

Structural building components from salvaged timber

Supervisors: Prof. Gerhard Fink and Prof. Mark Hughes

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We are now looking for a **Doctoral Researcher in the field Timber Engineering**.

We are looking for an outstanding doctoral researcher in the area of timber engineering at Aalto University. In this position you will have a chance to contribute to the shift of the construction sector towards zero-waste by developing innovative structural building components designed according to the principles of a circular bioeconomy. This is made by integrating salvaged timber, e.g., cut-offs from regional house manufacturer or massive wood production, together with new timber elements and other wooden products. The project will focus on the development of structural-optimized layups, based on the characteristics of the raw material such as mechanical properties and dimensions. The structural building components will be assessed concerning its structural performance, the associated reliability as well as its ecological potential. Join us in shaping the future!

Scientific environment

The doctoral studies will be carried out in the research group for Wooden Structures at the Department of Civil Engineering and in the research group for Wood Material Technology at the Department of Bioproducts and Biosystems. The two research groups complement their expertise around various topics relevant for developing innovative structural building components from salvaged wood materials. Both departments are located at Aalto University campus in Otaniemi (Espoo) and have well-equipped research infrastructure and access to national scientific computing services. The doctoral student will be jointly supervised by [Prof. Gerhard Fink](#) and [Prof. Mark Hughes](#). You will be integrated in both research groups and will work in close cooperation to the other group members. In the first weeks, you will be assigned your own onboarding buddy who will help you get started with your work and studies at Aalto.

Your role and goals

Withing this project you will work on the development of structural-optimized layups, based on the characteristics of the raw material such as mechanical properties and dimensions. The structural building components will be assessed concerning its structural performance, the associated reliability as well as its ecological potential. This will be done by experimental investigations, as well as numerical and analytical analysis.

Your experience and ambitions

We are looking for a highly motivated candidate who is interested in both experimental and analytical studies. You should have a strong background in at least two of the following areas is required: Timber engineering, Structural engineering, Structural mechanics, Computational design.

You must have a Master's or Diploma degree (completed by 31 July 2024 or preferably earlier) in civil engineering, preferably structural engineering. Excellent social skills and open-minded attitude will ensure good embedment in the research groups and multidisciplinary environment at Aalto University. Fluent English, both written and spoken, is prerequisite.