

FORUM WOOD BUILDING INTERNATIONAL

28th International Wood Construction Conference (IHF)

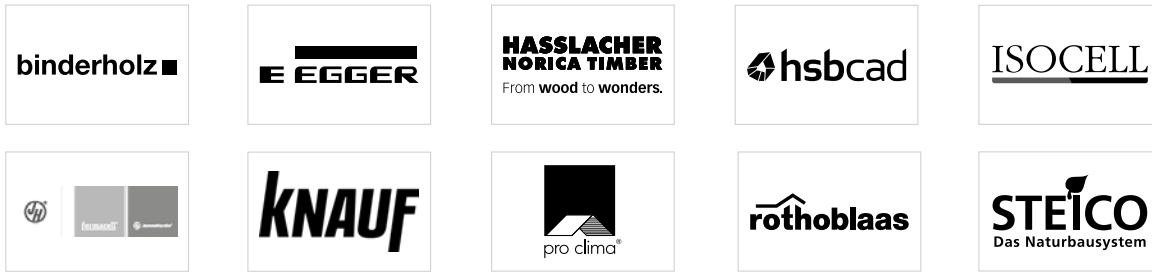
December 4-6 2024

Innsbruck, Congress Center

Practical experience – Practical application

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28th International Wood Construction Conference (IHF) December 4-6 2024 Innsbruck, Congress Centrum

Practical experience – Practical application

The International Wood Construction Conference (IHF2024) provides architects, engineers and builders with an opportunity to report on experiences, processes and goals related to wood structures and construction. At the same time, the conference provides an opportunity for architects, building officials, builders, craftspeople, practitioners and educators to learn about the latest developments and to exchange experiences.

Simultaneous translation

The presentations will be held in German or English and will be translated simultaneously.

Wednesday, December 4 2024

OPENING EVENT

Social and affordable housing

Moderation: Sandra Burlet, Lignum - Holzwirtschaft Schweiz, Zurich (SUI)

Living space is an extremely scarce commodity in expanding urban areas. The sluggish construction industry, divergent interests and restrictive regulations are slowing down the urgently needed construction of social housing and the conversion of existing buildings. Rising land prices and rents as well as displacement effects are the logical consequence. How do European cities remain affordable for broad sections of the population? What is the market aiming at, where is relaxation needed, where is government guidance needed, and how quickly and to what extent can the well-known strengths of timber construction be scaled up to create the high-quality, affordable housing that is needed everywhere?

- 08.15** Reception of attendees
Coffee sponsored by Dynea
- 08.55** Welcome
Sandra Burlet, Lignum - Holzwirtschaft Schweiz, Zurich (SUI)
- 09.00** When will the economic divide between residential construction and commercial construction end? And will social housing help us out of the crisis? Outlook for the construction sector in Germany/Austria/Switzerland until 2026.
Martin Langen, B+L Marktdaten, Bonn (GER)
- 09.35** From classic planning, construction and operation to new, product-based business models in the construction and real estate industry
Roland Sitzberger, Porsche Consulting, Stuttgart (GER)
- 10.05** Multi-storey residential buildings in Austria – market share of wood construction and cost development
Dr. Jörg Koppelhuber, Koppelhuber² und Partner, Graz (AUT)
- 10.35** Coffee break
Coffee sponsored by Dynea
- 11.05** Creating lasting value – with wood
Dr. Ann Sophie Löhde, Leukos, Norderstedt (GER)
- 11.35** Serial, modular and sustainable into the future with wood hybrid construction? – A market overview
Anders Übelhack, Züblin Timber, Aichach (GER)
- 12.05** Subsidized housing construction in Munich
Oliver Fried, Rubner Holzbau, Augsburg (GER)
- 12.35** Discussion
- 12.45** – **13.45** Lunch break – *Coffee sponsored by Dynea*

Wednesday, December 4 2024

Pre-conference seminar I

Architecture

Organized by the Technical University Munich (GER) in collaboration with «aut. architektur und tirol», Innsbruck (AUT)

Current wood architecture

Moderation: Prof. Hermann Kaufmann, HK Architekten, Schwarzach (AUT)

Wooden construction is beginning to conquer the architectural world. More and more buildings are using the design and architectural potential of wood as building material. It is intended to encourage architects to get involved in these developments, but also to show that good design is essential, especially for wood. In this prologue, some projects are presented in detail and their stories are told.

