch-Petersen

Teaching Reuse of Existing Structures at the University of Sheffield
Richard Harpin, Jon Carr

Embodied Carbon Calculations as a design tool in the Adaptive Reuse of a Campus Building
M. Naomi Darling, Garth Schwellenbach

M127: Re-reading and Re-writing a structure
Gert Somers, Jonas Lindekens, Sara Verleye

MS-Structures & Crafts: Material and Cultural Assemblies

Chairs: Ornella Iuorio, Juan Jose Castellon Gonzalez

Cultural Values in Structural Reuse: A Design Workflow for Modern Spolia
Shuaizhong Wang, Hanbing Zhao, Yuanlong Zhu, Hiroyuki Shinohara

The structural role of in-plane interlocking in jack arches
Valentina Beatini, Danila Aita, Hugo Caruso, Johan Clausen, Elsa Garavaglia, Attilio Pizzigoni, Luca Sgambi, NA NA

Textile hierarchy: a systems-led approach to hacking textile design and construction
Sylwia Orynek, Briony Thomas, Alison McKay

Exploring craftdigital manufacturing processes: a cost-effective methodology for low-series production of custom doublecurved geometries with a novel Cement-Textile-Composite material
Elena Casolari, Alberto Speroni, Andrea Giovanni Mainini, Matteo Cavaglià, Juan Diego Blanco Cadena, Tiziana Poli

Advancing TRCLC3 as a sustainable technology for light prefabrication in social housing in Latin America
Patricia Guaita, David Fernández-Ordoñez, Raffael Baur, Enrique Corres Sojo, Beatrice Malchiodi, Sergio Ekerman

02.45–03.15

Afternoon Coffee Break

03.15 – 04.45

Evening Sessions

Educating architects and structural engineers

Chair: N.N.

Tectonics and Open Building within the scope of architectural design teaching
Carolina Albuquerque de Moraes, Roberto Eustaáquio dos Santos

Enhancing Architectural Education: A Study on Flipped Classroom Implementation
Shideh Shadravan

Exploring Daylight on Northern Latitudes – Assessing Quantitative and Qualitative Aspects in Educational Practices
Kathrine Næss, Arnkell Jonas Petersen

Introducing Innovative Reconfigurable Space-Structures in the Architecture Education: A Novel Methodological Approach
Katherine Liapi

Structural pocket guide for architecture students
Tilke Devriese

The High Value Of Failure: Developing Critical Thinking about Building Envelope Design
Terri Boake

MS-Mycelium-based composites: from forest to design research – Textile reinforcement strategies for mycelium materials

Chairs: Adrien Rigobello, Andrea Rossi

Extending the Craft and Cultivation of Myco-Textile Structures
Jonathan Dessi-Olive

Textile Templating: Knit Design Strategies for Mycofabrication
Romy Kaiser, Ben Bridgens, Elise Elsacker, Jane Scott

Enhancing Flexural Performance of Mycelium-Bound Composites through Textile-Reinforcement Strategies
Kalaivanan Amudhan, Alina Engel, Maxine Meier, Pia Jamie Krist, Eliza Biala, Martin Ostermann Nanofiber

Nanofiber Solutions for Sustainable Mycelium Biocomposites in Architecture
Jan Koníček, Phoebe Lewis, Romy Kaiser, Jane Scott

SS-Circular Site Stories: Exploring Entanglements of Non-Human/Human Diversities and Material Assemblages

Chairs: Tenna Tvedebrink, Tina Vestermann Olsen

Invisible Site Stories: Uncovering Ecological Externalities in Marine Sand Mining
Emma Rishøj Holm, Stiig Markager

Circular Economy and Entangled Water infrastructures: Hydrofeminist Perspectives in Flemish and North-American circular site stories in linear city planning
Wendy Wuyts

Architectural Ecographies
Alicia Lazzaroni, Antonio Bernacchi

Taking Care: Practices of social sustainability in Danish circular design – 'the Swan' as a case study
Tenna Doktor Olsen Tvedebrink, Tina Vestermann Olsen, Signe Glud

How can the design process for temporary use be improved? Learnings from practice and education
Gabrielle Kawa, Waldo Galle, Niels De Temmerman

SS-Conceptual design of structures using equilibrium models

Chairs: Pierluigi D'Acunto, Patrick Ole Ohlbrock

Multi-surface Plasticity Model for Analysis of Complex Interlocking Assemblies
Elham Mousavian, Ghulam Kibriya, Katalin Bagi, Antonino Iannuzzo

Integrating constructability constraints into an equilibrium-aware grammar for generative structural design
Ioannis Mirtsopoulos, Corentin Fivet, Caitlin Mueller

Augmented Decomposition Method: Formfinding for structural equilibrium with design objectives based on Alternating Direction Method of Multipliers
Patrick Schäferling, Matthias Beckh

Designing the new Weser bridge in Bremen: a case study on the role of form finding in suspension bridge design
Abel Groenewolt, Kenryo Takahashi, Laurent Ney

Steel & composite structures

Chair: N.N.

