<table>
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<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
<th>Speaker(s)</th>
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<tbody>
<tr>
<td>08:00 – 09:00</td>
<td>Opening Ceremony</td>
<td>Auditorium 3.107</td>
<td>Chair(s): Paulo Cruz and Marie Frier Hvejsel</td>
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<tr>
<td>09:00 – 10:15</td>
<td>Keynote Lectures</td>
<td>Auditorium 3.107</td>
<td>“Cities of nature - A new paradigm for nature-based urban design!”</td>
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<tr>
<td>10:15 – 10:45</td>
<td>Coffee Break</td>
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<tr>
<td>10:45 – 12:45</td>
<td>Concurrent Technical Sessions</td>
<td>WeM 1 to WeM 6</td>
<td></td>
</tr>
</tbody>
</table>

**WeM 1 - Auditorium 3.107**

- **Critical practice**
  - Chair(s): I.W. Foged

- **Probiotic Structures**
  - R. Beckett
  - A. Goldia & D. Andreou

- **Multi-Storey Rammed Earth Construction**
  - J. Jeppesen, N. Brin, J. Johannessen & L.K. Nielsen
  - J. Scott, R. Kaiser, D. Cohan, A. Hauschel, A. Agrawal & F. Elsacker & B. Bridges

- **Cast & Place: A Cast Aluminium Pavilion Defined by Clay**
  - T. Campos, P.J.S. Cruz & R. Figueiredo

- **Textile Columns: Drawing and weaving with 3D printed clay**
  - S. Pain, R. Barros, E.P. Chao & J. Roque
  - E. Elsacker, L. van Rossum, F. Peders & L. van Luyk

- **Thatched Facades for a Sustainable Future: OS2 neutral fire retardants for vertical thatched surfaces**
  - A. Bein & H. Eistein
  - C. Caldar & P. Ayres

- **Las Aradas Memorial: Engaging in popular building techniques**
  - H. Falken & T. Montalbat
  - Exploration of static equilibrium representations; policies and genetic algorithms

**WeM 2 - Room 4.105**

- **Mini-Symposia**
  - Bio Design: New material practices for a sustainable building culture (1)
  - Chair(s): P. Tidwell & M. Kel

- **Multi-Storey Rammed Earth Construction**
  - Knitted Cultivation: Textiling a Multi-Kingdom Bio Architecture
  - J. Scott, R. Kaiser, D. Cohan, A. Hauschel, A. Agrawal & F. Elsacker & B. Bridges

- **Cast & Place: A Cast Aluminium Pavilion Defined by Clay**
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- **Las Aradas Memorial: Engaging in popular building techniques**
  - H. Falken & T. Montalbat
  - Exploration of static equilibrium representations; policies and genetic algorithms

**WeM 3 - Room 5.125**

- **Experimental materials: the use of chitin in additive manufacturing**
  - T. Campos, P.J.S. Cruz & R. Figueiredo
  - M. Bectfield, Z. Soibol & S. Mhuter

- **Post-tensioned Ceramic Structures: Design, Analysis and Prototyping**
  - A. Goldia & D. Andreou

- **Fungal bioremediation of plastic waste into building materials**
  - S. Pain, R. Barros, E.P. Chao & J. Roque
  - E. Elsacker, L. van Rossum, F. Peders & L. van Luyk

- **Remediation Architecture: A bio-hybrid approach employing fungal mycelium**
  - A.B. Larena, J.G. Mateo, M.S. de la Peña, J.C. Mora & N. Guitart

- **Design process: Goian-Cerveira footbridge over the Millo River, Spain-Portugal**

- **Designing the thermal properties of bio-composites for thermal mass and dynamic insulation**
  - R. Fortes, A. Halkopazuk & S. Craig

**WeM 4 - Room 5.127**

- **Shape optimization of a double curved building in cross laminated timber (CLT) panels**

- **Towards a Mass Timber Agenda: The local and regional viability of mass timber in Miami-Dade County**
  - L.O. Hock & S. Melotte

- **Thermal insulation**
  - M.C. Villela & P.B. Flores

- **Multi-criteria analysis of buildings transformation**
  - M. Abita, A. Tosone, D. Di Donato & R. Mazzoni