- 13.15 Reception of attendees
- 13.45 Welcome
Prof. Hermann Kaufmann, HK Architekten, Schwarzach (AUT)
- 14.00 Simple is not that easy
Prof. Nicolas Schwager, Lanz Schwager & Partner Architekten, Konstanz (GER)
- 14.35 Timber construction thought holistically
Prof. Juri Troy, juri troy architects / Technische Universität Vienna, Vienna (AUT)
- 15.10 Continue building with wood
Sandra Gnigler, mia2 Architektur, Linz (AUT)
- 15.45 Coffee break in the exhibition area
Coffee sponsored by Stora Enso Wood Products
- 16.15 Sense and sensuality
Sven Matt, Innauer-Matt Architekten, Bezau (AUT)
- 16.50 Idea and material
Prof. Felix Waechter, Waechter + Waechter Architekten, Darmstadt (GER)
- 17.25 Hortus – a flagship project of sustainability
Alexander Franz, Herzog & de Meuron Basel, Basel (SUI)
- 18.00 Discussion

Pre-conference seminar II

Prefabricated housing forum

Organized by the European Society for Prefabricated Housing, Bad Honnef (GER)

European legislation and its impact on national companies and their products – finding your way around, understanding, navigating, and implementing

Moderation: Georg Lange, European Society for Prefabricated Housing, Bad Honnef (GER)

Europe has voted for a new legislature. Where are we headed and what effects can the construction sector expect? This prologue is aimed at helping product manufacturers and builders. We start with an outlook at EU policy in the coming years and gradually examine its influence on building and company levels.

- 13.15 Reception of attendees
- 13.50 Welcome
Michal Šopík, European Society for Prefabricated Housing, Bad Honnef (GER)

- 14.00 European Union after the election: who governs and where is the journey going?
Dr. Peter Liese, Member of the European Parliament and spokesman of the Environment and Public Health Committee, Brüssel (BEL)
- 14.30 EPBD implementation and the new energy certificate: setting the course for Europe's energy future
Stefan Moser, Head of the Buildings and Products Unit Directorate General for Energy European Commission, Brüssel (BEL)
- 15.00 Buildings in the life cycle: sustainability assessment and carbon footprint
Prof. Dr. Alexander Passer, Technical University of Graz, Graz (AUT)
- 15.30 Discussion
- 15.45 Coffee break in the exhibition area
Coffee sponsored by Holzwerke Pfarrkirchen
- 16.15 From theory to practice: Implementation of CSRD in sustainability reporting... using the example of Denmark
Uwe Heiser, VELUX, Østbirk (DNK)
- 16.45 ... using the example of Austria
Gerald Jobst, EGGER Holzwerkstoffe, St. Johann in Tirol (AUT)
- 17.15 ... using the example of Poland
Jarosław Gruźdź, DANWOOD, Bielsk Podlaski (POL)
- 17.45 Green building, green money: Understanding ESG requirements of banks and insurers!
Dr. Wolfgang Eichert, Head of the EU representative office, Association of Public Insurers, Brüssel (BEL)
- 18.15 Discussion

Pre-conference seminar III

Wooden house construction forum

Organized by Timber Construction Europe, Berlin (GER)

Building in existing stock –

Multidisciplinary challenges and solutions

Moderation: Wolfgang Mair, Timber Construction Europe, Berlin (GER)

Economic considerations and complex tasks when building in existing stock are causing the European renovation wave to stagnate. The climate goal of having a climate-neutral building stock by 2050 is faltering. In order to get the construction industry going, building law requirements are being questioned and reducing them is being discussed as a cost saving measure. The influence on the entire building over the entire usage phase is often overlooked. Challenges and solutions when building in existing stock must be viewed holistically. In view of this, wooden construction offers planners and executors many practical and cost-effective variants.

- 13.15 Reception of attendees
- 13.45 Welcome
Peter Aicher, Präsident Timber Construction Europe, Berlin (GER)
- 14.00 Renovation potential in Germany/Austria/Switzerland
Dr. Julia Selberherr, Wüest Partner, Zurich (SUI)
- 14.35 Energy efficient construction – Quo vadis?
Dieter Herz, Herz & Lang, Weitnau (GER)

- 15.10 Serial renovation – experience report 2024
Siegfried Kohler, DKS Modern Prefab System, Alberschwende (AUT)
- 15.45 Coffee break in the exhibition area
Coffee sponsored by Stora Enso Wood Products
- 16.15 Fire protection when adding storeys
Christian Schütz, brandschutz, Vienna (AUT)
- 16.50 Soundproofing existing wooden beam ceilings
Adrian Blödt, Ingenieurbüro Blödt, Kohlberg (GER)
- 17.25 Recycling & Reuse- Research for practice
Prof. Dr. Mike Sieder, Technische Universität Braunschweig, Braunschweig (GER)
- 18.00 Discussion

Pre-conference seminar IV

Connection technology

Organized by Aalto Universität Helsinki (FIN)

Current developments in connection technology

Moderation: Prof. Dr. Gerhard Fink, Aalto University, Helsinki (FIN)

Timber engineering has developed rapidly in recent decades. Wide-span halls and multi-storey residential and office buildings made of wood are now widespread. High performance and reliable connections are the prerequisite for these developments. New and more demanding areas of application for wood as a building material require continuous further development in the area of connection technology as well as the integration of new knowledge into standardization.

