Deadline: extended to 20 December 2023

APPLY 53-2023

# Research Scholar in ecological modeling

## IIASA BIODIVERSITY AND NATURAL RESOURCES (BNR) PROGRAM

**The Biodiversity, Ecology, and Conservation (BEC) Research Group, within the BNR Program is offering an opportunity for a talented early career researcher who would like to build a career in ecological modeling and informing biodiversity and climate policies through quantitative evidence.**

---

## BACKGROUND

The BEC Research Group at IIASA develops and applies state-of-the art ecological knowledge, methods, and tools to understand ecosystem functioning, ecological responses, and feedbacks in coupled social-economic-ecological systems. The group aims to apply this knowledge and tools to investigate appropriate management options to achieve sustainability goals that have ecological implications.

The incumbent is expected to lead on some of the tasks in ACCREU, a Horizon Europe funded project that focusses on investigating climate change impacts, mitigation, adaptation, and prospects for a sustainable social and economic development in the EU. ACCREU will identify challenges, highlight opportunities, and deliver practical solutions to policy making and societal to accelerate a just societal transformation towards climate resilience in the short, medium and long term. The specific role of the BEC group in this project is to investigate the impacts of climate and land-use change on terrestrial biodiversity in Europe, as well as identifying options for economically cost-efficient climate adaptation measures that also benefit biodiversity.

Additionally, there will be opportunities to contribute to other projects such as the Biodiversa+ funded INSPIRE project ("INtegrated Spatial PlannIng across REalms for biodiversity conservation and human development in a context of change") where we aim to develop a conservation planning framework to evaluate opportunities for improved management actions in Austria and Hungary. Besides the two projects, we will also support the incumbent in applying for their own funding and developing a research career in ecological modeling in our group.

## THE ROLE:

The successful candidate will work within the BNR Program and the BEC research group, and work in close collaboration with Dr. Martin Jung and other project partners at IIASA and beyond.

Depending on the profile of the selected person, they will be expected to work on estimating climate change impacts on biodiversity using species distribution models, contributing towards the development and expansion of the BEC Integrated model for BiodIversity distribution projectionS (ibis.iSDM) modeling suite. Furthermore, using estimates of anticipated climate change impacts, the incumbent is expected to estimate the potential economic displacement and conservation

management costs under different climate adaption scenarios using a conservation planning approach.

The ideal candidate has prior knowledge and practical experience in advanced ecological modeling (correlative and/or mechanistic) techniques, biodiversity impact assessments as well as an understanding of the theory and techniques underlying systematic conservation planning. There will be opportunities to attend conferences, visit partners and be involved in case studies across existing projects. The person should be comfortable working with complex datasets and applied problems and does not shy away from talking to people from different disciplines or sectors.

## TASKS AND RESPONSIBILITIES

- Prepare large geo-spatial data for climate change impacts assessments on biodiversity.
- Estimate the impact of different climate change mitigation and adaptation scenarios on European biodiversity and contribute to the development of SDM techniques in the BEC group.
- Implement a framework to estimate the expected economic costs of managing biodiversity under different future climate scenarios.
- Liaise between case-study stakeholders in the project and keep themselves updated on climate change adaptation and conservation policy literature.
- Contribute to or lead on the dissemination of project results via high-quality journal publications and conference presentations.
- Support all project partners in the drafting of reports, proposals and other scientific outputs as need arises.
- In line with the team spirit that prevails at IIASA, the incumbent may occasionally work on other tasks assigned by their supervisors, that might not be directly related to this appointment but where the post holder has relevant experience and skills, and/or a shortage of immediate personnel capabilities requires such.

## QUALIFICATIONS AND EXPERIENCE

- Doctoral degree in environmental science, ecology, or conservation with a specific focus on, or experience with quantitative data analyses.
- Prior knowledge of Climate adaptation, Nature-based solutions, biodiversity impact assessments or ecosystem accounting. Scientific interest in integrating biodiversity and conservation issues in cross-sectoral problems.
- Experience using advanced quantitative analyses, particularly in the context of ecological modeling and conservation planning. Proven prior knowledge of machine learning (for example Gradient boosting or CNNs) and/or spatial optimization techniques (linear and mixed integer programming).
- Existing skills in scientific programming for example with R, Python or Julia. Familiarity with version control techniques using git and collaborative coding. R-package development experience desirable.

## APPOINTMENT TERMS

The selected candidate should be available to take up the position as soon as possible. We offer a full-time (40 hours per week) employment contract for one year initially, with the possibility to extend thereafter (by mutual agreement). Eligible applicants wishing to work part-time hours may be considered.

Duties will be carried out at the IIASA premises in Laxenburg, near Vienna in Austria.

The successful candidate will be appointed in accordance with the IIASA profiles for research careers.

## WE OFFER

- An international atmosphere and pleasant working environment in a historic market town surrounded by green areas.
- The possibility to contribute to environmental sciences for sustainability and global wellbeing.
- The opportunity to deepen and improve knowledge

- Excellent organizational skills, pro-active and results-oriented, and the capacity to deliver on allocated tasks and respond in a timely manner to deadlines.
- Ability to work independently, and at times with minimal supervision.
- Full fluency in English (both written and oral) and excellent communication skills.

IIASA offers an interdisciplinary and international workplace, and the possibility to interact with researchers of different nationalities, with strong ties to a world-wide network of research institutions engaged in environmental systems research. The successful candidate must be able to work in, and have respect for, an intercultural environment, and IIASA core values.

and scientific profile.

- Career development perspectives.
- An attractive salary which is **exempt from income tax in Austria** and negotiable, based on the qualifications, skills and experience of the selected individual and ***at least:***
  EUR 48,050.00 per annum (full-time equivalent) for R2 Researchers.

In addition, IIASA salaries are:

- Subject to deductions for health insurance and/or social security.
- Not directly comparable with other employers in Austria, due to the unique legal status and privileges granted to IIASA.
- Subject to the principle of income aggregation (Progressionsvorbehalt in German).

## OTHER BENEFITS

- Educational subsidies for children of school age enrolled in private schools in Austria.
- A generous annual leave entitlement.
- Relocation allowances and paid home leave for employees in scientific and professional categories hired from international locations.
- The possibility to work up to 100 days per year in home office (within Austria)
- Assistance for newcomers to Austria with visa, work and residency permit applications.
- Support finding accommodation in Austria.

Further details here.

## About IIASA

IIASA is committed to a working environment that promotes equality, diversity, tolerance and inclusion within its workforce. This is reflected in our IIASA core values. We encourage qualified candidates from all religious, ethnic, and social backgrounds to apply. In the case that candidates are equally qualified, preference will be given to applicants from countries where IIASA has a Member Organization.

## Further Information

For further information about this opportunity please contact:

Martin Jung, Research Scholar, BEC Research Group

For general questions about working at IIASA, please contact:
recruitment@iiasa.ac.at

## Applications

**To apply for this opportunity, you will need to provide the following documents in English:**

- **A cover letter outlining your motivation for and fit to the position**
- **A detailed Curriculum Vitae.**

**Deadline for receipt of applications: extended to 20 December 2023**

**APPLY**