SHATIS 2025

International Conference on Structural Health Assessment of Timber Structures

3rd to 6th September 2025,
Faculty of Forestry and Wood Technology,
Svetošimunska 23, Zagreb (yellow building, ground floor)
Zagreb, Croatia

CONFERENCE PROGRAM

www.shatis25.com

STUDIO ARHING

SHATIS 2025

Organizing institutions

University of Zagreb,
Faculty of Civil Engineering

University of Zagreb,
Faculty of Forestry and Wood Technology

Studio Arhing d.o.o.

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INVITED LECTURES

Jan-Willem van de Kuilen
TUM, Holzforschung, Germany

Nicola Macchioni
Instituto per la Bioeconomia, Italy

Elefteria Tsakanika
National Technical University of Athena, Greece

Preetam Biswas / Georgi Petrov
Skidmore, Ownings & Merrill, USA

Hülya Dışkaya
Mimar Sinan Fine Arts University, Turkie

Thursday, September 4

09:00-09:20 Opening speeches

WOOD PROPERTIES, STRENGTH GRADING, ADHESIVE BONDS

09:20-09:50 *Macchioni N., Vicario M.*
The EN 17121 in practice: Reflections and results after five years of application

09:50-10:10 *Linke G., Rug W., Pasternak H.*
Strength grading timber in existing structures - methodology and case study

10:10-10:30 *Kunecky J., Kloiber M.*
Experimental study on torque evolution in Norway spruce logs during drying

10:30-10:50 *Mahjoub A., Parigi D.*
Challenges and Developments in Standardizing Structural Reclaimed Timber in Europe

10:50-11:10 *Lovrić Vranković J., Boko I., Torić N.*
Application of a Stochastic Model for Predicting the Bending Strength of Glued Laminated Timber Beams Made from European Hornbeam

11:10-11:20 Questions, discussion, remarks

11:20-11:50 Coffee break

TESTING METHODOLOGY *in situ* and laboratory testing

12:00-12:30 *van de Kuilen J-W.*
Structural health assessment of Amsterdam timber pile foundations – from bacterial decay to residual service life estimation

12:30-12:50 *Cabrera Martín Y.*
Assessment of historical timber trusses using non-destructive testing penetration methods

12:50-13:10 *Sebera V., Praus L., Zlámal J., Nop P., Vand Hassan M.*
Investigation of adhesive bondline health in CLT panel using NDT and SDT technique

13:10-13:30 *Shahsavar S., Knoops I.,*
Gouveia Henriques J., Vandoren B., Vereecken E.
Multisensor SHM of a wooden canopy with mechanically cross-laminated roof structure

13:30-13:50 *Yanez S. J., Hermosilla E., Escobar R., Saavedra-Flores E.*
Experimental assessment of damage in timber elements using a modal testing hammer

13:50-14:00 Questions, discussion, remarks

14:00-14:50 Lunch break

CASE STUDIES

14:50-15:20 *Tsakanika E.*
The use of timber as reinforcement of masonry buildings against earthquake - Traditional and modern methods. Case studies from Greece

15:20-15:40 *Ilharco T., Quelhas B., Costa A., Cortês J., Soares J., Doutel J.*
Structural strengthening of the timber roofs of the Sintra National Palace, Portugal

15:40-16:00 *Yazawa Y., Hamada S.*
Reassessment of the Architectural alterations of the Wooden Church in Bătești: A Study Based on Field Survey and Traces Analysis

16:00-16:20 *Ostapska K., Íñiguez-González G., Daniel F. L., Wasilewski K., Denstad D., Zalegowski K., Pelczynski J., Pazlar T., Lucherini A.*
Field and laboratory testing of 170-year-old timber specimens: case study of a wharf in Trondheim, Norway

16:20-16:40 *Collins N., Collins R., Prast M.*
Hybrid structural repair and capacity changes to a historic scientific era timber frame

16:40-17:00 *Bidakov A.*
Analysis of changes in strength and damage to the laminated wood structure of a large electrical complex operating in the open air

17:00-17:10 Questions, discussion, remarks

19:30 Conference dinner

Friday, September 5

GENERAL ASSESSMENT, DIAGNOSTICS METHODOLOGY

09:00-09:30 *Dişkaya H.*
Earthquake-resistant timber building culture in Anatolia - An assessment of the formation conditions

