International Network on Timber Engineering and Research
11th INTER meeting 2024

Padova (IT), 25th – 29th August 2024

Participant’s Handbook
with Final Programme
Welcome to the University of Padova - ICEA department

Dear INTER-Participants,

We extend a warm welcome to the 11th INTER - International Network on Timber Engineering Research meeting. It is our pleasure to have you join us for this esteemed gathering. The annual meeting serves as a platform for the presentation and insightful discussion of cutting-edge research findings in timber engineering, as well as the formulation of application guidelines for timber design codes and standards.

In addition to the enriching scientific discussions, we invite you to immerse yourself in the charm of Padova's historic city. Amidst its splendid monuments, you'll discover the timeless beauty of the ancient University building and have the opportunity to embark on a picturesque boat excursion along the scenic Brenta river and visit some of the most breathtaking Venetian villas.

We look forward to your participation and to fostering fruitful collaborations at this event. Please follow the website by KIT Research Center for Steel, Timber, and Masonry (VAKA) for further information regarding: INTER in general, former meetings and proceedings, Guideline for the authors.

Warm regards,

The Organizing Committee:

- Roberto Scotta – University of Padova
- Daniele Casagrande – University of Trento
- Luca Marchi – University of Padova
- Michele Mirra – Delft University of Technology
- Giorgio Pagella – Delft University of Technology
- Andrea Polastri – CNR-IBE Trento
- Luca Pozza – University of Bologna
How to get to Padova

✓ Padua can be reached easily by direct trains from the two international airports Venezia (link) and Treviso (link) within about 30 minutes.

✓ Limited public parking spaces are available at the venue
  o parking is paid, Garage Poerio – Via Alessandro Poerio 18 - open 24h/24h), within 5 minutes at venue.
  o parking is paid, Garage Porte Contarine – Largo Europa 21A - open 24h/24h), within 10 minutes at venue.

✓ Public transportation is recommended from Padua Central Station to the University Department ICEA – venue Via Campagnola taking:
  o bus no. Linea 9 - U09 every 15 minutes to Via Beato Pellegrino. It takes about 10 minutes to reach the meeting venue or a 20-minute walk.
  o bus no. Linea 10 – U10 every 15 minutes to Corso Milano. It takes about 10 minutes to reach the meeting venue or a 20-minute walk.
Meeting venue

University of Padua
Department of Civil, Environmental and Architectural engineering

Map of the venue

Information at the venue

✓ The registration desk is open during the meeting and will help you with further queries.
✓ Please respect, that there is ongoing research work at the campus.
✓ Pictures/Movies at the laboratory are not permitted.
✓ There is a non-smoking policy within the buildings and laboratories.
Brand new classrooms at Via Campagnola Padua conference venue
Accommodation

We indicate some hotels located in the historic centre of Padua and within walking distance from the conference venue.

If you want, you can book your room at special rates just referring to “INTER Meeting 2024” at the following:

HOTEL MAJESTIC TOSCANELLI
You may book directly with the hotel (link to website: majestic@toscanelli.com) at the cost of EURO 125 (single room) and EURO 165 (double room) for night, included breakfast. Please refer to the key word INTER Meeting 2024.

HOTEL MILANO
You may book directly with the hotel (link to website: info@hotelmilano-padova.it) at the cost of EURO 90 (single room) and EURO 130 (double room) for night, included breakfast. Please refer to the key word INTER Meeting 2024.

HOTEL HILTON GARDEN INN
You may book directly with the hotel (link to website: tsfpa_padova@hilton.com) at the cost of EURO 192,50 (double room for single use) and EURO 209 (double room) for night, included breakfast. Please refer to the key word INTER Meeting 2024.

Many other accommodations are available at walking distance from the meeting venue.

