

An aerial photograph of a workshop where several people are working on large-scale wooden architectural models. The models are made of light-colored wood and feature complex, spiraling or radial patterns. The workshop floor is concrete, and there are various tools, wood planks, and equipment scattered around. The lighting is bright, suggesting an indoor or well-lit outdoor space.

November 22nd 2019
10:00-17:00
Academy of Architecture
Amsterdam

Erasmus+ Symposium

Wood Structure and expression

Tradition and innovation in Wood architecture

lectures

Klaus Zwerger, AT
Mario Rinke, CH
Annemariken Hilberink, NL
August Schmidt, NO

Presentations

Carmen Rist-Stadelmann, LI
Arnstein Gilberg, NO
Machiel Spaan, NL

Discussions

Tibor Joanelly, CH
Cathrine Johansen Haanes
& Haakon Haanes, NO
Harm Tilman, NL

More info: www.bouwkunst.ahk.nl/actueel/agenda/2019/

Entrance is free. Sign up by sending a mail to: nina.knaack@ahk.nl

Erasmus+ Symposium

Wood: Structure and Expression

November 22nd, 10:00-17:00

Tradition and innovation in Wood architecture

Welcome

10:15 Welcome Madeleine Maaskant, director Academy of Architecture, Amsterdam

10:20 Introduction Urs Meister, Vaduz

Lectures

10:30 Klaus Zwerger, professor at the University in Vienna, author of the book *Wood and Wood Joints*

11:15 short break

11:30 Mario Rinke, engineer, Zürich, Antwerp

11:50 Annemariken Hilberink, architect, Den Bosch

12:10 August Schmidt, architect, Trondheim

12:30 Lunch break

Presentations

14:00 Program *Wood - Structure and Expression* by Carmen Rist-Stadelmann, Vaduz

14:10 Workshops Trondheim and Vaduz) by Arnstein Gilberg, Trondheim

14:20 Results and publication by Machiel Spaan, Amsterdam

Discussions

14:30 Tibor Joanelly, from the Swiss magazine *Werk bauen + wohnen*, Zürich

Cathrine Johansen Haanes & Haakon Haanes, Noysom Architects, Trondheim

Harm Tilman, chief editor of *De Architect*, Amsterdam

16:30 Round up

17:00 Drinks

The symposium takes place in the building of the Academy at the Waterlooplein 211 in Amsterdam, without any entrance fee. Due to the expected interest, it is obligated to sign up. Send an email to nina.knaack@ahk.nl with your name, your email address and your nationality. Please also mention if you only want to be present in the morning for the lectures or will join both in morning and in the afternoon. This symposium is part of the Erasmus+ project Wood: Structure and Expression, a collaboration between the Amsterdam Academy of Architecture, the University of Liechtenstein and the Technical University of Trondheim.



Introduction

Wood - Structure & Expression (2018-2020) is a European educational project of the Amsterdam Academy of Architecture, the University of Liechtenstein and the Norwegian University of Science and Technology, Trondheim. The project is supported by the Erasmus+ program and coordinated by the University of Liechtenstein. We will jointly study the tradition and innovation of wooden structures by means of research, excursions, workshops and studio projects at the three architecture schools. During the *Wood: Structure and Expression* design studios in the three schools we research and develop wood structures prevalent in local building tradition and culture. The goal of the *Wood: Structure and Expression* program is to broaden the use of wood and to strengthen a tectonic approach towards both tradition and innovation of wooden structures. In combining traditional craftsmanship and industrial production, the partnership is aiming to research new solutions, which develop new ways for the use of wood. Throughout the project work, the wood constructions were explored in drawings and models in scale 1:10 and with hands-on experiments. The results are tested in workshops with students in which prototypes in scale 1:1 are built.

During design projects and workshops, we research the relationship between the wooden construction, structure, spatiality and appearance of the building. Each year, design projects, exercises and workshops will be linked to the theme. The three workshops will take place successively in Trondheim (August 2018), Vaduz (March 2019) and Amsterdam (March 2020).