09:30-09:50 *Hochreiner G.*
Roof structure of the bell tower of St. Michael's church in Vienna experiences with obvious need for reinforcements

09:50-10:10 *Matzler D., Schickhofer G., Ringhofer A.*
Densification of Wilhelminian buildings: Structural boundary conditions and scheme for evaluating the load-bearing capacity of existing buildings

10:10-10:30 *Vicario M., Marrani S., Macchioni N.*
Rediscovering traditional construction strategies for the sustainable conservation of historic timber structures

10:30-11:00 Coffee break

11:00-11:20 *Linke G., Börner T., Röder J., Rug W.*
Comparative studies on glued laminated timber with non-synthetic adhesives under consideration of usage-related effects on the load-bearing capacity

11:20-11:40 *Turkulin H., Pojatina J., Sedlar T., Novosel A.*
Joint assessment in historical Croatian roofs

11:40-12:00 *Riggio M., Battisti A., Odule O. E., Johnason S., Newton A.*
Structural health assessment of timber structures: A graduate learning experience

12:00-12:20 *Branco J.M., Sousa F., Luis T.*
Assessment of existing timber structures Portuguese selected examples

12:20-12:30 Questions, discussion, remarks

12:30-13:30 Lunch break

STRENGHTENING,STABILITY AND MODELLING

13:30-14:00 *Biswas P.*
Technical design for the future

14:00-14:20 *Stepinac M.*
Post-earthquake assessment of URM buildings with timber roof and floor structures

14:20-14:40 *Bartolotti A., Faes F., Giongo I.*
Prestressed timber-to-timber composites with a novel 30° screw connection for the retrofit of existing floors: experimental and analytical investigations

14:40-15:00 *Takano S., Ushio Y., Yamamura T., Okamoto S., Ishiyama H.*
Verification of short-term and long-term performance of beam reinforcement system using diagonally driven long screws

15:00-15:20 *Salehi M., Ussher E., Toftemo E., Bøhn Haug. D., Tomasi R.*
In situ measurements of CLT floor vibration considering effects of non-structural walls and long-span supporting beams

15:20-15:40 *Zrubka B., Hegyi D.*
Finite element modelling of historical roof structures in consideration of reduced joint stiffnesses and plastic behaviour

15:40-15:50 Questions, discussion, remarks

16:00-19:00 TECHNICAL EXCURSION

Saturday, September 6

BIODEGRADATION

09:00-09:20 *Acquah R., Sandak A., Sandak J.*
BIM tool for material optimization based on the onset of wood decay modelling

09:20-09:40 *Ota Y., Ishiyama H.*
A study of a space-saving and low-cost method for promoting wood decay for structural performance experiments

09:40-10:00 *Turkulin H., Hasan M.*
Biological degradation in timber structures: appearance, extent, relevance and sanation

10:10-10:20 Questions, discussion, remarks

10:20-10:50 Coffee break

STRUCTURAL, REINFORCEMENTS & RETROFITTING

10:50-11:10 *Ayoubi M.*
Extension model for load transmission of wood screws based on digital image correlation investigations

11:10-11:30 *Wiesner K., Branco J. M. Sousa H.*
Assessment of post-tensioning reinforcement configurations on a timber truss

11:30-11:50 *Zamattio G., Cassol D., Giongo I.*
Timber-based retrofit of a URM historic case-study building in a high seismicity region
structure of Synagogue in Sisak

11:50-12:10 *Rajčić V., Žarnič R.*
The use of structural entities from engineering wood as post-earthquake reinforcement of masonry
structure of Synagogue in Sisak

