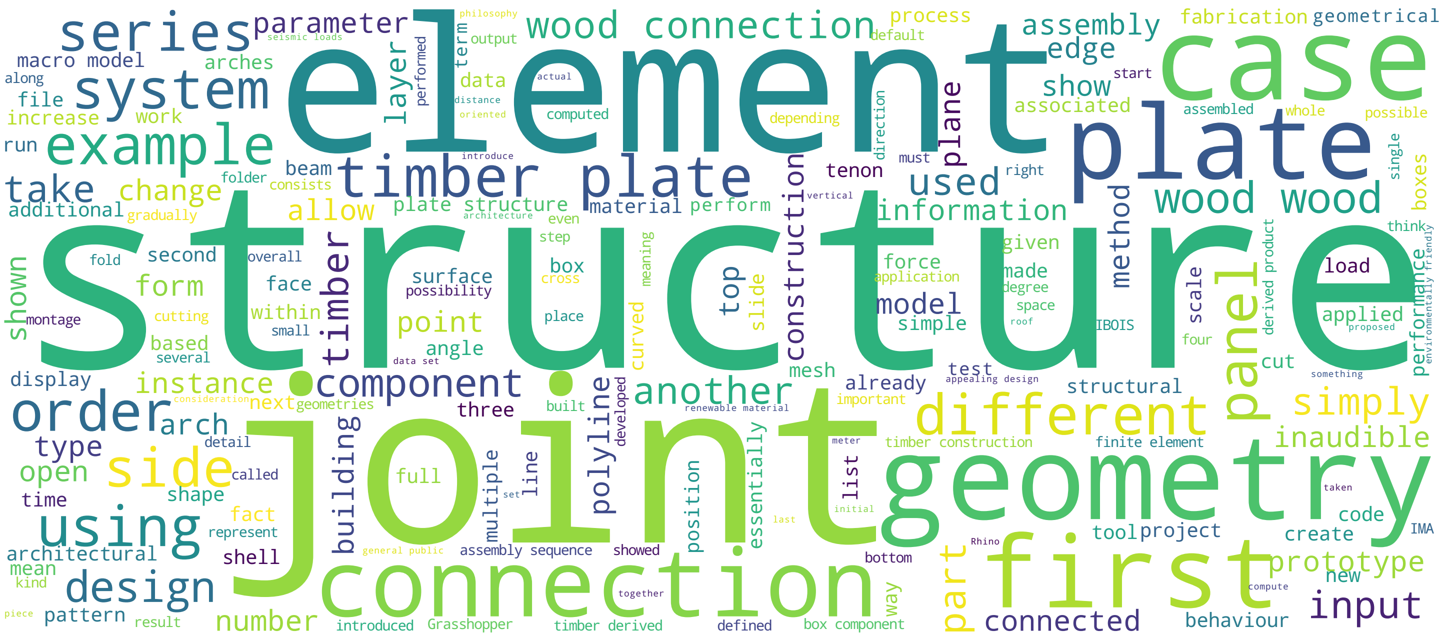

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Video

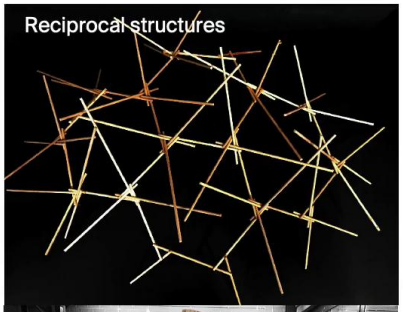
EPFL

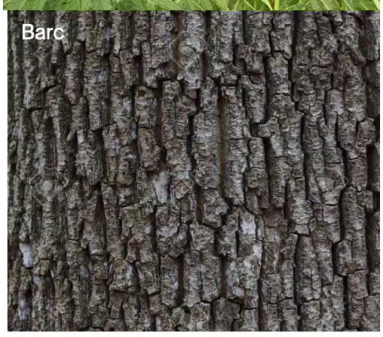
With the current crisis in climate change, we need to think about buildings which are environmentally friendly. Timber is one of the materials and it's a bioresource material which is environmentally friendly. But in order to convince the general public to move towards other types of construction, we have to give also examples where timber construction have an appealing design. In addition to the fact that timber is a renewable material, it should also be connected to appealing design. This is one of the first impacts we would like to achieve by realizing this massive open online course, in order to show to the general public that this is possible, and it is possible using timber-derived products on one side, but you may also use traditional timber elements, rows on timber blocks. The second impact we would like to perform is to propose buildings with a higher disaster resistance. We would like to open up structural engineering to more flexible and firmer structures in order to be able to reach lower levels of performance of those materials. Meaning that finally, we have structures which would allow to be built in seismic, dangerous area without collapsing, because their flexibility would allow for compensation of energy provoked by seismic loads.