Looking to extend the trip and plan the Weekend in Venice?
In case you want to take advantage of the opportunity for a weekend in Venice, we have obtained special rates dedicated to Inter Meeting 2024 participants at www.weniceleisure.com
Final Programme

✓ All times refer to Italian time (CEST)

Sunday, 25th August 2024

6.00 to 6.45 pm - Welcome reception and short visit to Palazzo della Ragione
7.00 to 9.00 pm - Welcome drink at Loggia del Palazzo della Ragione

Gathering for the welcome drink at the following address:
Via 8 Febbraio n.6 - Padua, “Palazzo Moroni” entrance (link to Map)

Monday, 26th August 2024

8:30 to 12.00 am - INTER Meeting, registration, opening, technical session
12:30 am - Lunch break
2:00 to 5.00 pm - Technical session
5:00 to 5.30 pm - X-LAM DOLOMITI Presentation of Via Campagnola project,
5.30 pm - Aperitivo

coffee breaks planned during the technical session

Tuesday, 27th August 2024

9:00 to 12.00 am - INTER Meeting, Technical session
12:30 am - Lunch break
2:00 to 5.00 pm - Technical session
5:00 to 5.30 pm - RUBNER Presentation of Engineering HUB project
8:30 to 10.30 pm - Social dinner at the Historic Pedrocchi Café

coffee breaks planned during the technical session
Wednesday, 28th August 2024

8:30 am  - Meeting at BURCHIELLO
Boat cruise from Padova to Venice along the Brenta river and stop at Venetian villa.
Lunch at Villa Ducale
ROTHOBLAAS Company presentation and subject matter wood swelling & over torquing

5:00 pm  - end of boat trip
6.00 pm  - return with bus to Padua centre
Biergarten at the Arena gardens (optional)

Thursday, 29th August 2024

9:00 am  - INTER Meeting, Technical session
12:30 am  - Lunch break and farewell
2:00 to 3.00 pm  - Technical session

*coffee breaks planned during the technical session*

4:00 to 7.00 pm  - For those who have pleasure, visit at Palazzo Bò

More information available at:

https://www.inter-2024.com/
List of papers

Serviceability

57 - 20 - 1 Comfort Assessment of Timber Floor Vibrations - M Felicita, R Roijakkers, R Cojocaru, G Ravenshorst

Fire

57 - 16 - 1 Structural Means for Fire-Safe Green Façade Design on Multi-Storey Buildings - T Engel, S Winter

Structural stability

57 - 15 - 1 OSB Sheathed Timber-Framed Shear Walls with Optimized Performance for Horizontal Loading - N Manser, R Steiger, M Geiser, A Frangi
57 - 15 - 2 Proposal for an Analytical Model of Light Timber-Framed Shear Walls with additional Cladding - L Rauber, B Hoffmeister
57 - 15 - 3 Seismic Performance of Braced timber Frames - M Popovski, Z Chen
57 - 15 - 4 Investigation on the Performance of Platform-Type Coupled-Panel CLT Shear Walls under Seismic Conditions - J Chen, F Lam, M Li, M Popovski
57 - 15 - 6 Design Implications for Cross-Laminated timber Shear Walls Connected to Perpendicular Walls - G D’Arenzo, E M Ruggeri, J Hummel, M Fossetti, W Seim

Laminated members

57 - 12 - 1 Punching-Shear Resistance of Point-Supported CLT Panels - H Ganjali, T Tannert, Md Shahnewaz, C Dickof, M Popovski
57 - 12 - 2 Comparison of Calculation Methods for Application on Veneer-Reinforced timber with Standard Lamella - N Kainz, P Aondio, M Danzer, S Winter
57 - 12 - 3 Strength and Stiffness of Adhesively Bonded timber-Steel Composite Beams - S Aurand, P Haase, J Boretzki, M Albiez, P Dietsch, T Ummenhofer