- **Design of TCC-road bridges**
  - E.M. Segal, L. Ramsburg, J. Draper, S. Thompson, P. Draper, B. Lindsey, M. Deed & A.A.H. Chung

- **Influence of flexibility of connections on load distribution of TCC-road bridges**

- **Designing the thermal properties of bio-composites for thermal mass and dynamic insulation**
  - R. Fortes, A. Halkopazuk & S. Craig

**WeM 5 - Room 5**

- **Steel “pyramids”. Lafuente’s dome, from a possible common ground to constructive and geometric differentiation**
  - L.D. Houck & S. Melville

- **Towards a Mass Timber Agenda: The local and regional viability of mass timber in Miami-Dade County**
  - L.O. Hock & S. Melotte

- **Design of TCC-road bridges**
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- **Designing the thermal properties of bio-composites for thermal mass and dynamic insulation**
  - R. Fortes, A. Halkopazuk & S. Craig

**WeM 6 - Room 6**

- **Fundamental Design: New material properties for sustainable architecture**
  - M.C. Villela & P.B. Flores

- **The Path to Future Wood: Component Based Structural Assembly Systems**
  - A. Meyboom & D. Correa

- **Complexity, Simplified: The Impact on Design with Structural Steel Systems**
  - T.M. Beeke

- **Towards a Mass Timber Agenda: The local and regional viability of mass timber in Miami-Dade County**
  - L.O. Hock & S. Melotte

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- **Designing the thermal properties of bio-composites for thermal mass and dynamic insulation**
  - R. Fortes, A. Halkopazuk & S. Craig

**General Session**

- **Team Tectonics: Consequences of an Exquisite Corpse**
  - P. Usborne

- **Transformable Building Structures in Architectural Engineering Education**
  - M.C. Phocas, M. Mathieu & W. Haase

- **José Zanine Caldas and the structural learning from physical models**
  - A.B.P. Carvalho, C. Bartholomeu & M.C.L. dos Santos

- **Student’s perceptions on teaching-learning structures using BIM in Brazil**

- **Space, Stability & Strength: An Integrated Pedagogy for Urban Tectonics and Landscapes**
  - M. Lally
**Wednesday Afternoon (WeA), July 06, 2022**

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<thead>
<tr>
<th>Time</th>
<th>Session/Room</th>
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<tr>
<td>12:45 – 13:45</td>
<td>Lunch Break</td>
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<tr>
<td>13:45 – 15:05</td>
<td>Concurrent Technical Sessions</td>
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### WeA 1 - Auditorium 3.107
- **Critical practice**
  - Chair(s): I.W. Foged

### WeA 2 - Room 4.105
- **Mini-Symposia**
  - Bio Design: New material practices for a sustainable building culture (2)
  - Chair(s): M.R. Thomsen, P. Nicholas, C. Collet & N. Deiz

### WeA 3 - Room 5.125
- **General Session**
  - Innovative architectural and structural design (2)
  - Chair(s): U. Knaack & O. Tessmann

### WeA 4 - Room 5.127
- **Special Session**
  - BE-AM on Tour (1)
  - Chair(s): N.M. Larsen, P. Tickell & M. Kiel

### WeA 5 - Room 5
- **Special Session**
  - Advances in Wood Construction: Technology and Architecture (2)
  - Chair(s): I.W. Foged & M. Sørensen

### WeA 6 - Room 6
- **General Session**
  - Educating architects and structural engineers (2)
  - Chair(s): U. Knaack & O. Tessmann

### Adaptive Reflective Environments*
- **Prototaxites stellaviatori: A fungal growth simulation model for Mycelium-Based Composites education in applied arts**
  - Chair(s): I.W. Foged & M. Sørensen

### Multi-layer planar reciprocal frames: a structure prototype for floor and roof systems*
- **Mycostuctures - Growth-driven fabrication processes for architectural elements from mycelium composites**
  - Chair(s): I.W. Foged & M. Sørensen

### Reuse and misuse with heat formed acrylic*
- **Craft and structural innovation of mycelium structures in architectural education**
  - Chair(s): I.W. Foged & M. Sørensen

### Physical model: Goian Cerveira footbridge over the Miño River, Spain-Portugal*
- **Bioluminescent microarchitectures: Planning design in time, an eco-metabolic approach to biodesign**
  - Chair(s): M.S. de Oliveira, A.B. Larena, J.G. Mato & J.B. Larena

