



PhD position

“Large-scale 3D printing of wall systems made from renewable materials”

We are seeking PhD-candidates for a 3-years research project, focusing on large-scale 3D printing of fully-recyclable wall systems, by means of renewable materials. This is an exciting opportunity and the chosen candidate will be joining a highly-motivated and multidisciplinary research team, with competences ranging from structural engineering, robot manufacturing, large-scale 3-D printing process development, to material design and modeling, lignocellulosoc chemistry, and advanced material characterization. Major drivers of this project are the worldwide shortage of non-renewable as well as renewable raw materials, the currently main use of inorganic building materials, i.e. concrete and steel, and the so far still inefficient and missing circular use of renewable raw materials.

This PhD project is focusing on the development of bio-based granulate formulations capable to robot-3D print large-scale walls for buildings, through formulation design, chemical modification and advanced material characterization.

Project Leader: www.krg.boku.ac.at; **Instagram:** #kromoserresearchgroup

Subproject Leaders: <https://boku.ac.at/en/chemie/wpf/group-liebner>
<https://boku.ac.at/map/holztechnologie/fachbereiche-1/kreislauffaehige-materialien>



Occupation: 30 hours/weeks at the Institute of Chemistry of Renewable Resources, and at the Institute for Wood Technology and Renewable Materials at BOKU-UFT, Tulln an der Donau, Konrad-Lorenz-Strasse 24, Austria, close to the city of Vienna; option is to get enrolled in the BUILD.NATURE Doctoral School (<https://bit.ly/3FjgqvH>)

Duration: 3 years, starting ideally at 1st December 2022

Tasks: Conduct research in the above-mentioned field, especially in the development of printable bio-based formulations for large-scale building walls; commitment to complete the doctoral degree and publish findings in scholarly journals or books and present results at conferences and workshops; optionally co-supervise bachelor and master students.

Qualification: Master’s degree in any field of chemistry, chemical engineering, material chemistry, technology of renewable resources (wood), environmental engineering, or related fields; High motivation for studies and working within interdisciplinary research projects; excellent communication skills in written and spoken English.

Classification according to University Collective Agreement employment group: B1

Please send your application, including your full CV (provide especially information about your achieved Bachelor and Master degrees), a letter of motivation, and names of potential references, to Prof. Falk Liebner (falk.liebner@boku.ac.at) and also to Prof. Rupert Wimmer (rupert.wimmer@boku.ac.at).