- 13.15 Reception of attendees
- 13.45 Welcome
Prof. Dr. Gerhard Fink, Aalto University, Helsinki (FIN)
- 14.00 Production of wood-based panels with mechanical wood connectors
Prof. Dr. Patrik Aondio, Hochschule Biberach, Biberach (GER)
- 14.35 A novel connector for CLT structures and Design for Disassembly
Dr. Andrea Polastri, National Research Council – Institute of BioEconomy, San Michele all'Adige (ITA)
- 15.10 Circular building: no alternative!
Prof. Dr. Jürgen Graf, Rheinland-Pfälzische Technische Universität Kaiserslautern-Landau, Kaiserslautern (GER)
- 15.45 Coffee break in the exhibition area
Coffee sponsored by Stora Enso Wood Products
- 16.15 Dowel-type fasteners – significance of their scattering properties for the design
Dr. Carmen Sandhaas, Karlsruher Institut für Technologie, Karlsruhe (GER)
- 16.50 Screwed at an angle is well built
Dr. Andreas Ringhofer, Technical University of Graz, Graz (AUT)
- 17.25 High-strength tensile connections in building construction – ductile and repairable
Dr. Daniel Moroder, PTL | Structural & Fire, Christchurch (NZL)
- 18.00 Discussion

Pre-conference seminar V

Education and vocational training

Organised by the Technical Working Group 'Education and Vocational Training' of the European Wood Policy Platform (woodPoP)

Perspectives from the New European Bauhaus Academy on upskilling and reskilling the wood construction sector

Moderation: Veronika Juch, International Union of Forest Research Organization (IUFRO), Vienna (AUT)

Andreja Kutnar, Universität Primorska (SLO)

Increasing interest in timber construction, new technologies and applications of wood and wood products pose new challenges for training and education in the wood construction sector. Interdisciplinary training and education programs as well as lifelong learning are becoming increasingly important. Platforms like the New European Bauhaus Academy offer exciting entry points for new forms of knowledge transfer.

- 13.15 Reception of attendees
- 13.45 Welcome
Dr. Georg Rappold, Federal Ministry of Agriculture, Forestry, Regions and Water Management (AUT)
Darko Sajko, Ministry of Economy, Tourism and Sport, Ljubljana (SLO)
- 14.00 New European Bauhaus
Alina-Stefania Ujupan, Head of Unit, Joint Research Centre (JRC), European Commission, Brussels (BEL)
- 14.15 New European Bauhaus Academy Alliance
NEBAP Hub - Andreja Kutnar, University of Primorska & InnoRenew CoE (SLO)
North NEBA Hub - Matti Kuittinen, Aalto University (FIN)
Outreach NEBA Hub - Uwe Kies, InnoWood (BEL)
- 15.00 Innovative education, training and microcredentials
Stefan Leitner, Holzbau Austria, Vienna (AUT)
Wolfgang Kern, Federal Ministry of Science, Education and Research, Vienna (AUT)
Dr. Guido Wimmers, School of Construction and the Environment, British Columbia Institute of Technology, Vancouver (CAN)
- 15.45 Coffee break in the exhibition area
Coffee sponsored by Stora Enso Wood Products
- 16.15 On-site: Acoustics of timber buildings
Rok Prislan, University of Primorska & InnoRenew CoE (SLO)
- 17.00 Roundtable discussion – training needs in the construction sector
Marko Lukić, director and owner of the Lumar d.o.o., Maribor (SLO)
Dr. Erich Wiesner, Wiehag, Altheim (AUT)
Oya Atalay Franck, President of European Association for Architectural Education (SUI)
Günther Kain, HTBLA Hallstatt, Hallstatt (AUT)
- 18.00 End
- 18.30 Aperitif in the exhibition hall
Sponsored by Lignopan Holzwerk Pfarrkirchen
- 19.15 Dinner – Delightful things from the Alpine countries
Exchange of ideas at the dinner in the Congress Center.

Thursday, December 5 2024

WOOD ENVIRONMENT – Like other industries, the wood industry depends on the political and economic framework in which it operates. Therefore, it is important to consider the relevant national and international political trends and economic developments in the context of an international conference.