### Critical practices Panel
- **I.W. Foged, A. Lendager, F. Jensen, K. S. Poolgaard & I.F. Hansen**
**Wednesday Evening (WeE), July 06, 2022**

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<th>WeE 3 - Room 5.125</th>
<th>WeE 4 - Room 5.127</th>
<th>WeE 5 - Room 5</th>
<th>WeE 6 - Room 6</th>
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<td><strong>Special Session</strong></td>
<td><strong>General Session</strong></td>
<td><strong>General Session</strong></td>
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<tr>
<td>Critical practice (3)</td>
<td>Bio Design: New material practices for a sustainable building culture (3)</td>
<td>Computer and experimental methods</td>
<td>BE-AM on Tour (2)</td>
<td>Glass Structures</td>
<td>Educating architects and structural engineers (3)</td>
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<tr>
<td>Chair(s): I.W. Foged</td>
<td>Chair(s): M.R. Thomsen, P. Nicholas, C. Collet &amp; N. Deiz</td>
<td>Chair(s): U. Knack &amp; O. Tessmann</td>
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<tr>
<td><strong>Kinetic Thin Glass Building Envelope</strong></td>
<td>Material probes into paper waste as a bacterially-induced and 3D printed foam: Combining biodiversity and circular principles</td>
<td>Digital prototyping as a tool for early design evaluation</td>
<td>Concrete AM: An insight into the control of main parameters</td>
<td>Looking at the foundations of structural glass with a digital microscope</td>
<td>Drawing the organicity chart: structure analysis exercises for better design skills</td>
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<td><strong>Towards a new Nordic understanding of Novel Envelope Design</strong></td>
<td>Living Manufacture: Principles for a microbial 3D printer</td>
<td>Viability study of an integrated optimized tool for form-found timber structures</td>
<td>The business case for 3D printing in the built environment</td>
<td>The adhesively-bonded glass brick system of the Qaammat Pavilion in Greenland: From research to realization**</td>
<td>A Consultancy Design Studio Model for Advanced Structural Integration</td>
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<tr>
<td><strong>Prototyping Collective Gestures: Reworking the way and the work of architecture</strong></td>
<td>Between Breakfast and Bed: Towards Fluid Modes of Designing and Cohabiting with Living Organisms</td>
<td>A Digital Process for Reconstructing Wind Turbine Blade Geometry from Point Cloud Data</td>
<td>AM of discrete ceramics – Post tensioned ganty structures</td>
<td>Test facilities and concept for the evaluation of optical anisotropy effects in tempered glass</td>
<td>What is built and what is taught**</td>
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<tr>
<td><strong>Re-Shuffle</strong></td>
<td>PolyBrick 2.0: Design and Fabrication of Load Responsive Structural Lattices for Clay Additive Manufacturing</td>
<td>Expertise, playfulness, analogical reasoning: three strategies to train Artificial intelligence for design applications**</td>
<td>Consolidating Pedagogies In Between Architecture and Engineering</td>
<td>I. Santagugli, R. Pedreschi &amp; M.P. Mallonato</td>
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<td><strong>Critical practices panel</strong></td>
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<td>I.W. Foged, A. Lendager, F. Jermse, K. S. Pougaard &amp; L.F. Hansen</td>
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**17:00 – 17:30**
**Coffee Break**

**17:30 – 18:00**
**Break** Walk along the fjord to visit the site of the Ephemeral Permanence 1:1 Design & Build workshop

**18:00 – 18:40**
Onsite presentation: Ephemeral Permanence 1:1 Design & Build workshop
M. Rinke, A. Tellini & T. Olsen

**19:00 – 21:00**
**Welcome Reception & Exhibition: Summerhouse** Uzon Center
Thursday Morning (ThM), July 07, 2022

08:00 – 18:00  Conference Accreditation  ICSA2022 Desk – Foyer

08:30 – 09:45  Keynote Lectures  Auditorium 3.107  Chair(s): Paulo Cruz and Marie Frier Hvejsel
T. Saraceno  "Cloud City Aalborg"
Dr. F. Trubiano  "Material health and human labor - Building ethical constructs for architecture and structures"