Notes

Summary

0m 04s



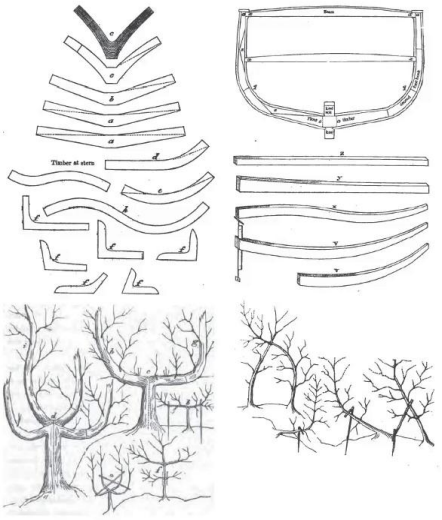


The structures we showed were a multiple amount of smaller elements is used, and they are connected only by means of wood-wood connections. Goes all the way down to the Japanese temple, where we would have a flexible quality including the wood-wood connection, able to resist seismic loads. We would also open up for a full use of ecological materials and renewable materials such as hemp, bark, and rose on timber where the biomass itself would be much larger of the used construction material than it is the case for timber-derived product such as panels or glued laminated beams, for which you need to cut a tree into pieces in order later to reassemble them.

Notes

Summary

2m 04s

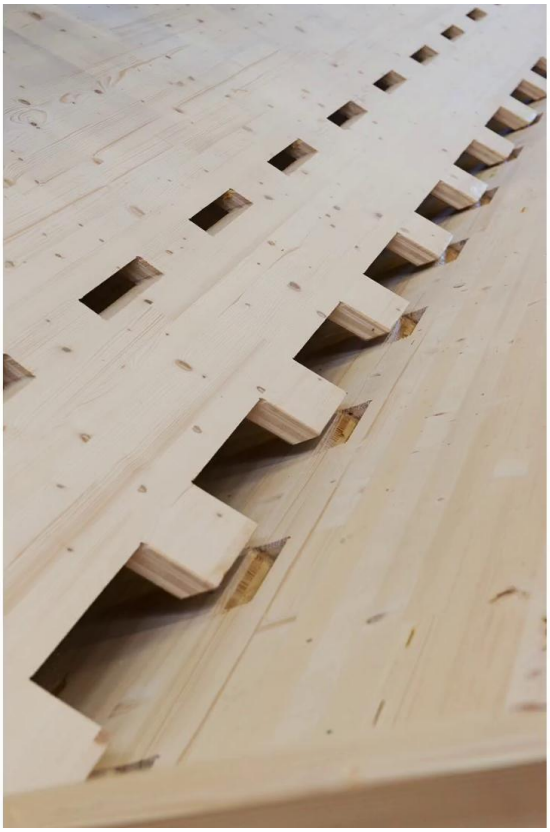


So one possibility to counter that aspect and to increase the beam mass is also to open up for raw sound timber.

Notes

Summary

3m 07s



Prof. Dr. Yves Weinand

To conclude, the philosophy of integral timber attachment allows for the whole process of assembly and disassembly of our constructions, and reducing, by doing so, the carbon footprint on them.

Notes

Summary

3m 16s

Finally, we seek to accomplish construction solution which could be successfully disseminated to a construction market and even reach the possibility to realize unconventional structures at a reasonable cost, and that's our [inaudible 00:04:01] goal in this.

Notes

Summary

3m 38s