PhD at UGent – Woodlab

(Ghent University – Laboratory of Wood Technology)

Job description

Vacancy: **PhD in Bioscience Engineering on enhanced wood protection for green building wood products**

The UGent-Woodlab, led by prof. Joris Van Acker and prof. Jan Van den Bulcke at Ghent University is looking for a qualified and motivated candidate to pursue a Ph.D. dealing with innovative wood treatments to enhance properties related to service life and fire safety.

Job offer:

- We offer a full-time PhD position for 1 year as a start. After a positive evaluation, the contract will be extended to three additional years (4 years in total).
- A thrilling position within the UGent-Woodlab research team, a dynamic group of specialists with highly complementary expertise (www.woodlab.be). You will be part of an excellent young, dynamic and international team. You will have a challenging job by performing multidisciplinary research with access to state-of-the-art research infrastructure allowing for a high-level scientific training at a top-ranked university.
- Your contract will start March 2023 at the latest, specific date negotiable and can be adjusted in agreement with the project promotors.
- All Ghent University staff members enjoy a number of benefits, such as a wide range of training and education opportunities, 36 days of holiday leave (on an annual basis for a full-time job) supplemented by annual fixed bridge days, a bicycle allowance and eco vouchers.

Function:

You will be hired by the Laboratory of Wood Technology, or short **UGent-Woodlab** (www.woodlab.be), which is a research team of UGent, located at the Faculty of Bioscience Engineering. UGent-Woodlab aims at an integrated strategy for the forestry-wood chain to contribute to the bio-economy. Furthermore, the team tackles climate change issues by learning from different options to intensify the transition towards a circular economy using bio-based products. UGent-Woodlab has also strong expertise in non-destructive X-ray CT scanning of wood (www.ugct.ugent.be).

Within the context of a recently approved FWO project ENHANCEWOOD, we are looking for an excellent PhD candidate to work on the structural and cell wall penetration of innovative wood protection chemicals to be used for wood-based building products.

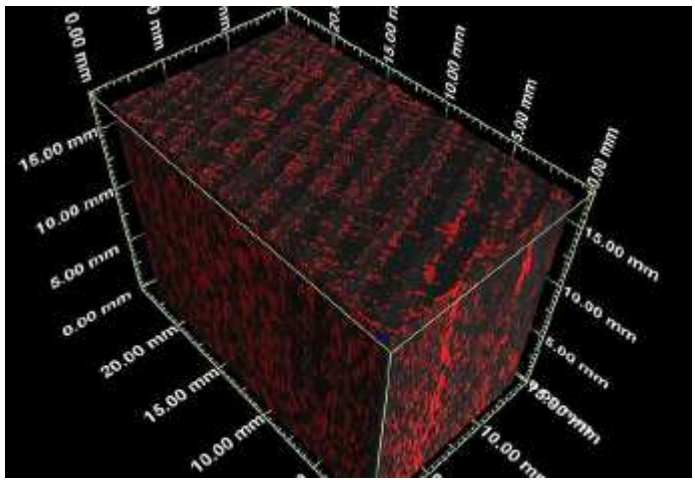
Bio-based building products, and especially wood, are considered key in our future socio-economic environment, since they should be considered a very relevant nature-based solution (NbS) to climate change. The statement of President von der Leyen (European commission) to turn the construction sector into a carbon sink is critical in this respect: bio-based materials should be used on a larger and more targeted scale in the future. The long-term use of materials is therefore very important since we need to improve the lifespan of renewable materials to increase its carbon sink potential.

The main objective is to identify wood treatment technologies based on nano-chemicals that can prevent decay and protect against fire. Such a combined action will focus on applicability for solid wood-based products like CLT. The main challenges are the ability of the nano-chemicals to penetrate wood species like spruce (commonly used for timber construction materials) and to allow for sufficient fixation through cell wall penetration. In this regard, we will explore two complementary approaches: active and passive. They will both be used and prioritized in relation to their functional potential for the project.

- 100% of your assignment will be spent on academic research.

In this project you will:

- Study the structural and cell wall penetration of innovative wood protection chemicals to be used for wood-based building products.
- Study the performance of treated products against fungal decay and assess protection against fire.
- Assess the process parameters for industrial viability and environmental impact.



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Job profile

- You hold a Master's degree in Chemistry, Biology, Bioscience Engineering, Engineering Science or similar.
- You have critical and creative mind, and a true problem solver to overcome technical challenges.
- You are a driven, hardworking person with a commitment to obtain a PhD.
- You work at the crossroads of multiple disciplines, from chemistry (biology) to wood science to engineering.
- You are collaborative and easy in networking to get things done.
- You have experience in wood science.
- You are interested in and motivated by the research topic.
- You have strong analytical skills, you are well organized, you are an excellent communicator, a team player.
- Your English is fluent, both in speaking and writing.
- You have good communication skills.
- You have an open mind and a multi-disciplinary attitude.

How to apply

Send your motivation letter (English) and CV (Dutch or English, with an indication of degrees obtained) using reference 'PhD EnhanceWood' before 22 January 2023 to **Joris.VanAcker@UGent.be**.

After a favorable evaluation of your CV and motivation letter, you will be invited for an interview. This will take place in February 2023 in Ghent or online.