- 07.45** Reception of attendees
Welcome coffee sponsored by Lignopan Holzwerk Pfarrrkirchen
- 08.20** Welcome by the organizer
Prof. Dr. h.c. Heinrich Köster, Rosenheim Technical University of Applied Sciences, Rosenheim (GER)
- A look into the future**
Moderation: Prof. Dr. h.c. Heinrich Köster, Rosenheim Technical University of Applied Sciences, Rosenheim (GER)
The overall economic situation is stagnating. There are material and delivery bottlenecks as well as a shortage of skilled workers. All of this has a negative impact on the construction industry. New projects are failing due to increased interest rates and expensive construction prices, and the number of building permits has collapsed. How is the global economy developing and what is the future of timber construction?
- 08.30** Economic development in Europe and the world: drivers, opportunities, risks
Dr. Thomas Obst, German Economic Institute, Köln (GER)
- 09.10** The future of timber construction – 3 key design strategy
Craig Applegath, Dialog, Toronto (CAN)
- 09.50** Discussion
- 10.00** Coffee break in the exhibition area
Coffee sponsored by Dynea

TIMBER STRUCTURES – High performance timber structures occupy a special place in the construction industry and the general public. They gain confidence in the performance of wood as a building material and document the wide range of its use.

Selected projects

Moderation: Wolfgang Alversammer, Rosenheim Technical University of Applied Sciences, Rosenheim (GER)
New connection technologies and material combinations create the conditions for new applications. Using a selection of projects with international significance, this block provides an overview of the possible uses of wood and wood-based materials in combination with other materials.

- 10.30** The new Sydney Fish Market: the largest timber roof canopy in the southern hemisphere
Roberto Modena, Rubner Holzbau, Brixen (ITA)
- 11.00** Monheim Sports Hall – roof structure of the largest sports hall in Europe
Patrick Weber, Schlosser Holzbau, Jagstzell (GER)
- 11.30** Notre Dame – the roof structure in its new old splendor
Valéry Calvi, Calvi etudes Structures, Avignon (FRA)
Gaëtan Genès, Etude Charpente et Structure Bois, Chalonnes-sur-Loire (FRA)
- 12.00** New dimensions in wooden (high-rise) construction
Michael Green, Michael Green Architecture, Vancouver (CAN)
- 12.30** Discussion
- 12.40** Lunch break in Congress Innsbruck
Coffee sponsored by tectofix – Bauer Technik

The Red Sea Project: A luxury resort built on sand

Moderation: Ass. Prof. Dr. Tobias Schauerte, Linnaeus University, Växjö (SWE)

Timber construction projects for the regenerative tourism destination «The Red Sea». The sophisticated design of the buildings with the many curved shapes and the large number of components made the work complex and challenging.

- 14.10** Timber engineering for a subtropical climate
Franz Tschümperlin, SJB Kempter Fitze, Eschenbach (SUI)
- 15.10** Planning and implementation of the 192 free-form structures
Jephtha Schaffner, Blumer-Lehmann, Gossau (SUI)
- 15.40** Discussion
- 15.50** Coffee break in the exhibition area
Coffee sponsored by tectofix – Bauer Technik

Strong brands and timber construction

Moderation: Dr. Guido Wimmers, British Columbia Institute of Technology, Vancouver (CAN)

In recent years, internationally known brands have increasingly relied on sustainable – CO₂-reduced wooden buildings. In the future, we will no longer ask: «why wood?» but «why isn't the building made of wood?»

- 16.20** WELEDA Campus – Logistics center made of wood and rammed earth. A beacon of sustainability
Bernhard Tritschler, Holzbau Amann, Weilheim/Bannholz (GER)
Nico Santuario, Michelgroup, Zurich/Ulm (SUI/GER)
- 16.50** Recent works with timber
François Ducatez, BIG - Bjarke Ingels Group, Copenhagen (DNK)
- 17.20** Walmart – the new corporate headquarters
Ian Boyle, Fast + Epp, Vancouver (CAN)
- 17.50** Discussion
- 18.00** Coffee break in the exhibition area
Coffee sponsored by tectofix – Bauer Technik

WOOD CONSTRUCTION DEVELOPMENT – The International Wood Construction Forum is a meeting place for innovatively companies, product developers and researchers. In this block, the latest developments, selected research results are presented, to exchange ideas with companies and to initiate new research projects.

Seismic design of wooden structures – the new Eurocode 8, North American and Japanese regulations

Moderation: Dr. Simon Aicher, MPA University of Stuttgart, Stuttgart (GER)

The new Eurocode 8 includes comprehensive changes and new possibilities for timber construction. This applies in particular to the seismic design of buildings made of cross-laminated timber (CLT). In addition to European design and case studies, the latest North American and Japanese findings and normative regulations are presented.

