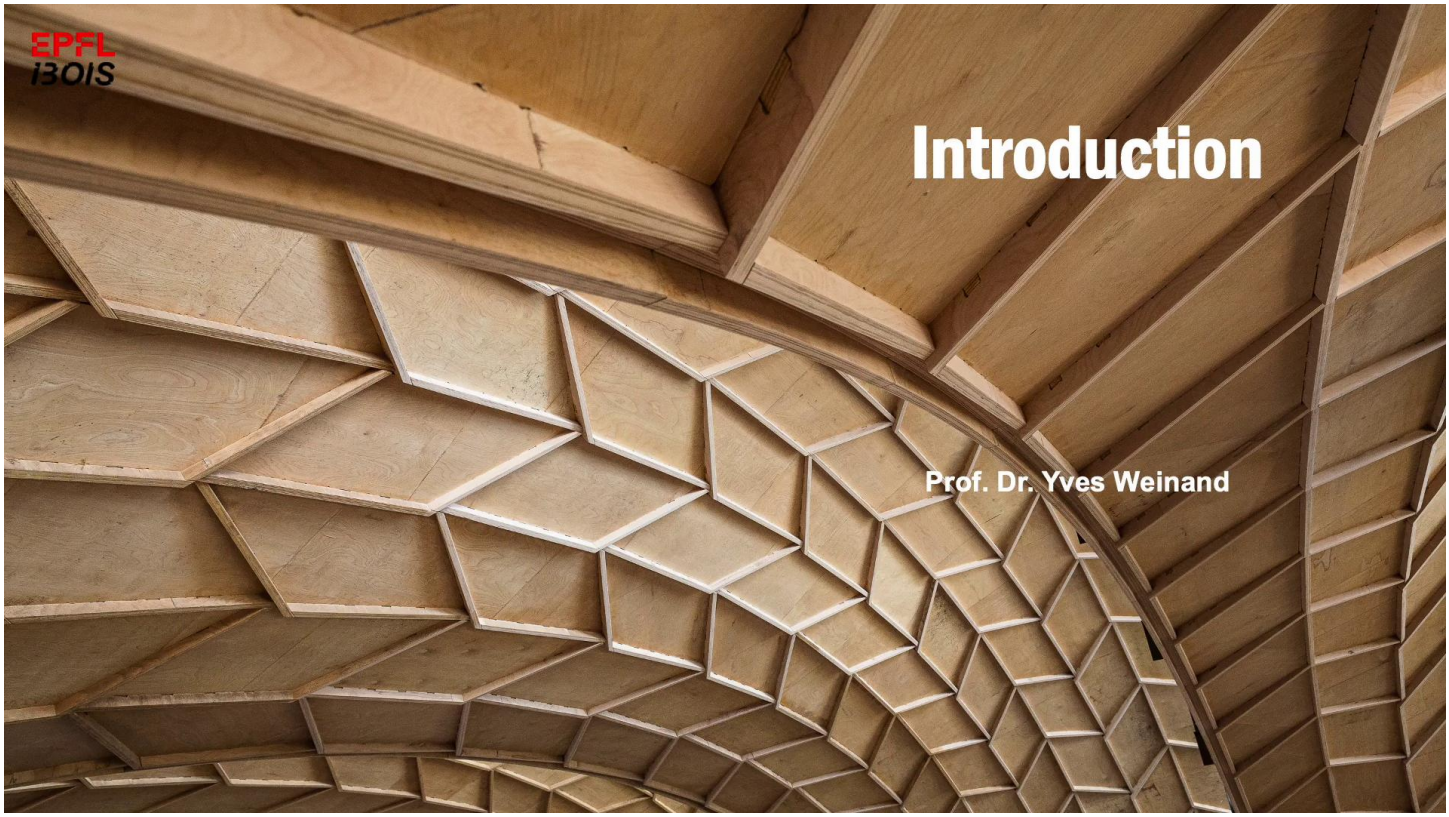

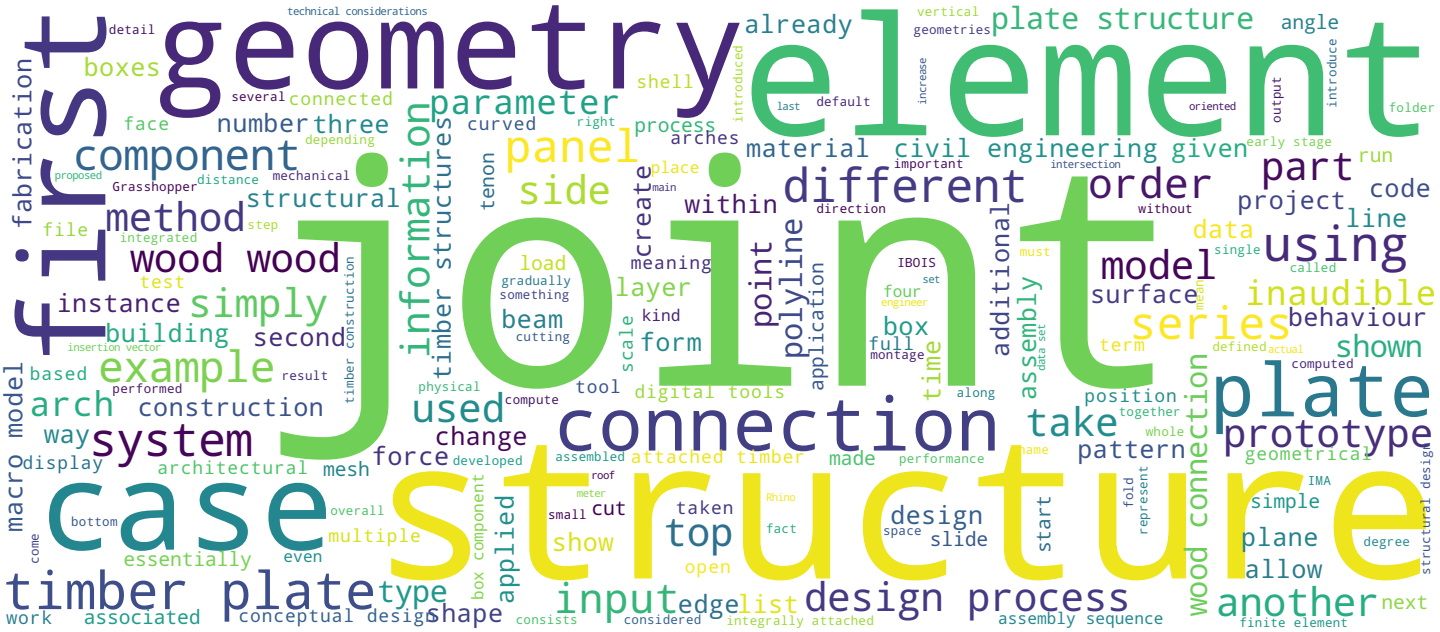