09:45 – 10:15  Coffee Break

10:15 – 12:15  Concurrent Technical Sessions  ThM 1 to ThM 6

**ThM 1 - Auditorium 3.107**

**Mini-Symposium**
1-1, Tools and Programs (1)
Chair(s): M. Rinke & M. Vrontissi

**Detail Machines: Generating Design at Full-Scale**
T. Bøgild  M. Latow

**Material Based Design. A Teaching Methodology for an Introductory Making Course in Architecture Education**
A.D. Téllez & M. Rink

**Methods of Collaboration in Full-Scale Projects**
U. Meister & C. Ret-Stadelmann

**Constructing a 1:1 Curriculum on the Arabian Peninsula**
M. Hughes

**A Pedagogy of Digital Materiality - Integrated Design and Robotic Fabrication Projects of the Master of Advanced Studies in Architecture and Digital Fabrication**

**The Construction Studio: An integrated pedagogical approach to architecture education**
J. Wroble & J. Kristek

**ThM 2 - Room 4.105**

**Special Session**
Radical Tectonics: Aiming for absolute sustainability in structures and architecture in a time of climate crisis (1)
Chair(s): A. Beim, U. Meister & F. Trubiano

**Biomechanics/Driven Kinematics of Reconfigurable Linkage Structures**
N. Georgiou & M.C. Procias

**Life Cycle Inventory analysis for resource-efficient structural steel nodes: a methodical change in architectural design**
C. McCay & T. Dally

**Radial Tectonics – a multi-scalar approach to material circularity through community empowerment, building re-use, and material regeneration**
A. Beim, U. Meister & F. Trubiano

**BladBridge - Design and Construction of a Pedestrian Bridge using Decommissioned Wind Turbine Blades**

**Mitigation of seismic risk on highrise buildings using rocking cores**
A. Starks, J. Vukovic, K. Frammert, A. Molcher & T. Holte

**ThM 3 - Room 5.125**

**General Session**
Special Structures
Chair(s): D. Iuorio & A. Melis

**The Deployable Tectonic: Mechanization and mobility in architecture**
C. McCay & T. Dally

**The Construction Material Pyramid: Upfront impacts**
U. Meister & C. Ret-Stadelmann

**Radical Tectonics: Towards Artificial Osification for Bone-inspired Technical Structures**
R. Starks, J. Vukovic, K. Frammert, A. Molcher & T. Holte

**ThM 4 - Room 5.127**

**Special Session**
Resilient Built Environment and Communities, Pre- and Post Disaster
Chair(s): O. Iuorio & A. Melis

**A MiniMax Protocol for Adaptive Refugee Housing**
M. Chacón, F. Bertt, A. Korpheiz & C.A. Castiglione

**Conceptual design of structures as a meeting point between architects and engineers. An original example from Switzerland**
M. Chacón, F. Bertt, A. Korpheiz & C.A. Castiglione

**ThM 5 - Room 5**

**General Session**
The borderline between architecture and structural engineering
Chair(s): O. Iuorio & A. Melis

**Evaluating profession-based vocabulary in teams of architecture and engineering designers**
O. Iuorio & A. Melis

**Design and construction of a ribbed concrete slab based on isostatic lines**
O. Iuorio & A. Melis

**Towards ethical mobility behavior: the socio-ecological potentiality of ambiance-based mobility infrastructure design**
O. Iuorio & A. Melis

**ThM 6 - Room 6**

**Special Session**
Infrastructure Design and Socio-Ecological Agency: The (side) effects of structures, systems and spaces
Chair(s): G. de Block & D.B. Lang

