

Deadline: until filled



APPLY 16-2024

Integrated Assessment Modeler

The **Integrated Assessment and Climate Change (IACC) Research Group** within the **Energy, Climate, and Environment (ECE) Program** at IIASA seeks a strong candidate to help develop and extend the current global modeling framework used within the group. The successful candidate will work with a team of international scientists who also develop and use the framework to perform state-of-the-art scenario modeling and assessment.

BACKGROUND

The Energy, Climate, and Environment Program (ECE) at IIASA hosts one of the world's leading global Integrated Assessment Modeling (IAM) teams, and seeks to deepen the understanding of rapid, just, and feasible systems transformations toward environmental, social, and economic sustainability. Interdisciplinary teams within ECE use these and complementary methods to study trade-offs and synergies between multiple policy priorities and objectives, typically across multiple sectors and scales (global, regional, national and subnational). ECE's scientific outputs inform international and national policy efforts related to climate change (e.g., implementation of the Paris Climate Agreement) and sustainable development (e.g., pursuit of the Sustainable Development Goals).

Over the past few years, the open source integrated assessment modeling platform MESSAGEix^[1] has been relaunched with the goal of implementing best practices both from the perspective of research (e.g., transparency, reproducibility) and collaborative software development (e.g., versioning, continuous integration). The MESSAGEix modeling platform is used at IIASA as well as by a range of collaborators with different backgrounds and skills which has led to a growing community that contributes to developing the tool^[2]. In addition to the modeling platform, researchers and software developers at ECE are managing a number of open-source tools to facilitate modelling and analysis of climate change mitigation scenarios. These tools and packages are developed in an open, collaborative process implementing best practices of scientific software development. An example for a highly visible tool is the Python package pyam for scenario data analysis and visualization^[3].

[1] <https://docs.messageix.org>

[2] https://github.com/iiasa/message_ix

[3] <https://pyam-iamc.readthedocs.io>

MAIN TASKS AND RESPONSIBILITIES

The successful candidate will closely collaborate with researchers from the IIASA ECE Program in addressing the following tasks:

- Assist with the development and maintenance of the MESSAGEix global integrated assessment framework

according to recognized best practices in scientific software development.

- Identify key new features that support ease of use in developing, deploying, and assessing large-scale scenario campaigns.
- Support the usage of the model framework on High-Throughput Computing (HTC) computational clusters.
- Develop and maintain continuous integration approaches across the framework Toolscape.
- Lead the release cycle of core libraries associated with the framework.
- Provide support to scientific staff colleagues through co-development of new features, identifying needed tests, and performing code review.
- Help develop and proliferate a culture of best practice with respect to scientific software development.
- Contribute to, and lead where feasible, the publication of relevant results in peer-reviewed journals and actively engage in dissemination efforts such as scientific conferences and workshops, stakeholder and policy events.
- Contribute to ongoing and future projects and related deliverables, reports, stakeholder communication and capacity building activities.
- In line with the team spirit that prevails at IIASA, the incumbent may occasionally work on other tasks assigned by their superiors, 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.

SKILLS, QUALIFICATIONS AND EXPERIENCE

- An academic qualification in a field related to integrated assessment modeling including economics, engineering, physics, environmental science or energy systems with at least one of the following:
 - PhD degree
 - Masters degree plus more than five years relevant experience.
- Demonstrated experience in tools and systems used by the ECE program (cf. [MESSAGEix documentation](#)) including
 - Experience in a modern programming language, preferably Python, is essential
 - Experience with modern tools and concepts related scientific software development is essential, including
 - Version control
 - Unit testing
 - Continuous integration
 - Automated documentation
 - Experience with an optimization framework (e.g., GAMS, Pyomo, JuMP, etc.) is an asset
 - Experience with integrated assessment modeling is an asset.

APPOINTMENT TERMS

The successful candidate should be available to take up the position as soon as possible in 2024. We offer an initial fixed-term, full-time employment contract for one year, with the possibility for extension thereafter.

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 (up to 100 days per year home office working within Austria possible).

The successful candidate will be appointed either in accordance with the [IIASA profiles for research careers](#) as a Researcher/Research Scholar in Integrated Assessment Modeling or in accordance with the [IIASA research software professionals profiles](#) as a Research Software Professional with an emphasis on global integrated assessment model software development.

WE OFFER

- The possibility to contribute to environmental sciences for sustainability and global wellbeing.
- Career development perspectives.
- An international atmosphere and pleasant working environment in a historic market town surrounded by green areas.
- An attractive salary which is exempt from income tax in Austria and negotiable, based on the qualifications, skills and experience of the selected

- Demonstrated ability to lead open-source projects, data provision and code-development, using git and GitHub.
- Demonstrated ability to develop, collaborate on, and publish scientific research through peer-reviewed publications
- Fluency in English and excellent presentation skills.
- A degree of flexibility and willingness to travel.
- 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](#).

individual and *at least* EUR 51,894.00 gross per annum (subject to deductions for health insurance and/or social security).

IIASA salaries are:

- 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:

[Matthew Gidden](#), IACC Senior Research Scholar

For general information 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.
- The names, addresses (including e-mail), and telephone numbers of two reference givers.

- An example of an existing software (coding) project or application designed by you.

Deadline for receipt of applications: until filled

APPLY