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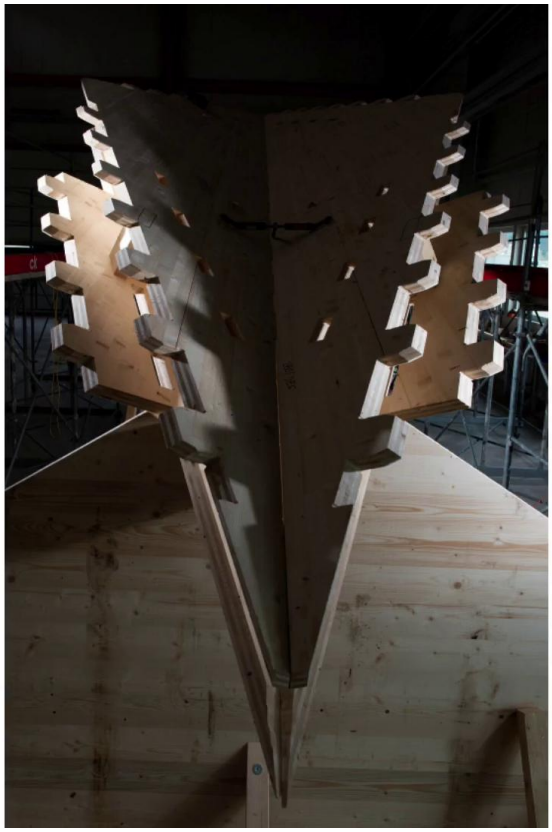