12:10-12:20 Questions, discussion, remarks

12:20-13:20 Lunch break

CROATIAN EXPERIENCES

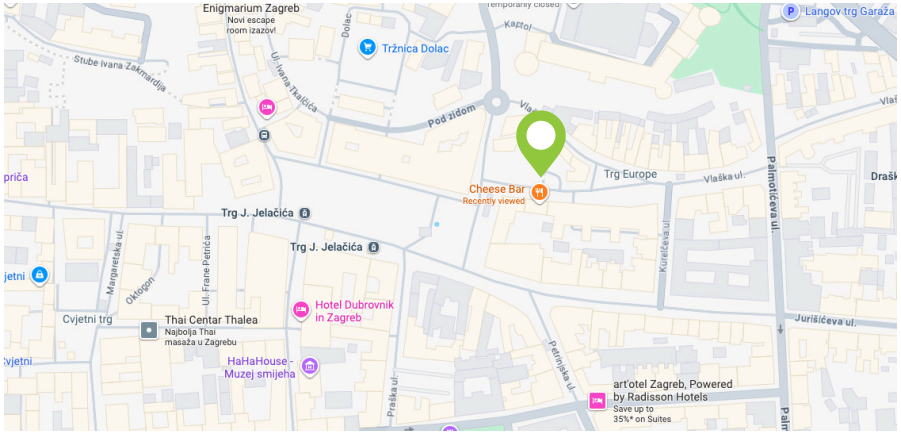
13:20-13:40 *Pojatina J., Anđić D.*
Repair and strengthening of historic church timber roofs – structural aspects

13:40-14:00 *Rajčić V., Barbalić J., Perković N.*
Post-earthquake condition assessment and structural strengthening of several heritage sacral and civil buildings in Croatia

14:00 CLOSURE OF THE CONFERENCE

Welcome drinks with snacks
(only for full conference participants)

Wednesday, September 3, 19.30h
Cheese bar, Cesarčeva 2, Zagreb
Web: https://web.facebook.com/people/Cheese-Bar/100042906801374/#
Google Map: https://maps.app.goo.gl/fnKXbni59KXCJwMD6



Registration / Conference site
Faculty of Forestry and Wood Technology of the University of Zagreb,
https://maps.app.goo.gl/Zc4M1oZcvQWLjN8W7

Banquet dinner

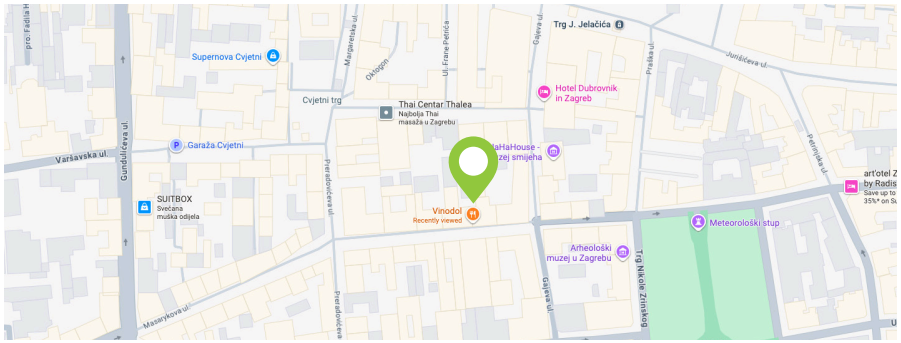
(only for full conference participants)

Thursday, September 4, 20.00h

Restaurant Vinodol, Ulica Nikole Tesle 10, Zagreb

Web: https://vinodol-zg.hr/

Google Map: https://maps.app.goo.gl/iZAo9V3EcUfdJgkP8



Technical visit

(only for full conference participants)

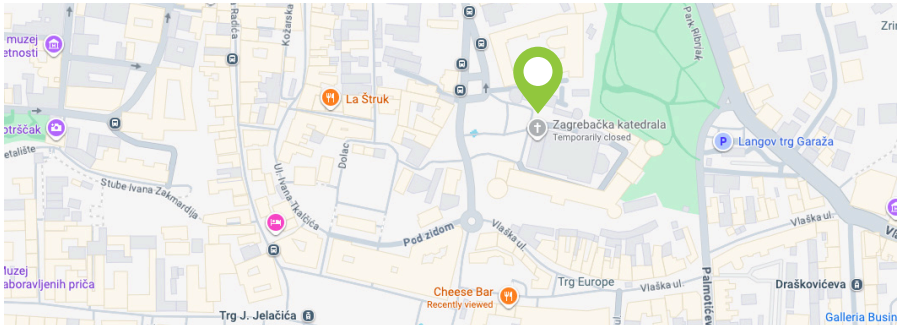
Planned schedule:

Friday, September 5

16:00h - 19:00h Zagreb Cathedral / Technical Museum Nikola Tesla

Note1: Bus transport from the Faculty of Forestry to the technical excursion sites will be provided by the organizer.

