Interested? Send your CV, motivation letter and references to sebastian.serna@tuwien.ac.at and michael.harasek@tuwien.ac.at
Reference: "PhD position WC3D – Lignin and extractives chemistry".

PhD position for Lignin and wood extractives chemistry

(m/f/d)

Start of employment:	July 2023
Duration of employment:	3,5 years, Full time (40 h/week), Flexible working hours
Employer:	Technische Universität Wien (TU Wien)
Place of work:	Vienna, Austria
Salary:	The gross salary for this PhD position is € 3.277,30 (14 times per year), full-time according to the collective agreement for university employees (salary group B1).

Description of position and tasks

The PhD thesis will be carried out within the Christian Doppler Laboratory for Next-generation wood-based biocomposite (WoodComp3D). The project goal is to reassemble the ingenious lightweight structure present in sawmill byproducts into macroscopic load-bearing structures in a sustainable way. This way, we could double the yield of sustainable load-bearing structures produced from wood immediately without using additional natural resources.

You will become part of a diverse, international, interdisciplinary, professional team. The team consists of 3 professors, 4 postdocs, 4 other PhDs, 2 of which have already started and are women, combining fields such as process engineering, material chemistry, chemical engineering, and material as well as mechanical engineering.

You will be working on **characterizing lignin and wood extractives as binders** and **study methods to increase the reactivity of fibers and lignin when bonded together into a biocomposite**. You will learn and work on characterizing lignin and wood extractives (molecular weight, composition, functional groups, thermal properties, etc.) and correlating these properties with their bonding properties when used as a binder in a lignocellulosic biocomposite. Your work will contribute to the goal of the project by identifying, evaluating, and optimizing the lignin-/wood-based binder for the biocomposite.

Competences and experiences

Compulsory Requirements

- You have completed (or close to) your master's in technical chemistry, chemistry, or polymer science.
- You have experience in fiber/lignin/wood chemistry.
- English spoken and written to at least a B2 level (certification) and good communication skills.
- You can work and collaborate in an international team, but also independent to carry your own tasks.
- You are a responsible person: we look for someone in whom we can trust.
- You are curious and passionate about science.

Nice to Have

- Experience/interest in analytical procedures - chromatographic methods and chemical analysis (e.g., Klason lignin) for lignin and wood extractives characterization.
- Knowledge of German/Willingness to learn. Learning German can facilitate your inclusion to work and life in Austria.
- Adaptability: pursuing a PhD is a learn-try-adapt process. You will face failure, but you won't be alone in the process.

We offer

- Continuing personal and professional education, and flexible working hours.
- Fair supervision: Our priority as "supervisors" is to guide and accompany your process of becoming an early-stage scientist. It is also our priority to do everything in our hands for you to achieve your goal: becoming a PhD
  - One assigned postdoc for supervision, regular jourfixes for project update.
- TU Wien offers a 2-year coaching Cycle for PhD Students (WINA+ TU Wien) focusing on: 1) Time planning and goal setting for the thesis, 2) Scientific writing, 3) Time- and self-management, and 4) Career-planning after your PhD.

Company description

Employer
TU Wien
https://www.tuwien.at

Contact TUW-ICEBE
Dr. Sebastian Serna-Loaiza, Ao.Prof. DI Dr. Michael Harasek
https://www.tuwien.at/tch/icebe

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TU Wien is Austria's largest research and educational institution in the technical and scientific field. It has been making an indispensable contribution to securing Austria's international competitiveness and innovative strength as a research location. The position will be at the Institute of Chemical, Environmental & Bioscience Engineering (ICEBE), within the Research Unit Thermal Process Engineering and Simulation. The Research Unit covers a broad range of processes and technologies in the area of chemical, biochemical, and environmental engineering. Process simulation, computational fluid dynamics, and techno-economic and environmental assessments support our experimental work.

Gender and diversity aspects

TU Wien is strongly committed to equity, diversity, and inclusion. All persons can apply for this position. We encourage the application of persons who are traditionally underrepresented in the field of technology. 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 favor. At the Faculty of Technical Chemistry, FemChem has been established to exchange ideas, information, and experiences for female researchers. Through this platform, additional funding and training options will be supported to women candidates in hard- and soft-skills and career-orientation topics. People with special needs are equally encouraged to apply. In case of any questions, please contact the confidant for persons with disabilities at TU Wien, Mr. Gerhard Neustätter.

Application

Does this position sound interesting to you? Please send your CV, a motivation letter, and your references to sebastian.serna@tuwien.ac.at and michael.harasek@tuwien.ac.at, using “PhD position WC3D – Lignin and extractives chemistry” as the subject of your email. The position is open starting right away until a suitable candidate is found. International applications are encouraged.

Employer
TU Wien
https://www.tuwien.at

Contact TUW-ICEBE
Dr. Sebastian Serna-Loaiza, Ao.Prof. DI Dr. Michael Harasek
https://www.tuwien.at/tch/icebe