- 10.30** The new Eurocode 8 – advanced solutions for the seismic design of wooden structures with a focus on CLT
Prof. Massimo Fragiaco, University of Aquila (ITA)
- 11.00** Seismic design approach of two realized CLT structures in Slovenia – the multistorey building and the upgrade of the existing building
Bruno Dujic, CBD, Celje (SVN)

- 11.30 Seismic design and tests of tall CLT-Structures – the US American approach
Shiling Pei, Colorado School of Mines, Golden (USA)
- 12.00 Seismic design and requirements for mass timber composite system for high-rise buildings in Japan
Prof. Dr. Hiroshi Isoda, Kyoto University, Kyoto (JPA)
- 12.30 Discussion
- 12.40 Lunch break in Congress Innsbruck
Coffee sponsored by tectofix-Bauer Technik
- Innovations and experiences with bonding for extreme applications**
Moderation: Dr. Simon Aicher, MPA University of Stuttgart, Stuttgart (GER)
The block adhesive bonding gives an insight into the basic requirements for modern wood adhesive bonding and shows the close link between gluing technology and the introduction of innovative wood products. New developments in timber construction based on adhesive technology will be presented.
- 14.10 Glued connections for the Modvion Tower – currently the tallest wind power plant in the world
Malte Mérono, Fraunhofer-Institut für Holzforschung - Wilhelm-Klauditz-Institut WKI, Braunschweig (GER)
Jonas Wranne, Modvion, Göteborg (SWE)
- 14.40 Glued and screwed – the Wangen-Buga tower
Prof. Dr. Jan Knippers, Dr. Gerhard Dill-Langer, Gregor Neubauer, Universität Stuttgart, Stuttgart (GER)
- 15.10 Bonding curved LVL shell segments for wind turbine towers
Geir Söderin and Erik Dölerud, Modvion, Göteborg (SWE)
- 15.40 Discussion
- 15.50 Coffee break in the exhibition area
Coffee sponsored by tectofix – Bauer Technik
- Circular economy in timber construction – solutions and successful examples**
Moderation: Dr. Simon Aicher, MPA University of Stuttgart, Stuttgart (GER)
The need to establish a circular economy for buildings and building products represents an important task for the construction industry to implement the required resource and sustainability goals. Wood and wood composite construction is still at the beginning of a development that must necessarily lead to the reuse of structural components without excessive downsizing.
- 16.20 How can the wood industry become a circular system – current developments and implementations
Kristine Nore, Omtre, Hønefoss (NOR)
- 16.50 Completely recyclable TCC floors – re-use and re-cycling
Dr. Jan Wenker, Brüninghoff Group, Heiden (GER)
- 17.20 HasleTre – demountable office building
Moritz Groba, Oslotre, Oslo (NOR)
- 17.50 Discussion
- 18.00 Coffee break in the exhibition area
Coffee sponsored by tectofix – Bauer Technik

MASTER COLLOQUIUM – The Master of Science in Wood Technology from Bern University of Applied Sciences and Rosenheim Technical University of Applied Sciences has initiated an international call for papers for master students to present their theses with a topic related to the wood construction industry. Following students out of many qualified submissions were chosen to present their highly relevant findings at the third Master Colloquium in Innsbruck.

Modelling | Connection | Sustainability

Moderation: Prof. Dr. Martin Lehmann, Bern University of Applied Sciences (SUI)

- 10.30 Welcome and introduction
- 10.35 Displacement-based Design of Highly Ductile Anchored CLT Walls using the N2 Method
Jonas Wacker, Bern University of Applied Sciences (SUI)
- 11.00 FE-modeling and calibration of a long-span wooden beam ceiling by means of vibration measurement
Valentin Knöpfle, Biberach University of Applied Sciences (GER)
- 11.25 Investigations of the load-bearing behaviour of resin impregnated compressed wood dowels in a double shear timber connection
Max Jeschkowski, Mittelhessen/Giessen University of Applied Sciences (GER)
- 11.50 Artificial Intelligence in Timber Construction: Development and Training of an Artificial Neural Network for Predicting the Bending Strength of Poplar Wood
Pascal Fröhlich, Biberach University of Applied Sciences (GER)
- 12.15 Sustainable Development and Adaptation of the Historic Tachenhausen Farm Estate
Eliese Helmig, Frankfurt University of Applied Sciences (GER)
- 12.40 Lunchtime
Coffee sponsored by tectofix – Bauer Technik

Design | Production

Moderation: Prof. Andreas Heinzmann, Rosenheim Technical University of Applied Sciences (GER)

- 14.00 A Systems Thinking Approach to Production Optimization in the Prefabricated Housing Industry
Lorenz Weiß, Rosenheim Technical University of Applied Sciences (GER)
- 14.25 Enhancing design and production in modular timber architecture with computational design tools
Joaquim Escoda, Bern University of Applied Sciences (SUI)
- 14.50 Discussion

WORLD CAFÉ – AS PART OF THE MASTER'S COLLOQUIUM

Opportunity for networking and exchange between manufacturing companies, architects, planners and researchers. Opportunities, challenges and relevant research questions for four subject areas are discussed in small groups. The thematic tables are moderated by experts from the universities involved in the Forum Holzbau, accompanied by the Bavarian Research Alliance. The World Café offers a starting point for topic-specific working groups and joint research projects.