Non-Uniform Truss Modelling and Energy Consumption in Adaptive Space Lattice Manufacturing for Steel Structures
Nadja Gaudillière-Jami, Justin Dirrenberger

Historical analysis of the relationship between the building structure and the thermal envelope on the example of the construction of the DARS building
Matej Blenkuš

Reused-based design of steel exoskeletons
Fabrizio Ascione, Francesco Esposito, Diana Faiella, Elena Mele

Structures & Landscapes

Chair: N.N.

Structures & Landscapes: Implementation of foundations for low impact structures and small scale dwellings without excavation.
Regin Schwaen

RBS Bätterkinden – Rethinking railway infrastructure
Frederik Lønow

Drava Telefon and Splavarska Footbridge in Maribor, Slovenia
Jorge Bernabeu Larena, Alejandro Bernabeu Larena, Francisco Burgos Ruiz, Ginés Garrido Colmenero

05.00 – 06.00

General Meeting – International Association of Structures and Architecture

07. 30 – 11.00

From Papers to Plates – ICSA2025 Dinner

SS = Special Session, MS = Mini-Symposium

Friday, 11. July 2025

08.30–09.45 **Keynote Jonny Leya, Joseph Schwartz**

09.45–10.15 **Morning Coffee Break**

10.15–12.00 **Morning Sessions**

MS-Mycelium-based composites: from forest to design research – New methods of research and cultivation for mycelium materials

Chairs: Adrien Rigobello, Andrea Rossi

Bacteria-Fungi mortar: Construction with reused materials and microbially formed composite
Lynn Hyun Kieffer, Jakob Sieder-Semlitsch

Selective Growth Mechanism (SGM). Powder bed 3D printing with mycelium-based materials
Shahriar Akbari, Adrien Rigobello

Inoculation methods for digitally fabricated mycelium-based clay composites
Hana Vašatko, Julian Jauk, Lukas Gosch, Valeria Niemackl, Anita Klaus, Dorothee Hippler, Milena Stavric

Novel Application of Digital CT Scanning Technology for Monitoring of Fungal Mycelium Colonization
Michelle Finneran, Saoirse Tracy, Dimitrios Argyropoulos

Natural materials 1

Chair: N.N.

Weather-resistant Composite Development for Scalable Bacterial Cellulose-based Foldable Shading Systems
Gozde Damla Turhan-Haskara, Pinar Neseliler, Yenal Akgun

Developing structural applications for wood waste in affordable housing design
Carolina Manrique Hoyos, Randall Teal, L. Damon Woods, Michael R. Maughan, Lili Cai, Ahmed Ibrahim, Mallory Bermensolo, Tavia Dahl, Jim Severt, Aaron Magalsky, Dylan Porth, Farnaz Nazari, Armando G. McDonald, Daniel J. Robertson, Alexandra M. Lehman-Chong, Senami Hodonu, Milinda Yapa Hamillage, Dylan Willard, Liang Liang

Materials Catalogue for emergent and responsive materials
Layla van Ellen, Ben Bridgens, Oliver Heidrich

The Tectonic Culture of Reed -Explorations into a Biogenic Architecture for the Future
Line Kjaer Frederiksen, Anne Beim, Lykke Arnfred

Salty Transformations: Bridging Vernacular Wisdom to Contemporary Innovations in Salt Architecture within the Egyptian Context
Marwa Dabaieh, Deena EL-Mahdy, Nahla N. Makhlouf, Ahmed H.Hafez

Repurposing the past: concepts, practices, and challenges

Chair: Stephanie Van de Voorde, Lara Reyniers, Ruben Van Vooren

The role of the building component in reuse architecture -learning from Marcel Raymaekers
Arne Vande Capelle, Lionel Devlieger

The persistent practice of reuse in the modern era: a survey of francophone advertising in switzerland from 1851 to 1968
Barbara Lambec, Maléna Bastien-Masse, Corentin Fivet