Note2: Protective equipment – vests and helmets will be provided for all participants.



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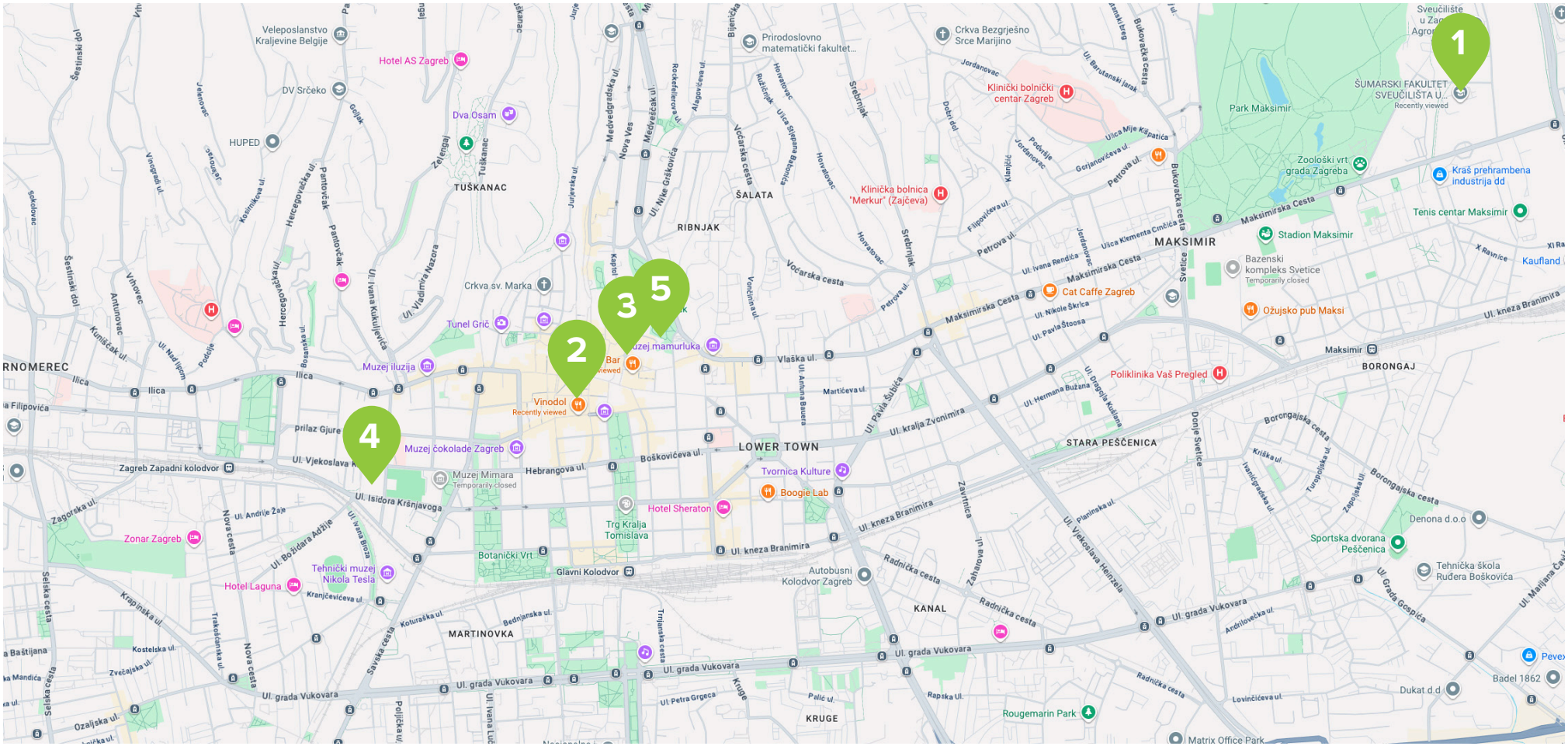
Map



1 Faculty of Forestry and Wood Technology

2 Vinodol, restaurant

3 Cheese bar

4 Faculty of Civil Engineering

5 Zagreb Cathedral

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