The result of *Wood: Structure and Expression* will be summed up in a publication of wooden structures from three cultures that capture the imagination. The collected traditional and new wooden structures will provide us with information about craft, tradition, building techniques and innovation. We will learn from both differences and similarities in tools, methods, techniques, forms of assembly and characteristic images.





Symposium

The aim of the symposium is to share the intermediate results of the *Wood: Structure and Expression* program with a broader audience, to offer new points of view and experiences from invited speakers and to broaden the debate around wood structures enabled by journalists and writers. The symposium will form part of a publication documenting the diverse range of activities, thinking and new learning developed through the Erasmus+ program. The symposium will be of interest to students and tutors of architecture, the wider architecture community as well as Erasmus+ program participants.

The symposium also aims to strengthen a tectonic approach towards both tradition and innovation of wooden structures and to reposition and reassert wood structures as an important and relevant topic within the design process in the education of the architect.

The main questioning of the symposium is: Can tradition stimulate innovation in wood architecture? How do local wood traditions and crafts inspire the innovation of this craft? Could traditional crafts and new techniques stimulate each other?



The symposium starts with a lecture by professor Klaus Zwerger about the importance of the knowledge of tradition in design. After his talk, three lecturers will each present one or two examples of recently build wood constructions that enhance the questions above.

In the afternoon we will present the intermediate results of the *Wood: Structure and Expression* program and discuss both the lectures and the program at three round table discussions led by the organizers of the program and journalists from the three participating countries.



Towers of Wood 2019

During the Erasmus+ workshop in Liechtenstein, we built towers with wooden slats on a scale of 1:20. We sketched structures that defy gravity and absorb horizontal forces. The models never lie. By pushing and pulling on the slats, we understand the distribution of forces and we made the model increasingly stable. In this way, twelve structural principles for a 35-metre high tower at the base of the mountain in Liechtenstein is created over time.

In groups of students from various schools, we elaborated on six chosen structures. We increased the scale to 1:5, which will make the models seven meter higher. The glued or adhesive joint of the 1:20 model is replaced by 'real' structural joints. The weight of the material and the precision of the saw cuts were important factors in the execution. Twelve hands worked resolutely on a tower. We designed while making this. Connections arose via the experiment and were refined over the course of the days.

After four days, it was ready. The six seven-meter high wooden structures were transported to the village square in Schaan and hoisted, assembled or stacked on top of each other. The structures formed an inspiring ensemble of six towers, each with a character of their own. Six different structures, each with their own story, own laws and connections. They demonstrate the creativity of the designer and the workmanship of the craftsman. Thinking and doing formed an interesting field of tension assimilated into unique artworks, which show us that between concept and reality, a fascinating voyage of discovery lies hidden, full of setbacks and successes. These prototypes underline the experimental approach of the whole project and mark the starting point for the building of a towers in Liechtenstein, which we plan to build in collaboration with the students in the next summer.



Trondheim (2018)

For centuries, carpenters have crafted carpentry joints and the production methods have been bound by traditions. Many cultures have had their own joinery traditions, and in cultures such as the Chinese or Japanese, these traditions have been strong. In Europe, the traditions for structural joinery are closely related, but with regional differences. Present development of computer numerical controlled (CNC) milling machines have provided renewed interest in structural wood joints. It is now possible to produce them effectively and economically with high precision. Therefore, the design needs to be informed both by industrial parameters and by traditional carpentry knowledge.

The focus in this workshop was to develop and build a timber roof structure. The discussions include architecture, space, structure, joints and timber material. An important focus in the discussions is on the detail, and the differences found between structural wood joints made manual by hand and electrical hand tools, machines and robots. By making structural details with different kind of tools, the participants learn about the properties of wood and how wood can be used in new and inventive ways. By bringing the detail back into the center of the architectural design, architecture thus may regain the important synthesis of structure and expression.