**The social and ecological agency of infrastructure design**
D.B. Lang & G. de Block

B. Reteloo, B. van Heerenort

**The promise within the mess of temporary uses**
T. Wissmann

**Kultransport as transformed infrastructure**
R.C. Bach & L.B. Jespersen

**Steering by BIM and performance-based guidelines in earthquake settlements in Ecuador**
T.Vestermann

**The social and ecological agency of infrastructure design**
T. Wissmann

**The promise within the mess of temporary uses**
R.C. Bach & L.B. Jespersen

**The Construction Studio: An integrated pedagogical approach to architecture education**
J. Wroble & J. Kristek
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<th>Special Session</th>
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<td>1:1, Tools and Programs (2)</td>
<td>Radial Tectonics: Aiming for absolute sustainability in structures and architecture in a time of climate crisis (2)</td>
<td>Timber structures</td>
<td>Low-carbon Low-waste Structures</td>
<td>The Architecture and Structure of Human Wellbeing (1)</td>
<td>Urban Workshop</td>
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<tr>
<td>Chair(s): M. Rinke &amp; M. Vrontissi</td>
<td>Chair(s): A. Beim, U. Meister &amp; F. Trubiano</td>
<td>Chair(s): D. Pangi &amp; C. Fivet</td>
<td>Chair(s): J. Holst &amp; T.D.O. Tvedbrink</td>
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<td>Project-Based and Experiment-Based Learning of Structural Behaviour and Integrated Design Skills for Architecture Students</td>
<td>The Radical (re) Construction of Memory in the American South</td>
<td>Investigations on shear-connections of timber-granite-composite structures</td>
<td>Multidimensional indicators for recyclability assessment of structural materials</td>
<td>An Ecopoetic Architect - the resonate presencing of material properties and environmental conditions in the case of Jørn Utzon</td>
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<td>O. Acici &amp; L. Lythuen</td>
<td>D. Willkens &amp; V. Noel</td>
<td>W. Schwarzmans</td>
<td>M. Mayer</td>
<td>N.B. Andersen</td>
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<td>Structural models in architectural education: Experimental explorations between the physical and the digital realms</td>
<td>Radical Tactics for Mycelum Structures</td>
<td>Evolving timber school building design in Norway</td>
<td>Why current carbon metrics for buildings fail to show the benefits of timber reuse</td>
<td>Tectonics of human wellbeing: Describing architecture in terms of constructed spatial gestures and their impact**</td>
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<tr>
<td>From conceptual art to structural design, teaching structures for architects</td>
<td>Computational Design and Robotic Fabrication of a Self-Supporting Acoustic Shell</td>
<td>Mass timber buildings: the good, the bad and the ugly</td>
<td>Reducing the environmental impact of footbridges through smart under-deck cable-stayed systems</td>
<td>Evidence-based design as a process for designing a health supportive environme nt at care facilities for elderly with dementia</td>
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<td>Robotic zip-bending of wood structures with programmable curvature**</td>
<td>The design, development and construction of a digitally fabricated reciprocal timber structure</td>
<td>Spherical harmonic shape descriptors of nodal force demands for quantifying spatial truss connection complexity**</td>
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### Thursday Evening (ThE), July 07, 2022

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<td>14:50 – 15:10</td>
<td>Coffee Break</td>
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<td>15:10 – 16:50</td>
<td>Concurrent Technical Sessions: ThE 1 to ThE 6</td>
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#### ThE 1 - Auditorium 3.107
- **Associated Event**: Integrated Eco-Design in Architecture, Grants Edupack Knowledge Exchange
- **Chair(s)**: B. Ogwezi & F. Veer
- **Special Session**: Structures and Architecture of Refurbishment: Strategies and Techniques for the 21st Century
- **General Session**: The History of the Relationship between architects and structural engineers

#### ThE 2 - Room 4.105
- **Chair(s)**: J. Antuña, E.F. Forner & D. Theodossiopoulos
- **Special Session**: Expressing Structural Forces–Carlo Scarpa and his Collaboration with the engineer Carlo Maschietto
- **General Session**: Towards an Open Model for Integrated Planning of the Built Environment: Research Agenda

#### ThE 3 - Room 5.125
- **Chair(s)**: A. Kamari, S. Petramakers & C. Balion
- **Special Session**: A slim concrete skeleton within thick block masonry; multi-story building construction
- **General Session**: Integrated Informed Design Processes: Joining urban design, architecture, and engineering for a sustainable tomorrow

#### ThE 4 - Room 5.127
- **Chair(s)**: J. Holst & T.D.O. Tvedebrink
- **Special Session**: The Architecture and Structure of Human Wellbeing (2)
- **General Session**: The history of the relationship between architects and structural engineers