- 15.00 Welcome and goal setting for World Café
Prof. Andreas Heinzmann and Prof. Maren Kohaus, Rosenheim Technical University of Applied Sciences (GER)
- 15.05 Keynote speech: Transformation in the construction industry – dealing with conflicting goals
Prof. Andreas Heinzmann and Prof. Maren Kohaus, Rosenheim Technical University of Applied Sciences (GER)

Friday, December 6 2024

- 15.20 World Café - Discussion in small groups at theme tables
- Architecture and automated prefabrication
Moderation: Prof. Andreas Heinzmann, Rosenheim Technical University of Applied Sciences (GER)
- BIM and circular economy – the importance of structured data
Moderation: Prof. Dr. Daniel Küppersbusch, Rosenheim Technical University of Applied Sciences (GER)
- Building type E – opportunities and challenges
Moderation: Prof. Dr. Anne Niemann, Rosenheim Technical University of Applied Sciences (GER)
- Circular building – new architectural construction and design principles
Moderation: Prof. Stanislas Zimmermann, Bern University of Applied Sciences (SU)
- 17.10 Presentation of the group work
- 17.30 Discussion and next steps
Prof. Andreas Heinzmann and Prof. Maren Kohaus Rosenheim Technical University of Applied Sciences (GER)
- 18.00 Coffee break in the exhibition area
Coffee sponsored by Tectofix- Bauer Holzbau

GUEST TALKS AND HONORS

Moderation: Prof. Dr. h.c. Heinrich Köster, Rosenheim Technical University of Applied Sciences, Rosenheim (GER)

- 18.30 AI at work and in leadership
Prof. Dr. Isabell M. Welp, Technical University Munich, Munich (GER)
- 19.10 Tribute to individuals with exemplary service to the wood construction industry

Walter Bauer, Unternehmer (GER)

Laudator: Prof. Dr. h.c. Heinrich Köster

Graduate engineer and master carpenter Walter Bauer, born in 1953 in Satteldorf Baden-Württemberg, has been running the family business in the fourth generation since 1978. Since 1983, he has been involved in the German Timber Technology and Environment Committee. He has been deputy chairman of the committee since 2006 and is supported many technical developments in timber construction. In addition, he has been active for many years at the state level in Baden-Württemberg and in the technical committees of the German Prefabricated Timber Association. He also contributes his experience and expertise to standardization work. Walter Bauer has held the office of President of the Holzbau Deutschland Institute since 2008. For his efforts, he was awarded the Golden Badge of Honor from Holzbau Deutschland in 2016.

Univ.-Prof. Dr. Hans Joachim Bläß (GER)

Laudator: Prof. Dr. Philipp Dietsch

Professor Bläß, born in 1955, received his PhD in 1987 from the University of Karlsruhe. After working at the University of Karlsruhe, Forintek in Vancouver and TNO Building Research in Delft, he became a professor at the TU Delft. In 1995 he was appointed as chair of timber and building construction at the University of Karlsruhe, which, a position he held until his retirement in 2021. Through his research on connections, particularly in the context of the development of fully threaded self-tapping screws, he achieved international recognition and received the Marcus Wallenberg Prize in 2010. As a member or chairman of numerous working groups, he promoted timber construction standardization. It was particularly important to him to advance promising innovations in the industry towards becoming an approved product.

- 20.00 Gala dinner at the Innsbruck exhibition center
Coffee sponsored by Koch & Schulte

WOOD STRUCTURES – Wood structures are unique and different from other structures from an environmental point of view. As a natural and renewable resource, wood has qualities that are vital to our survival. If wood as a building material did not exist, we would have to invent it. Accordingly, all stakeholders in the construction industry are called up-on to ensure that wood plays a greater role as a construction material than in the recent past.

Block A

Exposed engineering structures

Moderation: Prof. Dr. Philipp Dietsch, Karlsruher Institut für Technologie, Karlsruhe (GER)

Exposed wooden structures have always offered an attraction and challenge for those planning and executing them. From bridges and towers, wood can be used in many other areas of application, including buildings of high mobility such as train stations and e-charging stations. But wooden bridges are also increasingly in demand again, even outside central Europe. Exposed structures are only truly sustainable if they are long-lasting. Well thought-out measures for structural wood protection continue to be the key to durability.