Biographies



Klaus Zwerger studied at the University of Applied Arts in Vienna. Alongside and afterwards he worked as carpenter, joiner and artist. In 1991 he became assistant at the University of Technology in Vienna. Since then he extensively travelled in most European countries, in East and Southeast Asia in order to study and investigate historic wood architecture. In 2012 he habilitated at the Vienna University of Technology. In 2015 he held a guest professorship in Tokyo. He gave numerous presentations and lecture series predominantly in China. He widely published in German, English, Chinese and Japanese language. Recently he expanded his research focus to Northern Laos and Vietnam.



Mario Rinke is Professor at the Faculty of Design Sciences at the University of Antwerp. Trained as a structural engineer and working in the field of architecture for some years, he is teaching and researching construction in the realm of architecture. Genuinely interested in transformation processes between areas of knowledge, materials and institutions as well as structural thinking, he is specialised in hybrid material concepts, early reinforced concrete and early industrial timber (glulam). After working as a design engineer for major offices in London and Zurich, he ran his own practice in Zurich for several years. Mario Rinke holds a Diploma degree in civil engineering from the Bauhaus University Weimar and a PhD from ETH Zurich. He was senior researcher and lecturer at the architecture department at ETH Zurich and the senior lecturer at the Lucerne University of Applied Sciences and Arts. Currently, he serves as a member of scientific committees, as a reviewer for journals and is a founding member of the International Association of Structures and Architecture (IASA) and currently secretary the management board.



Ir. Annemarijken Hilberink (1965) studied Architecture at the Technical University Eindhoven from 1983 – 1990. Received the 2nd prize in the Archiprix 1990, the best Dutch graduation projects, with a design for a mountain station in Austria. Worked at several smaller architectural firms. Received a starter stipend of the Fonds BKVB on which she started her own architectural firm. In 1996, together with Geert Bosch, she formed the office HILBERINKBOSCH architecten. She has been involved in teaching at several Academies of Architecture, most recent as a member of examiners in Arnhem. Also worked as a member of Architectural advisory services in Etten-Leur and Venlo



Dipl. Ing. Architect August Schmidt established his private practice, Studio Sjellsand, in Trondheim in 2005. After finishing engineering studies in Austria, he pursued architecture studies in Graz, Stuttgart and Trondheim. He has worked in various architect firms in Austria, Germany, Canada and Norway, where he graduated and settled down in 1996. His early training in masonry and carpentry is evident in the craftsmanship and detailing in his projects. The link between form, construction and materials is the basis of his teaching at NTNU, and in his internationally published projects. August specializes in small self-built housing which strives towards quality in every inch.



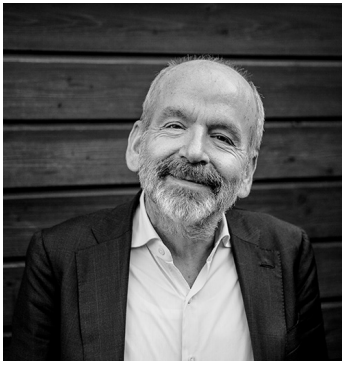
Tibor Joanelly is an architect, publicist and teacher. He received his degree in architecture at the Federal Institute of Technology in Zurich (ETHZ) and worked in numerous well-known Swiss architectural offices. Next to his practice, he led atelier discourses with Swiss architects such as Christian Kerez, Valerio Olgiati and Livio Vacchini. He published essays and articles in architectural magazines. Tibor Joanelly was teaching at the Budapest University of Technology, at the ETHZ and at the University Liechtenstein. He currently lectures on Architectural Critique at the University for Applied Sciences in Winterthur and he is an editor of the Swiss architectural magazine *werk, bauen + wohnen*. He is engaged in several book projects as well as in architectural practice.