#### ThE 5 - Room 5
- **Chair(s)**: J. Holst & T.D.O. Tvedebrink
- **Special Session**: Expressing Structural Forces–Carlo Scarpa and his Collaboration with the engineer Carlo Maschietto
- **General Session**: Towards an Open Model for Integrated Planning of the Built Environment: Research Agenda

#### ThE 6 - Room 6
- **Chair(s)**: J. Holst & T.D.O. Tvedebrink
- **Special Session**: The Architecture and Structure of Human Wellbeing (2)
- **General Session**: The history of the relationship between architects and structural engineers

### Thursday Evening (ThE), July 07, 2022

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<tr>
<td>17:00 – 17:45</td>
<td>General Meeting: International Association of Structures and Architecture Auditorium 3.107</td>
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<td>20:00 – 23:00</td>
<td>Gala Dinner: The House of Music</td>
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<tr>
<td>Time</td>
<td>Session</td>
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| 09:00 – 10:15 | **Keynote Lectures**  
Chair(s): Paulo Cruz and Marie Frier Hvejsel  
Dr. P. Block “Re-defining structural art: Efficiency, economy, elegance, ecology, ethics”  
L. Ney “Bridge design: An integrated approach in complex contexts” |
| 10:15 – 10:45 | **Coffe Break** |
| 10:45 – 12:25 | **Concurrent Technical Sessions**  
FrM 1 to FrM 6  
Mini-Symposium  
Materiality in Architecture and Building Design (1)  
FrM 1 - Auditorium 3.107  
FrM 2 - Room 4.105  
FrM 3 - Room 5.125  
FrM 4 - Room 5.127  
FrM 5 - Room 5  
FrM 6 - Room 6  

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<td>Chair(s): J. Smits &amp; M. Knight</td>
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<tr>
<td>Curious Architectures: Around Materials, Labor, And the Environment</td>
<td>Tiwara’s house in Delhi: sustainability and vernacular knowledge</td>
<td>Adaptive Hybrid Structure for Photovoltaic Shading Modules Integration</td>
<td>The Striatus arched bridge: Computational design and robotic fabrication of an unreinforced, 3D-printed, masonry bridge *</td>
<td>Review of the behaviour of concrete reinforced with natural vegetable fibres</td>
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<td>Exploration of various textures in ferrocement panels</td>
<td>Poetics of construction, material imagination, and place identity: Assessing the work of RCR Architects in the UAE</td>
<td>Geometric variety of scissor linkages according to loop geometry: A case study of a canopy design</td>
<td>Nature inclusive Bridge Design</td>
<td>Local tectonics. Danish architectural construction in historical environmental perspective</td>
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<td>R. Schwaen</td>
<td>B. Alkazaz, Y. Alhaji, R. Medin, C. Knierem &amp; J. Küh</td>
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<td>M. Løvig</td>
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<td>Towards customized textile profile preforms made from flax fibers and biobased resin for the design of biocomposite structures</td>
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<td>J. Birgisson, J. Davenas, C. Köfstad, M. Bostan-Mazze &amp; C. Furet</td>
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Friday Afternoon (FrA), July 08, 2022

12:25 – 13:30  Lunch Break
13:30 – 14:50  Concurrent Technical Sessions  FrA 1 to FrA 6

