

Postdoc position (ETH ZÜRICH)

Bewerbungsfrist: k.A.

Postdoc position (100%) in Rewilding of Forest Ecosystems

The *Professorship of Forest Ecology* at ETH Zurich is a dynamic interdisciplinary research team that examines both theoretical and applied questions in forest ecology by combining empirical and modeling techniques. The overall aim of the group is to further our understanding of the structure and function of forest ecosystems, with a particular focus on mountain areas such as the European Alps. We offer excellent facilities in a relaxing work atmosphere with many opportunities for collaboration within and beyond the group.

Project background

The ever-increasing human pressure on ecosystems has led to the initiative of re-wilding some ecosystems, including forests. In the context of the EU project “WILDCARD” that is starting in early 2024, the carbon and biodiversity implications of the re-wilding of forests and agricultural land are being investigated in a multidisciplinary team with 16 European partner institutions joining forces. The project is partly based on a unique long-term dataset of forest dynamics from forest reserves (EuFoRIa) that will continually be updated and expanded in the context of WILDCARD. Yet, these data do not lend themselves easily to inter- and extrapolation in time and space, which however is needed for a Europe-wide assessment of the opportunities and risks of re-wilding of ecosystems. Developing and applying methods and tools to allow for such inter- and extrapolation is the core of our task in this project. A postdoc and a PhD student will work jointly on this exciting yet demanding project in our lab.

Job description

One part of your job will deal with the re-wilding of forests, based on the data from the EuFoRIa network and in close collaboration with the PhD student working in the same project. While the PhD student will likely focus on models of forest dynamics, your emphasis will be on the potential of using Artificial Intelligence for predicting forest dynamics based on the existing inventory data that are covering more than 300 reserves, more than 6000 plots, and more than one million tree measurements dating back to 1936 CE.

Another part of your job will deal with the re-wilding of agricultural land, including the application of the model refined by the PhD student as well as extending the AI methods to the early successional stages, for which less comprehensive data are available. Furthermore, you can profit from an extensive network of WILDCARD partners to develop ties to biodiversity research (both above- and belowground) as well as carbon-focused research elsewhere in the project.

The supervision of the PhD student is part of your responsibilities. This is a 3-year postdoc position within the context of WILDCARD. Extension by another year may be possible depending on the availability of additional funding.

Your profile

Essential experience, skills, and characteristics:

- A PhD degree in forest sciences, forestry, environmental sciences, ecology, geography, landscape ecology, or a related field, with good knowledge of forest ecology
- Good knowledge of statistics
- Interest to get involved in the use of Artificial Intelligence (AI) in forest ecology
- Good command of English (oral and written)
- Strong teamwork and communication skills
- Ability to work independently, with flexibility, humour, and critical thinking
- Willingness and capacity to learn
- Motivated to work with data, numbers, code, and computers

Desirable criteria:

- Familiarity with AI
- Experience with the development, testing and application of forest dynamic models
- Knowledge in Git and programming languages such as R, C++ or C#
- Familiarity with European forest ecosystems

Interested?

We look forward to receiving your online application with the following documents:

- Curriculum vitae
- A letter (1-2 pages) explaining your interests and motivation to apply for this position
- Copies of BSc, MSc and PhD records from which the grades are evident
- Names and contact details of three reference persons

Please note that we exclusively accept applications submitted through our online application portal (https://jobs.ethz.ch/job/view/JOPG_ethz_M9G6H3SxIvMvaq4oHS). Applications via email or postal services will not be considered. Screening of applications will start on 1st of November 2023. Applications are accepted until the position is filled.

More information about our group can be found on our website <http://www.fe.ethz.ch>. For further information about this job, please contact Harald Bugmann by email harald.bugmann@env.ethz.ch (please do not send any application documents to this address).