Cathrine Johansen Haanes was born in the arctic city of Tromsø in Northern Norway. After a semester in Paris, Cathrine moved to Trondheim to study architecture at The Norwegian University of Science and Technology (NTNU) in 2009. She graduated in 2014 with a diploma project called "The Way to Satori", where she designed a space for contemplation of nature on the mountain of Fløya in Tromsø. In 2015 she co-founded Nøysom arkitekter with Trygve Ohren and Haakon Haanes. The trio is most known for their urban ecological pilot project, Experimental Housing at Svartlamon, a self-build scheme where five families have been able to build their own low cost row-houses made largely from reused materials. The project has sparked a broad national and international interest in the young office, which was nominated to The European Union Prize for Contemporary Architecture – Mies van der Rohe Award 2019 and introduced as emerging architects in *Architectural Review* in May 2019. In addition to working as an architect, Cathrine writes on a freelance basis, together with Haakon, about architecture, ecology and alternative housing strategies. She also does lectures, talks and workshops with the other partners in Nøysom arkitekter, and has been an external assessor at Bergen School of Architecture.



Haakon Haanes is married to Cathrine, and co-founded Nøysom arkitekter with her and Trygve Ohren in 2015 just after graduating from NTNU in Trondheim. As students he and Trygve had been developing what would become the experimental house project at Svartlamon, the project that would give the three of them the opportunity to start Nøysom arkitekter together. Before studying architecture, Haakon studied philosophy and psychology for two years in Oslo, which sparked an interest for working with the broader questions concerning our built environment, especially when it comes to sustainability and ecology. Together with Cathrine, Haakon has written several articles about architecture, ecology and alternative housing strategies. He has also held lectures, talks and arranged workshops with the other partners in Nøysom arkitekter. Haakon has also worked for several years with city planning and placemaking at The City Planning Office in Trondheim and The Agency of Planning and Building Services in Oslo. In addition to being partner in Nøysom arkitekter, Haakon is currently employed as an urban planner in Asplan Viak in Oslo.



Harm Tilman is editor-in-chief of the Architect, an independent and opinion-forming professional journal and platform in the field of architecture, urban design and interior design. Website, magazine and events inform and inspire spatial designers and place their work in a broader social and cultural context. Before he has been coordinator at the Rotterdam Academy of Architecture. Tilman graduated from Delft University of Technology in 1984, after his studies worked as an urban designer and researcher, gave lectures and supervised projects at various educational institutions in the Netherlands and abroad. He is also the author of numerous publications in the field of modern architecture and spatial planning.



Carmen Rist-Stadelmann graduated in Architecture from the Technical University Vienna, Austria and received her PhD from the same university. She has practiced professionally in Austria and Malaysia and is currently a senior lecturer at the Institute of Architecture and Planning at the University of Liechtenstein. She runs design studios at undergraduate and graduate level and her current research project "Hands-on: An added value for teaching in architecture" focuses on building on a scale of 1:1 with students and professionals as part of their architectural education. She is the coordinator of "Wood: Structure and expression", funded by the European Commission, which focuses on the tectonic method for connecting wooden joints to a structure on a scale 1:1.



Machiel Spaan is an architect, co-founder of the Amsterdam firm M3H Architecten and has taught at various architecture programmes in the Netherlands and beyond for over twenty years. Recently he published *The Wandering Maker*. Spurred by his own observations, *The Wandering Maker* discovers the value of street, building, house and detail. He unravels constructions, cleans up, repairs and transforms; searches for a conscious way of dealing with the available material as a sustainable alternative for the fast conceptual and object-oriented approach. Machiel Spaan is involved in the Erasmus program since 2008.



Arnstein Gilberg is an architect and Associate Professor at Faculty of Architecture and Fine art, NTNU Trondheim, Norway. He teaches tectonics and working with full-scale constructions. Course manager for master course "Timber structure" and a part of the Erasmus+ project "Wood, structure and expression"