Timber joints and fasteners

57 - 7 - 1 Fatigue Behaviour of in Tension Axially-Loaded Self-Tapping Screws - R Brandner
| 57 - 7 - 3 | On Stiffness and Strength of Glued-in Rods and Threaded Rods Parallel to the Grain - C Binck, A Frangi |
| 57 - 7 - 4 | Embedment Strength of Glued-in Rods and Dowels Oriented Parallel to Grain - S Aicher, K Simon |
| 57 - 7 - 5 | A Proposal for the Stiffness of Steel-Timber Dowel-Type Connections - L Buchholz, U Kuhlmann, J Gauß |
| 57 - 7 - 6 | Design Proposal for the Final Slip Modulus of Dowel-Type Timber Connections Based on the Beam-on-Foundation (BoF) Approach - R Lemaître, M Schweigler, E Binder, E Sauvignet, J-F Bocquet |
| 57 - 7 - 7 | Parametrization of the Non-Linear Behaviour of Timber Joints with Self-Tapping Screws - D Caprio, R Jockwer, A Ringhofer |
| 57 - 7 - 8 | The Effective Timber Thickness for Brittle Failure Assessment of Dowel-Type Connections - C D Aquino, M Schweigler, L Rodrigues, R Lemaître, J-F Bocquet, J M Branco, T K Bader |
| 57 - 7 - 9 | Brittle Failure Modes of Connections with Dowel-Type Fasteners Loaded Parallel to the Grain: A Comparison Between Eurocode 5 and CSA O86 - J M Cabrero, N L Rodriguez, T Tannert, A Salenikovich, Y H Chui |
| 57 - 7 - 10 | Design Brittle Failure Capacities of Connections with Dowel-Type Fasteners Laterally Loaded Parallel to Grain and Reinforced - R Lemaître, D Lathuilière, J-F Bocquet |
| 57 - 7 - 11 | Reinforcements for Compression Perpendicular to Grain of CLT Elements with Fully Threaded Screws: Experimental Validation of the Design Model - R Maderebner, T Stieb, L Rathiens, R Tomasi |

**Stresses for solid timber**

| 57 - 6 - 1 | Strength Grading of Saturated Softwood Foundation Piles - G Pagella, G Ravenshorst, M Mirra, J-W van de Kuilen |

**Stress grading**

| 57 - 5 - 1 | Derivation of Visual Grading Assignments for Turkish Red Pine and Scots Pine Graded in Accordance with Turkish Standard TS 1265-2012 - F Kurul, M Özdemir, T Yılmaz, M Arslan, S Ermiş, T Dündar |

**Timber columns**

| 57 - 2 - 1 | Lateral Torsional Buckling of Glulam Beam-Columns: Axial Compression and Bending Verification - J Töpler, U Kuhlmann, J Schänzlin |
Tips and Helps on Arts & Culture:

**Botanical Garden**  [link to Google Maps]

Founded in 1545, is the oldest botanical garden in the world still in its original location and one of the oldest in existence. Located in an area of about 2.2 hectares, it is located in the historic centre of Padua, near Prato della Valle. It has been a UNESCO World Heritage Site since 1997.

**Specola - Astronomical Observatory**  [link to Google Maps]

The Padua Specola is home to the Padua Astronomical Observatory, one of the most important research facilities of the National Institute of Astrophysics.
Scrovegni Chapel and the Civic Museums [link to Google Maps]

The Scrovegni Chapel is a church in Padua, formerly a private chapel, which has become part of the Civic Museums of Padua. It houses a well-known fresco cycle by Giotto from the early 14th century, considered one of the masterpieces of Western art.

Tickets to be booked in advance at the [official site]!

St. Anthony's Basilica

The Basilica of St. Anthony, known by the name “The Saint,” is the city's most important religious centre, and the destination of thousands of pilgrims who every year, and particularly on June 13, the feast of the Saint, invade the city for the famous procession.

The Basilica, which was begun in 1232 to guard the tomb of Franciscan friar Anthony, who died in Padua in 1231.
Visit to the Museum of Nature and Man

A heritage of 200 thousand naturalistic and anthropological artifacts built up over centuries. The fusion of four historical collections in Padua: Mineralogy, Geology and Palaeontology, Zoology and Anthropology. A scientific narrative about planet Earth as an evolving system, diversity and the relationship between the human species and the environment, with an immersive, multimedia and interactive display. A place of participation and scientific citizenship, which the University of Padua, at the end of the celebrations for the 800th anniversary of its foundation, gives to schools, the city, and tourists.
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