Technische Universität Wien
Faculty of Civil and Environmental Engineering
Institute of Mechanics of Materials and Structures
Christian Doppler Laboratory for Next-Generation Wood-Based Biocomposite
Research Unit of Structural Simulation and Timber Engineering
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www.woodcomp3d.at

Open PhD position in the area of computational mechanics

TU Wien is Austria's largest institution of research and higher education in the fields of technology and natural sciences. With over 26,000 students and more than 4,000 scientists, research, teaching and learning dedicated to the advancement of science and technology have been conducted here for more than 200 years. Guided by the motto "Technology for People", TU Wien fosters close collaboration with business and industry and contributes to the prosperity of society.

In the framework of the **Christian Doppler Laboratory for Next-generation wood-based biocomposite "(WoodComp3D)" (https://woodcomp3d.at/)**, the Research Unit of Structural Simulation and Timber Engineering of the Institute of Mechanics of Materials and Structures invites applications for a PhD position to be filled in the following area:

Development of advanced material models, including finite-element based and continuum micromechanics approaches, for the simulation of fiber-reinforced biocomposites. This includes the simulation of failure processes (fracture, ductile behavior, debonding), the development of surrogate models for biocomposites (efficient consideration of complex microstructures) and their use in simulation tools for biocomposite-based lightweight structural elements, supporting the development of advanced production methods in close collaboration with material scientists and engineers. The goal is to transform sawmill byproducts into sustainable, high-performance structural elements using innovative computational approaches.

As part of an interdisciplinary and international research team, the candidate will collaborate with experts in process engineering, material chemistry, chemical engineering, and computational mechanics to advance the next generation of biocomposite materials.

Knowledge of programming and finite-element methodology in the framework of computational mechanics and nonlinear fracture mechanics is beneficial.

Your Profile:

- University Master in the area of civil engineering, mechanical engineering, computational mechanics, or similar field
- Excellent study performance and English language skills of at least C1
- Knowledge of scientific work and interest in biocomposite materials and computational mechanics
- Organizational and analytical skills, as well as a structured way of working
- Interest and enjoyment in research and working with students
- Ability to work in a team and problem-solving skills

We offer:

- A fulfilling position with a wide variety and exciting range of tasks in a collegial team
- Hybrid working style with up to 50 % home office option

- A range of attractive social benefits (see Fringe-Benefit Catalogue of TU Wien)
- Wide range of internal and external training opportunities, various career options
- Central location of the workplace as well as good accessibility (U1/U4 Karlsplatz)

TU Wien is committed to increasing the proportion of women, in particular, in leadership positions. Female applicants are explicitly encouraged to apply. Preference will be given to women when equally qualified, unless reasons specific to a male applicant tilt the balance in his favour.

The employment starts as University Assistant with a minimum salary of EUR 3,714.80 gross (14 x per year) according to the collective bargaining agreement for a PhD student.

We look forward to receiving your application until March 31, 2025. Please note that the application shall contain the following application documents:

- Scientific CV (< three pages)
- Motivation Letter (< two page)
- Certificate of diploma degree (copy)
- If available:
    - List of publications (including researchID, google scholar ID, and/or Orcid ID)
    - List of teaching activities
    - A list of grades from all exams taken during the course of study

Contact person:

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H https://www.woodcomp3d.at/, https://www.tuwien.at/en/cee/imws/simulation
Please mark your application in the email subject field with **[Appl PhD WC3D]**