

## Research Assistant (PhD candidate) (m/f/d) with a focus on “Robotic additive manufacturing of wood–mycelium habitat structures for urban biodiversity”

### About the project

Urban environments offer vast, yet underused, potential for biodiversity. The *ROBOHAB* project combines **ecology**, **fungal biotechnology**, **computational design**, and **robotic additive manufacturing** to develop 3D-printed wood–mycelium habitat structures that mimic the ecological functions of natural deadwood. The project is conducted jointly between **TUM** and the **Technion** in Israel (Professorships of *Architecture & Landscape Architecture*). The advertised PhD position is jointly supervised by Prof. Wolfgang W. Weisser (*Terrestrial Ecology*) and Prof. J. Philipp Benz (*Fungal Biotechnology in Wood Science*).

### Your Tasks

- Develop wood and wood–mycelium composite mixtures for ecological field experiments in collaboration with Technion’s robotic fabrication lab.
- Design and conduct field experiments using 3D-printed or moulded nest structures to evaluate colonisation by insects (e.g. wild bees) and birds.
- Carry out laboratory experiments on acceptance of printed nest structures
- Characterise environmental parameters (e.g. humidity, temp.) in microhabitats for material parameterization.
- Integrate ecological, material, and environmental data to optimise design and functionality of habitat structures.
- Publish results in peer-reviewed journals and present at international conferences.
- Optional: participate in teaching and supervision of students.

### Requirements / Your Profile

- Above-average university degree (MSc or equivalent) in ecology, biology, biotechnology, environmental science, bioengineering, or related fields.
- Strong interest in urban ecology, fungal biotechnology, 3D-printing / AM, or bio-based materials.
- Experience in at least two of the following (others are a plus):
  - field / insect ecology & species monitoring / behavioural experiments
  - mycology and cultivation of fungi
  - biomaterials or composite materials
- Ability to work independently *and* as part of an interdisciplinary, international team.
- Good command of English required; willingness to learn German is expected.

### We are offering

- An exiting international research environment in one of the best universities in Europe
- Membership in the International Graduate School of Science and Engineering (IGSSE) and participation in the course program (<https://www.igsse.gs.tum.de/en/igsse/about/>)
- IGSSE-funded doctoral scholarship (€2,000/month) for up to four years, with midterm evaluation after two years, suitable for pursuing a doctorate at TUM.
- Optional support through a part-time TUM contract.
- An international research stay (≥3 months) at *Technion*, supported by mobility funding.
- Funding for materials and student assistants such as das gebe ich normalerweise nicht an
- Opportunity to organize a small international scientific event as part of the IPT program.

### **Application / Contact**

Send applications including supporting documentation in GER or EN (letter of motivation, CV, certificates, credentials) until April 10<sup>th</sup> 2026 at the latest to the following address (preferred by email as a single pdf-file). Preference will be given to disabled candidates with essentially the same qualifications. TUM explicitly encourages applications from women (Art. 7 Abs. 3 BayGIG).

### **fungaI-biotech@hfm.tum.de**

Technische Universität München  
TUM School of Life Sciences

### **For questions please contact:**

Professorship for Fungal Biotechnology in Wood Science  
**Prof. Dr. J. Philipp Benz**

Chair for Terrestrial Ecology  
**Prof. Dr. Wolfgang W. Weisser**

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