Beyond Innovative Procurement: A Case Study of Architectural Reuse in Zinneke, Brussels
Karen Steukers, Michaël Ghyoot, Lionel Devlieger, Stephanie Van de Voorde

Unraveling the Architectural Design Process: A Comprehensive Study of Challenges in Designing with Reused Components
Kristina Viktoria Kröll, Torsten Schröder, Juliette Bekkering, Corentin Fivet

SS-Learning through Making: Exploring Teaching Structure and Construction through Making

Chairs: Laurens Luyten, Carmen Rist-Stadelmann

Pedagogical Analysis of Construction Workshops in Architecture Programs to Teach Structure and Construction
Laurens Luyten, Ivo Vrouwe, Öykü Acican

Experiential learning in construction history through models
Dimitris Theodossopoulos, Christianna Veloudaki, Audrey Dakin

Assembly, gravity and environment (AGE): Layered sketching, drawing and modelling for integrated design
Miriam Dunn, Graham Petrie, Eddie O'Donovan

Embracing the Unknown: Successes and Attempts in Design-Build Projects.
Laura Cristina Zubillaga, Pekka Heikkinen, Daniela Jimena Alatorre Piñones

Full Scale Approaches Comparing didactic methods in four different construction cultures
Carmen Rist-Stadelmann, Urs Meister

SS-Sustainable building structures through resilience

Chair: Lennert Loos

Benchmarking and Comparative Assessment of Sustainability Measures in Structural Engineering Projects: A Framework
Lennert Loos, Pierre-Yves Adant

Discussion on Generality and Adaptability as new parameters to gain information on the reusability of the loadbearing structure
Alessio Pelagalli, Lennert Loos

Retrospective analysis: Offices to housing
Paulien Marie Beeckman, Waldo Galle, Niels De Temmerman

Envisioning alternative buildings: graph tool shows spatial re-use capacity and informs openended design interventions
Robbe Pacquée, Caitlin Mueller, Mario Rinke

Deep learningbased topology optimization design method for bridge structures guided by aesthetics
Cheng Xiang, Airong Chen, Yun Ning, Dalei Wang

MS-Wood in the Digital Age: Crafting the Future of Sustainable Architecture – Reimagining Traditional Wood Craftsmanship

Chairs: Edyta Augustynowic, Ronny Standtke, Katharina Lindenberg

Fusing Heritage: Enhancing Traditional Wood Fastening Techniques with Parametric Engineering for Form-Fit Structural Timber Connections in a Spatial Framework
Kaspar Ehrhardt, Timo Claus, Benedikt Neubauer, Julian Lienhard, Alexander Michalski, Philipp Stute, Stephan Burger

Fiber Interweaving: Exploring the Synergy of Crafts and Engineering in Architecture Education
Sigrid Adriaenssens, Wesam Al-Asali, Carlos Fontales

Exploring the Potential of Funicular Timber Floors
Petras Vestartas, Leonie Füssler, Daniel Sang-Hoon Lee, Aryan Rezaei Rad, Tom Van Mele, Philippe Block

Digital Age Crafting from Misfit Wood: A Bundled Pillar
Jaakko Torvinen, Jakob Sieder-Semlitsch, Jens Pedersen, Anders Kruse Aagaard, Niels Martin Larsen, Matti Kuittinen

12.00–01.00 **Lunch Break**

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01.00–02.45

Afternoon Sessions

MS-The Next Generation of Embodied Carbon Reduction Strategies – Pushing the frontiers of embodied carbon reduction strategies

Chair: Jonathan Michael Broyles, Demi Fang, Martín Torres

Evaluation of a Concept for Assessment of Environmental and Economic Impact of Social Intents
Anna Elisabeth Kristoffersen, Steffen Petersen, Aliakbar Kamari

Framework for Cost Analysis of Complex Concrete Floor System Shape Optimization Techniques
Leopold J. Wehner, Mohamed A. Ismail

Carbon reduction strategies with steel-CLT hybrid structures
Michelle Laboy, Matthew Eckelman, Mark Webster, Jerome Hajjar

Estimating Earlystage Embodied Carbon in Structural Systems of Urban Building Stocks
Leïlah Yadia Kelly Sory, Caitlin T. Mueller, Christoph Reinhart

Using Kernel Density Estimation to Model Uncertainty in Building Material Emissions: Considering Variable Weighting and Bandwidths
Martín Torres, Wil Srubar III

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Chair: N.N.