- 08.30 Arguments for the effectiveness and necessity of preventive structural wood protection
Dr. Matthias Frese, Karlsruher Institut für Technologie, Karlsruhe (GER)
- 09.00 Thoughtfully roofed – e-charging stations made of wood
Marcus Fischer, Hasslacher Building Solution, Sachsenburg (AUT)
- 09.30 Idarkopf observation tower – a hybrid structure based on the principle of component-specific wood protection
Johannes Weinmann, Schaffitzel Holzindustrie, Schwäbisch Hall (GER)
- 10.00 Coffee break
Coffee sponsored by Koch & Schulte
- 10.30 Olympic Bridge Paris over the A1 motorway and Zwolle train station bridge
Frank Miebach, Ingenieurbüro Miebach, Lohmar (GER)
- 11.00 Glued GLVL panels for a new Timer Footbridge over the Brussels Ring
Laurane Néron, Ney & Partners / WOW, Brüssel (BE)
- 11.30 New timber bridges in Spain and experiences from the past
Julio Vivas, Media madera, Carreño (ES)
- 12.00 Discussion
- 12.20 Coffee break
Coffee sponsored by Dynea

Block B

Two-axis timber grids

Moderation: Prof. Michael Flach, University of Innsbruck, Innsbruck (AUT)

Two-axis span wooden structures have the advantage of redundancy, i.e. the ability to transfer loads between the beams in the event of failure. In consequence, they have higher structural reserves than single-axis span structures. For such structures, the design strength may be increased with the system coefficient $k_{sys} = 1.2$. In addition, the strengths of small cross-sections ($h < 150$ mm) can be increased using the k_h coefficient. Examples from Belgium, China, Germany, France, Austria and Switzerland illustrate the costeffectiveness and aesthetics of such structural systems.

- 08.30 Smart timber grid – new connecting technologies for grids
Prof. Dr. Roland Maderebner, University of Innsbruck, Innsbruck (AUT)
- 09.00 Contemporary halls in Zollingen style
Eric Bensemann, Elite Holzbau, Rüdersdorf (GER)

- 09.30 Tea house grid in Taiyuan Botanical Garden in China
Lucas Epp, StructureCraft, Vancouver (CAN)
- 10.00 Coffee break
Coffee sponsored by Koch & Schulte
- 10.30 Reciprocal structure in Kasterlee
Charline Lefèvre, Ney & Partners WOW, Anderlecht (BEL)
- 11.00 The heart of the city – the new Scionzier market square
Laurent Clère, Arborescence, Lyon (FRA)
- 11.30 Rib shell for the Varberg observation tower
Lukas Nordström, White arkitekter, Göteborg (SWE)
- 12.00 Discussion
- 12.20 Coffee break
Coffee sponsored by Dynea

Block C

The constructive diversity in multi-storey timber construction – skeleton, element and (room) module

Moderation: Prof. Andreas Müller, Bern University of Applied Sciences, Biel/Bienne (SUI)

In the structural design of tall, multi-story wooden buildings, the skeleton construction is usually combined with the large-format panel elements for ceilings, walls and roofs. However, building with room modules has now achieved a high level of importance because it opens up new dimensions of the timber construction-specific planning and manufacturing processes towards industrial manufacturing and production. Many believe this represents the future of construction. Building with spatial modules enables a significant reduction in construction time while increasing the quality of execution and reducing costs through scale effect in the individual process steps. Already in the design phase, the decision must be made as to whether a building should be constructed in element construction, in modular construction or, if necessary, a coherent combination should be implemented. The speakers in this block will address the general conditions and requirements for economical building with wood.

- 08.30 Welcome
- 08.40 The UmweltHaus in Nuremberg sets new standards – the headquarters of the UmweltBank on 13 floors
Sven Joerges, Züblin Timber, Aichach (GER)
- 09.10 Cederhusen – Award-winning wooden high-rise in Stockholm
Frida Tjernberg Persson, Looström Design office, Stockholm (SWE)
- 09.40 Quality management in wooden high-rise construction: challenges and sustainable solutions at the example ZWHATT H1
Thomas Wehrle, Erne Holzbau, Laufenburg (SUI)
- 10.10 Coffee break
Coffee sponsored by Koch & Schulte
- 10.40 System school buildings: learning spaces that inspire
Prof. Nicole Kerstin Berganski, Technical University of Berlin, Berlin (GER)
- 11.10 Fire protection in (wooden) modular construction – how is planning security achieved?
Prof. Dr. Dirk Kruse, Dehne Kruse Brandschutzingenieure, Gifhorn (GER)
- 11.40 Framework for economical construction with room modules of the highest quality
Urs Ickler, Timber Homes, Dorfen (GER)
- 12.10 Discussion
- 12.20 Coffee break
Coffee sponsored by Stora Enso Wood Products

Block D

TUM.wood – Adventure Wood Research – a discussion forum

Moderation: Prof. Dr. Stefan Winter, TUM.wood, Munich (GER)

This block provides insights into the colorful world of wood research and beyond introducing the latest developments and contrarian positions.

Wood & material partnerships for timber construction

The use of renewable and low-quality raw materials or residual materials is becoming increasingly important to develop sustainable and efficient building materials. Material combinations offer innovative solutions for wood construction, leveraging the individual materials' respective strengths to maximize structural integrity, insulation values, and climate impact. What new opportunities exist? To what extent can such combinations help to make timber construction more sustainable and future-proof?

