

Postdoctoral Fellowship in Ecosystem Modelling (female only)
University of Münster – Biosphere-Atmosphere Interaction Research Group

We invite applications for a 2-year Alexander von Humboldt Postdoctoral Fellowship to join our interdisciplinary team at the Department of Geosciences of the University of Münster, in Germany. The focus of the project is on mechanistic modelling of ecosystem carbon and water fluxes, with a special focus on peatland ecosystems. The candidate will integrate vegetation, soil, hydrological, and meteorological inputs from high-resolution field observations and remote sensing products to parametrize mechanistic models and validate the outputs against observations (e.g., eddy covariance fluxes).

Our group conducts greenhouse gas observations (CO₂, H₂O, CH₄, N₂O) across peatland, forest, and urban ecosystems, measured at a range of scales (ecosystem, plot, plant). We work in a multidisciplinary research environment that combines measurements, modelling, data analytics, and method development. We are now looking for an expert in ecosystem carbon and water fluxes to strengthen our ongoing projects.

You must have proven expertise in:

- Process modelling of ecosystem carbon and water cycles (e.g., in agriculture and/or forestry and the climate impacts)
- Integration of remote sensing data with ecosystem modelling and/or ecological field data
- Statistical analysis of environmental time series
- Programming skills and experience with computational methods (e.g., Python, R, or Matlab)
- Very good communication and teamwork skills, as well as the ability to work independently
- Developing and applying research methods, conducting analyses, and reporting results
- Publishing and working within international research collaborations
- Proficiency in written and spoken English

The following skills are desirable:

- Gas flux measurement techniques (e.g., eddy covariance, chambers, leaf-level), data processing, and analysis
- Application of machine-learning methods to environmental data
- Integration of the carbon cycle into climate roadmaps or land-use scenarios

Your responsibilities include:

Planning and implementation of the project, publishing results in international peer-reviewed journals, participating in societal interaction and science communication, and collaboration with national and international research networks.

What we offer:

This position is funded via the Henriette Herz Scout program and with it you will directly become an Alexander von Humboldt fellow, recognized as Germany's most prestigious fellowship program. With this position, you will have the opportunity to advance your expertise within a diverse and inspiring research community, build new professional networks, and contribute to societal development alongside leading professionals in the field. If you are interested in teaching, you will also have the chance to supervise postgraduate students in the Landscape Ecology, Geography, or Geoinformatics study programs. We offer flexible working hours and the option for partial remote work, while regular in-office collaboration ensures close exchange and teamwork.

Eligibility criteria:

Applicants must be female researchers with an outstanding track record, who are not German nationals and have not previously studied or worked in Germany. A doctoral degree in a relevant field (e.g., atmospheric sciences, environmental sciences, geography, remote sensing, physics, data science, computer science, mathematics, or related disciplines) is required, obtained within the past five years. Candidates who have been formally admitted to defend their thesis before the application deadline are also eligible.

How to apply:

Send a cover letter and CV including a list of publications, plus contacts of two references, in a single PDF document to Prof. Mana Gharun: mana.gharun@uni-muenster.de

Application deadline: 15 October 2025

Starting date: February 2026 (or upon agreement)

For more information on the group's research, teaching, and outreach activities please visit: <https://www.uni-muenster.de/BAI/>