PULPBAFFLE: A biodegradable acoustic solution using additive manufacturing in sustainable construction
Tatiana Campos, Paulo J. S. Cruz, Bruno Figueiredo

Beyond Nature and Artifice: Synthesising Structural AirWebs through AI
Juan Carlos Dall'Asta, Giancarlo Di Marco, Lok Hang Cheung

Experimental study on the thermal performance of 3D-printed earthen Wall Segment with optimized infill pattern
Mohamad Fouad Hanifa, Paulo Mendonça, Bruno Figueiredo, Deena El-Mahdy

Prefabricated biogenic construction and their fire-safety properties – a literary review
Astrid Juul Jørgensen, Henriette Ejstrup, Johannes Schotanus, Karlis Livkiss, Else Maria Søeborg Ohlsen, Anne Beim, Mia Fossing Frederiksen, Anders Dragsted

Repurposing the past: mind-sets, methods, and metrics

Chairs: Stephanie Van de Voorde, Lara Reyniers, Ruben Van Vooren

Pedagogy of an interdisciplinary, hands-on workshop to design and build floor systems with reused materials
Célia Küpfer, Barbara Lambec, Malena Bastien-Masse, Pierre Zurbrügg, Corentin Fivet

Unlocking the reuse potential of tiles: Dismantling tests and environmental impact insights from case study dwellings
Katrien Devos, Marijke Steeman, Lionel Devlieger

A standardized method to assess the reuse potential of building components
Barbara Lambec, Maléna Bastien-Masse, Félix Heisel, Corentin Fivet

Estimating structural timber material quantities using historical design codes and probabilistic modelling for circular economy
Lombe Mutale, Ramon Hingorani, Jochen Köhler

SS-Restructuring architectural and engineering education

Chairs: Olga Ioannou, Maria Vrontissi, Bob Geldermans

New ways of thinking design pedagogy: body-based methods in design education
Andrea Victoria Hernandez Bueno, Miranda Celeste Laurence

Reconsidering material literacy for architecture students: Material reading and physical sketching with reclaimed material
Alessandro Oreste Tellini, Mario Rinke

Circular Prototyping: Detect – Conduct – Disrupt
Tine Hegli, Kristian Edwards, Jill K. Saunders, Arnkell J. Petersen, Lina E. Broström

Designing with care and maintenance: a pedagogical approach to sustainable architecture
Camille Fauvel, Nicolas Rogeau, Sonia Curnier, Nao Kono, Tiphaine Abenia, Bryan Ortega-Welch

Experimenting circularity and material resource efficiency in Environmental Design to foster sustainable urban regeneration
Paola Altamura, Serena Baiani

SS-From Micro to Macro: Revitalizing Spaces – Exploring the Synergy between Regenerative Architecture and Bioconstruction

Chairs: Jan Wurm, Delfina Fantini van Ditmar

Dirty Mycelium: Materials and Structures Under the Microscope
Olga Beatrice Carcassi, Grace Schleck, Lola Ben-Alon

Living Layers: Bacterial Cellulose Textiles
Assia Crawford, Sarah Ruthanna Miller, Dimitar Stefanov

The Arctic Territorial Fluctuation: Landscapes disturbances. Non-visible Infrastructural Power Control:
Alejandro Haiek Coll, Raquel Colacios, Tomas Mena mena, Luis Pimentel, Rebecca Rudolph, Aram Badr, Hana Osman, Cesar Velando

Ecospacing as post-growth research frame? Spatial potentials for interspecies well-being and regeneration
Lotte Marianne Bjerregaard Jensen, Marie Frier Hvejsel, Ann Kirstine Brunbjerg, Rasmus Ejrnæs, Andreas Lindegaard Jakobsen, Anja Jørgensen

Transcalar Bio-Tectonics: Unveiling Responsive Potential in Architecture
Fitnat Cimşit Koş, Zehra Delerel, Betül Ozar, Özgür Kavurmacioğ

MS-Wood in the Digital Age: Crafting the Future of Sustainable Architecture – Material and Fabrication Innovation

Chairs: Edyta Augustynowicz, Ronny Standtke, Katharina Lindenberg

Assessing Thermal-Mechanical properties of Wood Powder Cellulosebased Composites for 3D-Printed Architectural Components
Ashish Jain, Guy Austern, Shany Barath

Elastic kinetic coupling for hygroscopic amplification in climate responsive ventilation shingle.
Andrew McDonald, Liam Engel, Renee Fang, David Correa Diff