08.30 Part 1: Timber reinforced wood and clay

Orangerie

Short lectures followed by a discussion forum

Dr. Markus Lechner, NEXUS Timber Consulting, Tittmoning (GER)

Prof. Dr. Kathrin Dörfler, Digitale Fabrikation, TUM.wood

Material combinations in timber construction offer enormous potential. Wood-reinforced wood combines the strengths of various softwoods and hardwoods to compensate for weaknesses such as transverse tensile and shear strength and thus represents a new type of structural material. By integrating the strength of wood with the thermal, fire-resistant and sound-insulating advantages of clay, supported by modern robot technology, industrially manufactured wood-clay ceilings can be created for multi-story construction. What are the associated challenges with these innovative and sustainable solutions?

10.00 Coffee break

Coffee sponsored by Koch & Schulte

10.45 Part 2: Efficient use of resources in timber construction

Short lectures followed by a discussion forum

Prof. Dr. Wolfgang Gindl-Altmutter and Prof. Dr. Johannes Konnerth, Institut für Holztechnologie und Nachhaltende Rohstoffe, BOKU Vienna (AUT)

How can we make optimal use of wood resources while improving sustainability in construction? Through innovative material combinations, technologies are developed that use non-millable wood and bark effectively and with high quality. This approach makes a significant contribution to increasing resource efficiency and opens up new opportunities for sustainable construction. By optimizing these previously unused materials, the potential of wood as a raw material is fully exploited.

12.20 Coffee break

Coffee sponsored by Stora Enso Wood Products

EPILOG

Wood construction is back on the world stage at international events

Moderation: Prof. Wolfgang Winter, Technical University Vienna, Vienna (AUT)

In the competition between materials, image-promoting buildings for world exhibitions or Olympics play a special role. Only in the last few decades has it been possible to build sustainable wooden buildings on a large scale (Japanese Pavilion Seville 1992, roof of the Hanover World Exhibition 2000, stadium roof of the Tokyo Olympics 2020). In the 21st century, the required climate neutrality is motivating more public builders to increase the use of wood, such as in the 2024 Olympic Village in Paris.

In 1927, the International Building Exhibition took place at the Weissenhof in Stuttgart, a pioneer of concrete architecture. In the anniversary year of 2027, the city and region of Stuttgart will once again be organizing a construction exhibition, but with a focus on sustainability and timber construction. Japan goes even further at the Osaka 2025 World Expo. The 2 km long, multifunctional main building, 20,000 m³ of reusable glued laminated timber, is a pure wooden frame without diagonals based on the model of thousand-year-old temples.

12.50 Olympic Games – wooden buildings as defining elements of the sustainability strategy

Georges-Henri Florentin, President of France Bois 2024 / Forestry and Timber Section of the Agricultural Academy, Toulon (FRA)

Buildings of the Olympic Village

Pascal Gontier, Atelier Pascal Gontier, Paris (FRA)

Jonas Tophoven, Forum Bois Construction, Paris (FRA)

13.30 IBA2027 – Timber construction as the leitmotif of the International Building Exhibition 2027 Stuttgart City Region

Andreas Hofer, Internationale Bauausstellung IBA2027, Stuttgart (GER)

14.00 Expo 2025 Osaka, Kansai, Japan

Sou Fujimoto, Chief architect of the world exhibition, Own architectural office in Tokyo (JPA)

20.000 m³ CLT for the world's largest wooden frame
Prof. Dr. Mikio Koshihara, University of Tokio (JPA)

14.50 Discussion and final words

15.00 Lunch

Coffee sponsored by Holzwerke Pfarrkirchen

15.30 End of IHF 2024

Apart from gaining knowledge from the formal sessions, participants have the opportunity to learn about the latest developments and innovations in wood construction in the parallel trade show, where the sponsors and other companies are presenting their products. Take advantage of the breaks to get an overview, to socialize and to deepen existing contacts.

The organizers, sponsors and exhibitors wish you an interesting and enjoyable 28th International Wood Construction Conference IHF 2024.

Place of the Conference

Congress Innsbruck, Rennweg 3, 6020 Innsbruck, Austria

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Contact during the event

Simone Burri

T +41 79 448 30 07

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Please fill out the attached form and send it to the address below by mail:

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info@forum-holzbau.com



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Closing date for registration November 28 2024

The number of participants is limited. Registrations are processed in the order in which they are received.

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28th International Wood Construction Conference (IHF)
Innsbruck, Congress Center

Practical experience – Practical application

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International Wood Construction Conference, 6.12.2024

- Block A Exposed engineering structures
- Block B Two-axis timber grids
- Block C The constructive diversity in multi-storey timber construction
- Block D Adventure wood research - a discussion forum

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