<table>
<thead>
<tr>
<th>FrA 1 - Auditorium 3.107</th>
<th>FrA 2 - Room 4.105</th>
<th>FrA 3 - Room 5.125</th>
<th>FrA 4 - Room 5.127</th>
<th>FrA 5 - Room 5</th>
<th>FrA 6 - Room 6</th>
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<tbody>
<tr>
<td><strong>Mini-Symposium</strong></td>
<td><strong>General Session</strong></td>
<td><strong>Special Session</strong></td>
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<td><strong>General Session</strong></td>
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<tr>
<td>Materiality in Architecture and Building Design (2)</td>
<td>The tectonic of architectural solutions (2)</td>
<td>Adaptive Building Envelopes (2)</td>
<td>Cellulose-Based Materials in Structures and Architecture</td>
<td>Ecology of structures and architecture (2)</td>
<td>Building Envelopes / Facades (1)</td>
</tr>
<tr>
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<td>Chair(s): J. Latka &amp; R. Bach</td>
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<td>A robotically extruded sugar waste composite for a circular biomateriality in architecture</td>
<td>Structural typologies and the architectural space - Studies of the relationship between structure and space by application of structural types to multiistory buildings **</td>
<td>Development and testing of real size smart material sun shading - R&amp;D ADAPTEX</td>
<td>Exploration of natural materials in additive manufacturing in architecture: use of cellulose-based pulps</td>
<td>Structures and change – Tracing adaptability based on converted buildings **</td>
<td>Valuation of Modernist Envelope as Criteria for Architectural Intervention Aiming Energy Efficiency</td>
</tr>
<tr>
<td>Fiber Reinforced Timber – Designing Structural Beams for Sustainable Buildings with Enhanced Load-Bearing Capacity</td>
<td>The forgotten column at the Sydney Opera House</td>
<td>Occupant-Oriented Adaptive Building Envelopes: A Hybrid Design Framework for Human, Material, Environment Synergies</td>
<td>Preserving the environmental properties in paper-based architecture</td>
<td>The principles of combining facade loadbearing properties with the effects of sustainable passive shading</td>
<td>Facade Tiles in Hong Kong; From protective envelope on everyday buildings to the tileworks of the Cultural Centre and M+ Museum</td>
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### Friday Evening (FrE), July 08, 2022

<table>
<thead>
<tr>
<th>14:50 – 15:30</th>
<th><strong>Coffee Break</strong></th>
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<tr>
<td>15:30 – 16:30</td>
<td><strong>Concurrent Technical Sessions</strong> FrE 1 to FrE 6</td>
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<td>Materiality in Architecture and Building Design (3)</td>
<td>The tectonic of architectural solutions (3)</td>
<td>Emerging technologies</td>
<td>Building Envelopes / Facades (2)</td>
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**Chair(s):** O.P. Larsen & M.M. Hudert

**Elloquent timber: Tacit qualities, telling materiality, and the inhabitants’ voice**

*U. Groha*

- Classification of connections and joints in buildings for sustainability (CC.B.S): a function-structure-context conceptual framework

*C. Escalera, P.J.S. Cruz & R. Amoêda*

- I LOVE TO GET HIGH: A Critique of the Materiality of Observation Spaces

*T.M. Boake*

- Automated robotics agents for assembly-aware design of shells

*S. Wilcock, J.H. Boyle, M.R. Dogar & D. Savino*

- Maintenance, Repair and Refurbishment of masonry facades to avoid severe seismic damages

*M. Roik & S. Hine*

**The structural geometry of a beam element from 4 torqued strips**

*G.A. Fitz, S. Elmor & A. A. Markou*

- Sydney Opera House: the strength of an idea

*J. Rey-Rey*

- Living among the clouds: From lower to texture

*M. Petrou & T. Mihajlovska*

- Life-cycle assessment of water-filled glass (WFG)

*S. Cavana, M. Gutai & A.G. Kheybari*

- Managing Complexity: Design Development of an Innovative Membrane based Double-Skin Envelope

*K. Ku & M. Cimillo*

**Material Value(s): Motivating the architectural application of waste wood**

*X. Browne, O.P. Larsen, N.C. Fris & M.S. Kühn*

- Conveying Tradition through Tectonics: The Case of Kagawa Prefectural Office Building and Kiyomizu-dera Temple

*N.E. Verdunno*

- Skyscraper Collaboratory**

*T. Fraher & X. Dong*

- Embedding ornament: custom nozzle design in 3D clay printing

*Y.K. Wu, A. Kenny, J. Kim & D. Coone*

**16:30 – 17:00** **Closing Ceremony** **Location**

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* Are contributions accepted for the new Critical Practices research format. Critical Practices is a hybrid format employing the submission, exhibition, and presentation of physical prototypes as research output in combination with shorter reflection papers of three pages in an attempt at bridging research across academia and practice.

** Are contributions corresponding to papers published in the special issue ‘Structures and Architecture – Joining Forces’ of the new Springer journal Architecture, Structures and Construction. Based upon the review, by ICSA2022 International Scientific Committee of the abstracts submitted to ICSA2022 call for participation, approximately 50 authors were invited to submit the corresponding full papers through the Journal’s Editorial Manager system strictly following the journal’s peer-review process. Presentations marked ** represent the papers that were finally accepted for publication in the journal after having successfully completed this process.