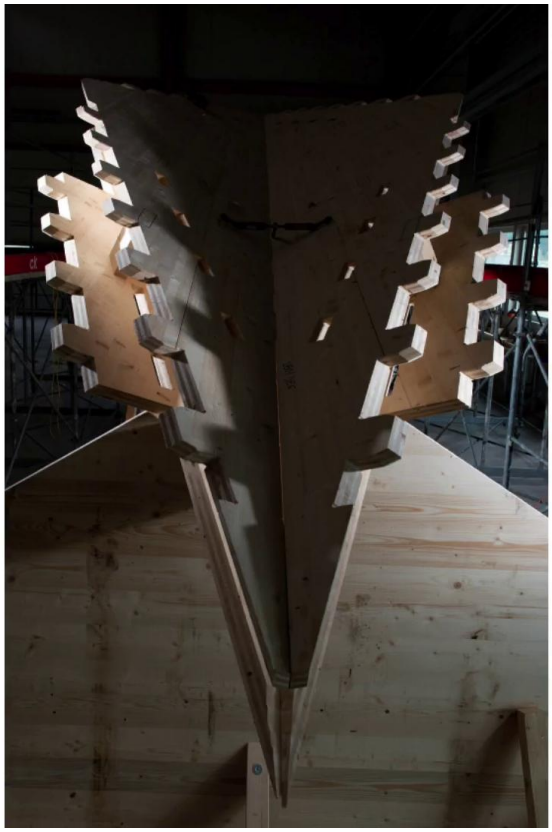
Prof. Dr. Yves Weinand

Hello. My name is Yves Welndand and I would like to invite you and to propose a radically new conceptual design approach towards structures. This new approach is illustrated and applied to innovative timber structures. The described processes could also be applied to other types of structures and other materials. The conceptual design of structures is at the heart of design process, when the most fundamental and influential decisions are taken for a project. Those decisions occur at an early stage of the design process. At that moment, there need to be link form, space and structure. Choose the process and the tools used to be efficient should allow for the unification and the combination of several disciplines, architect and structural design to start with. But technical considerations are often considered an almost neutral set of knowledge, which do not or should not affect a determinate manner in the initial creative design process for a given architect. The technique, construction methods and ultimately civil engineering and static considerations are seen as almost unwelcome ingredients in a certain number of cases.

Notes

Summary

0m 03s



Prof. Dr. Yves Weinand

Those supposedly neutral technical considerations are often tackled at the later stage in the design process, compromising the genuinely interdisciplinary and fundamental quality that such research approaches could aspire to. Conceptual design approaches to timber structures have always been a fertile ground for multi or interdisciplinary approach. The architectural and structural requirements, including details and connections, must be considered and integrated at the very early stage when it comes to design timber structures. This holistic approach takes also into account the newly necessity of lifecycle assessment and sustainability, which has not been addressed in a sufficient manner by structural designers.

Notes

Summary

1m 40s

We believe that the proposed conceptual framework may allow the genius and the sensitivity of the designers to find their way more easily into the design process without any historical barriers or preconditions. Timber construction research demands cross-cultural and interdisciplinary approaches involving architecture, civil engineering and material science. Architectural production in recent years has been heavily focused on the digital outcome. With the growing development of computer-aided design tools, architects have tried to integrate those new digital tools into their conception. The structural productions derived from the new output of such digital tools have yet to be addressed. Many formal issues have to be addressed properly from the digitally design revolution on the civil engineering side. Civil engineering structures remain relatively conservative. New research concepts such as structural morphogenesis have emerged recently from within interdisciplinary research environments. Still, the implications for physical and structural investigations that constitute an active part of the form finding process have not been addressed yet.

Notes

Summary

2m 37s

They need to be explored if such digital tools are to realize their true potential in the fields of architecture, design and civil engineering. The framework leads to design of Integrally-attached timber structures with custom define forms. The application of digital driving tools in the design of spatial timber plate structures embodies both a vision of the future and an understanding of the past.

Notes

Summary

4m 01s