MINI SYMPOSIUM on

WOOD TECTONICS

Program

10.00 Welcome and Introduction
Isak Worre Foged

10.15 Novel Wood Structures
Dario Parigi, Associate Professor
Dep. Civil Engineering, Aalborg University

10.45 Robotic Wood Fabrication
Mads Brath Jensen, PhD Candidate
Dep. Architecture, Aalborg University

11.15 Wood, Boat, Architecture
Isak Worre Foged, Associate Professor
Dep. Architecture, Aalborg University

11.45 Integrated material practice in free-form timber structures
Tom Svilans, PhD Candidate
Royal Academy of Fine Arts School of Architecture

12.30 Lunch break

13.30 Engineering Wood Constructions in Practice
Jacob Nielsen, Specialist
COWI Consulting Engineers

14.00 Engaging with wood and wood properties
Anders Kruse Aagaard, Assistant Professor
Aarhus School of Architecture

14.45 Coffee break

15.15 Panel Discussion

16.00 Selected Works
Reiulf Ramstad
Director and Architect Reiulf Ramstad Architects

17.00 Final remarks

Wood has a central role in architecture. In the past, and in the future. How we understand, work with, and apply wood is a tectonic concern, which aims to increase quality of life and environmentally concerned building practices. Through lectures from practice and research projects, theory and build work, we invite you to the Utzon Center for a day of Wood Tectonics.

You are all invited.

Reiulf Ramstad
Director and Architect, Reiulf Ramstad Architects

Anders Kruse Aagaard
Assistant Professor, Aarhus School of Architecture

Tom Svilans
PhD Candidate, CITA / KADK

Dario Parigi
Associate Professor, Civil Engineering
Aalborg University

Jacob Nielsen
Specialist
COWI Consulting Engineers

Mads Brath Jensen
PhD Candidate, Architecture
Aalborg University

Isak Worre Foged
Associate Professor, Architecture
Aalborg University

Photo credit Ivar Kvaal
Novel Wood Structures
Dario Parigi, Associate Professor, Dep. Engineering, Aalborg University

The path of forces and the specific properties of the material fundamentally determine the formal appearance of timber constructions and their details. The potential for material and technology-driven changes in timber structure is investigated through the latest advances in material design and fabrication.

Robotic Wood Fabrication
Mads Brath Jensen, PhD Candidate, Dep. Architecture, Aalborg University

For centuries, wood has been one of the main materials used in the construction of architectural buildings. During the last decade implementation of new computational tools and advanced CAD/CAM software has enabled architects and the building industry to explore highly complex wood structures. In parallel with this development the field of CNC machinery and Industrial robotic arm has also gone through a major technological development which opens for new ways of fabricating complex wooden structures. This presentation will introduce the fabrication methods used in a range architectural projects that all push the boundaries of wood structures and point towards future developments from the field of architectural research.

Wood, Boat, Architecture
Isak Worre Foged, Associate Professor, Dep. Architecture, Aalborg University

Wood has been a material source used for building construction and boat construction for centuries. Material use, tools developed and structural principles have similar and distinct properties. The lecture will focus on wooden boat making through two examples, and attempt to identify and extract thinking and making properties that can point to architectural design and making with wood.

Integrated material practice in free-form timber structures
Tom Svilans, Royal Danish Academy of Fine Arts School of Architecture

Wood is one of the fundamental building materials of our civilization. An engagement with its unpredictable behaviours and complex idiosyncrasies has led to long building and crafting traditions based around tacit knowledge of its performance and use. The rise of computation, sensing, and simulation in architecture has afforded us dramatically new ways with which to observe, calculate, and anticipate the world around us. How can these new technologies tease out the latent character of timber? How can they help us design and fabricate more effectively, intelligently, and more in tune with its strengths and weaknesses? How can we – as designers, as makers – interface with the complex value chain and production processes that culminate in the physical realisation of timber buildings?

Engineering Wood Constructions in Practice
Jacob Nielsen, Specialist, COWI Consulting Engineers

Wood for construction is significantly different to other primary building materials, such as concrete, steel and glass. With its anisotropic properties, its specificity from different wood species and its dynamic character provides architects and engineers with special possibilities and challenges in buildings. The lecture will focus on wood constructions from the perspective of engineering in practice by showcasing built projects.

Engaging with wood and wood properties
Anders Kruse Aagaard, Assistant Professor, Aarhus School of Architecture.

Wood, Boat, Architecture
Isak Worre Foged, Associate Professor, Dep. Architecture, Aalborg University

Historically building without wood is practically unimaginable. Wood has virtually been used in all cultures to build architecture. For that matter there are traditions and skills how to apply this organic material in numerous construction methods. For me wood is associated with informal, tactile, environmental friendly, poetic, light and organic qualities. In the first years of our practice we started to experiment with wood, because it was an inexpensive and environmental friendly material. We wanted to use raw wood without applying chemicals of any kind. This work lead to various projects using different types of wood, scales, details, elements, ways of cutting, drying, planing and sawing. In the Nordic building culture wood has also obtained a renaissance due to innovative processing technology and requirements to develop sustainable architecture. We do think we contribute to diffuse knowledge and passion about wooden architecture through our projects.

Selected Works
Reiulf Ramstad, Director and architect Reiulf Ramstad Architects

Wood is one of the fundamental building materials of our civilization. An engagement with its unpredictable behaviours and complex idiosyncrasies has led to long building and crafting traditions based around tacit knowledge of its performance and use. The rise of computation, sensing, and simulation in architecture has afforded us dramatically new ways with which to observe, calculate, and anticipate the world around us. How can these new technologies tease out the latent character of timber? How can they help us design and fabricate more effectively, intelligently, and more in tune with its strengths and weaknesses? How can we – as designers, as makers – interface with the complex value chain and production processes that culminate in the physical realization of timber buildings?