



securing tomorrow's resources

Scientist (f/m/d)

Institute for Forest Protection - based in Quedlinburg

Application deadline: 16th June 2025 for reference number: QLB-WS-WA-01-25

At the Institute of Forest Protection of the Julius Kühn-Institute in Quedlinburg (JKI), we investigate the protection of forests against pests/diseases and measures to strengthen their resilience and develop practical, scientifically sound strategies. Become part of our team and actively shape the future of forest ecosystems.

About the project

For the SURVEY project, we are looking for an experienced scientific employee with extensive modeling skills to support us in the development of advanced **digital twins for reforestation areas in the Harz Mountains**. Your tasks will include the development and integration of mechanistic forest models to study long-term forest ecosystem dynamics. You will link various continuous data streams, including weather data, ecophysiological sensors, drone images and management histories, to create a digital twin that constantly learns from this real-time data stream and thus becomes increasingly realistic. You will design co-creation processes to develop relevant scenarios, simulate them in the digital twin and evaluate management strategies in the context of expected environmental changes - in close cooperation with an interdisciplinary team at the Institute of Forest Protection and our partners. You will use the latest data science methods and innovative modelling approaches to support sustainable long-term forest planning.

Your responsibilities

- development, adaptation and integration of mechanistic forest models to simulate the dynamics of forest ecosystems;
- linking and processing complex data sources (weather data, ecophysiological sensors, drone images, management histories) to create realistic digital twins for reforestation areas;
- conducting scenario-based analyses to evaluate management strategies and assess risks from biotic (pests, diseases) and abiotic damaging events (storms, drought);
- supporting the development of practice-oriented applications for long-term forestry planning based on the simulation results and communicating the research results to practitioners;
- active participation in co-creation processes to develop relevant scenarios that are simulated in the digital twin;
- preparation of scientific evaluations on simulations of climate-related reactions and resilience of forest ecosystems;
- publication of the results in national and international journals and presentation at national and international conferences in German and English;
- supervision and support of master's theses and doctoral projects on the topic of digital twins;
- support in the acquisition of third-party funded projects.

Your profile

- a completed academic university degree (Univ.-Dipl./M.Sc.) in mathematics, physics, environmental informatics, environmental systems science or a comparable discipline, preferably with a PhD;
- proven experience and very good knowledge in the field of ecosystem modelling;
- profound knowledge of coding (e.g. C++, Python, Julia);
- interest in new methods of mechanistic modeling, e.g. digital twins;
- interest in forest protection issues and relevant pest organisms;
- excellent communication and teamwork skills, also in cooperation with other research institutions, as well as the ability to work independently;
- very good written and spoken German and English skills;
- ideally a class B driving license and the willingness to drive a car;





- the willingness to undertake business trips lasting several days in Germany and Central Europe.

We offer

- a varied, challenging and interesting job in an international working environment.
- the opportunity to actively contribute your ideas and modeling skills.
- a full-time employment with 39,0 hours per week until 31st May 2028 on a third party founded project, with the option of extension, subject to the provision of funds. Various forms of part-time employment are generally possible. The employment contract will be based on the collective agreement for the public service east (TVöD-Ost)
- remuneration according to salary group E 13 TVöD.
- starting date: an entry as early as possible.

The Julius Kühn Institute (JKI) is an equal opportunities employer. We live a culture of a diverse and cosmopolitan work environment. The JKI is committed to inclusion. Applications from people with disabilities are therefore expressly welcome and given special consideration in the selection process. The JKI promotes the reconciliation of work and family life and, since 2021, has been holding the **audit workandfamily** certificate ([audit berufundfamilie](#)). Where possible, we offer flexible working time models to reconcile work and family life. More information can be found [here](#).

The JKI subsidizes the Deutschlandticket for its staff, who can purchase it at a reduced subscription price of €23.28.

More information

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Applying online

Please apply via the INTERAMT job portal. To do so, click on the "**Online bewerben**" button on the INTERAMT page. The deadline for your application is 16th June 2025.

Please note that the language on the INTERAMT portal is German.

An overview of all vacancies at the Julius Kühn Institute can be found [here](#). Alternatively you can simply scan the QR code at the bottom right corner with your mobile device.

To apply, please register with INTERAMT at <https://www.interamt.de/koop/app/registrieren> or use your login if you are already a registered user. If you have any technical problems or questions regarding your registration, please contact INTERAMT directly at +49 (0) 385 4800-140 or by e-mail: kontakt@interamt.de.

Make sure to have uploaded all relevant documents for your online application by the application deadline.

If you have an international degree, please also enclose a certificate evaluation from the Central Office for Foreign Education (ZAB) with your application. If you do not yet have a certificate evaluation, you must apply for one if your application is successful. Further information can be found at <https://zab.kmk.org/en/statement-comparability>.