DiffCheck: a Scan-CAD Evaluation Tool for Digital Manufacturing and Assembly Processes in Timber Construction
Andrea Settimi, Damien Gilliard, Eleni Skevaki, Marirena Kladeftira, Julien Gamerro, Stefana Parascho, Yves Weinand

LapLam: Upcycling panel-shaped wood production waste into larger timber components
Markus Matthias Hudert, Jens Pedersen

Multilayer elastic timber gridshells with Monge meshes
Carlos Martínez-Criado, Antonio José Lara-Bocanegra, Antonio Roig, Francisco González-Quintial, Andrés Martín-Pastor, Almudena Majano-Majano

02.45–03.00

Afternoon Coffee Break

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03.00 – 04.30

Evening Sessions

MS-The Next Generation of Embodied Carbon Reduction Strategies – Circularity of building systems to lower embodied carbon

Chairs: Jonathan Michael Broyles, Demi Fang, Martín Torres

An anatomy of design principles for lasting architecture in practice
Tobias Hentzer Dausgaard, Marie Frier Hvejsel, Mogens Morgen, Lotte Bjerregaard Jensen

Streamlining Early Phase Building Reuse Analysis using an Autumated Scan to 3D Pipeline
Povl Filip Sonne-Frederiksen

Circularity assessment of 3Dprinted polymer façades
Heidi Silvennoinen, Valeria Piccioni, Nik Eftekhar-Olivo, Francesco Milano, Philippe Block, Catherine De Wolf

Building circular synergies: opportunities for locally sourced plywood construction systems
Elisa Zatta, Martino Dereani, Martina Bortolotti

Urban Mining: Cataloging Reusable Materials from Demolition Buildings in a Student Seminar
Kathrin Theilig, Iryna Takser, Werner Lang

Histories of structural and architectural design

Chair: N.N.

Luigi Moretti. Structure as form
Jaime J. Ferrer Forés

Structurally Innovative Vaults in Guarino Guarini's Architectural Theory: The Case of San Gaetano in Vicenza
Simen Dalen Taraldsen, Audun Fossum

Exploring the Convergence of Modernist Architecture and Chinese Landscape Painting: A Study of Chen Chi-Kwan's Work
Ning Tsai

Historical Review of Building Materials and Their Construction in Switzerland: Implications for Renovation Purposes
Yasaman Yavaribajestani, Natalia Pieroni, Jacqueline Pauli

João Filgueiras Lima (Lelé): Memories of Architecture and Structures
Jose Manoel Morales Sanchez, Elcio Gomes da Silva, Paulo Jorge Sousa Cruz

Adaptability and life cycle design

Chair: N.N.

Practical Implementation of Strategies for Sustainable Construction Design – How to Manage Transformation within Engineering Practices
Angela Feldmann, Christoph Gengnagel, Daniel Pfanner

Evaluating adaptability in school architecture. A Multi-criteria approach.
Efthymia Ratsou-Stæhr, Tor Kristian Stevik, Fortress Ardane Villas Mercado, Leif Daniel Houck

Planning Complex Timber Frame Assemblies Using Graph Algorithms
Ardeshir Talaei, Anja Kunic, Roberto Naboni

Assessment Criteria of Timber Construction: Indicators for Demountability
Sandra Schuster, Stephan Birk

MS-Wood in the Digital Age: Crafting the Future of Sustainable Architecture – Circularity and Scaling

Chairs: Edyta Augustynowicz, Ronny Standtke, Katharina Lindenberg

Scaling the timber construction sector – Investigations in analyzing wood market scenarios in Switzerland
Shayani Fernando, Giacomo Vaccario, Janine Schweier

Circular Wood for Interior Design – Opportunities for Residual Wood use, Powered by Industry 4.0 Technologies
Marta Malé-Alemany, Tony J.N. Schoen, Valentijn T.B. Bors, Sebastian B.S. Yap, Javid Jooshsesh, Maurice M.J. Pelt, Timo Bega, Jerome J. Mies, Simon Gehring

A "Living Lab" Research: Technological Design for Circular Education and Innovation Networks in Wood Waste Upcycling
Giuliano Galluccio, Marina Block, Marina Rigillo, Massimo Perriccioli

Structural Design by Density Compositions of Poplar Deadwood
Isak Foged, Mads Brath

Modeling of Timber Spatial Structures: Interdependencies Between Flexible Floor Plans and Force Flow
Jovanka Kuzmanovska, Colton Paul Corcoran, Patrick Schäferling, Matthias Beckh

04.40 – 05.00

ICSA2025 Closing Ceremony