

We will continue to accept applications until the post has been filled



APPLY 22/2020

Research Software Engineer

IIASA ENERGY (ENE) PROGRAM

Vacancy 22/2020 - The successful candidate will join a small team of software developers working with researchers at ENE and collaborating institutions on further developing and continuously improving these tools to support energy- and climate-related research in ENE and in the wider academic community. An interest in the scientific content of the software tools – climate change and energy transition research – will help communication within the multi-disciplinary teams and developing a deeper understanding of the user needs.

BACKGROUND

The IIASA Energy (ENE) Program is one of the leading scientific research institutions in the realm of integrated assessment of climate change and the systems transition to implement the Sustainable Development Goals (SDGs). In addition to its own high-impact research, ENE provides a range of services to the broader research community.

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 ENE are managing a number of open-source tools to facilitate modeling 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].

As part of its mission, ENE hosts dozens of interactive scenario web databases (aka Scenario Explorer). These databases form an integral part of the infrastructure for research conducted at ENE and in the wider integrated-assessment research community and they are also a key tool for dissemination of scientific insights and results. The databases are used in particular for assessments by the *Intergovernmental Panel on Climate Change* (IPCC) and projects with research partners in the *Integrated Assessment Modeling Consortium* (IAMC). For an example of our work, visit the **IAMC 1.5°C Scenario Explorer**^[4], which is the most prominent instance of this service currently deployed; it presents the quantitative scenario data underpinning the IPCC *Special Report on Global Warming of 1.5°C* (SR15). For more information on **the underlying infrastructure**, please refer to the documentation.^[5]

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

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

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

[4] <https://data.ene.iiasa.ac.at/iamc-1.5c-explorer>

[5] <https://software.ene.iiasa.ac.at/ixmp-server>

JOB DETAILS

The successful candidate will closely collaborate with scientists from the IIASA ENE Program and their international partners in addressing the following tasks:

- Manage the community development around the MESSAGEix Integrated Assessment framework, including the leading the release cycle administration and provide technical user support
- Contribute to ongoing research activities by implementing new features in the scientific software packages in close collaboration with scientific staff
- Provide user support and guidance on best-practice implementation to scientific staff at ENE and collaborators in the wider community concerning the use of research software tools
- Assist in the conceptual development and implementation of new features in the new scenario data infrastructure (Scenario Explorer and related software stack) to support its use for research and science communication
- Documentation of the software stack and all modules at high professional standards
- 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.

QUALIFICATIONS

Applicants should have the willingness and ability to work in an international multi-disciplinary team, and be flexible and adaptable in responding to deadlines. Good written and verbal communication skills in English are essential.

Preferably, the successful candidate will hold a BS or MS (or equivalent, e.g. DI_{FH}) in a field related to energy systems and climate change, and have a strong interest in scientific software development.

Candidates with a background in computer science or related fields and experienced software practitioners are welcome to apply as well.

The incumbent should have hands-on experience with developing software, continuous integration practices, and the related tasks (dev-ops). They should be familiar with relevant tools and techniques used in ENE (GAMS, Python, RDBMS, Java and RESTful interfaces, vue.js, docker) and/or keen on extending their skill set.

Hands-on experience with GitHub and virtualization would be an asset.

APPOINTMENT TERMS

The successful candidate will be expected to take up the position as soon as possible, and will initially be offered a full-time (40 hours per week), fixed-term contract for one year. Following an evaluation of the first year's work, the appointment period may be extended. Duties will be carried out at the IIASA premises in Laxenburg, near Vienna in Austria.

This position is classified as a "Professional level" post.

WE OFFER:

The minimum annual gross salary for this position is €40,123 which is exempt from income tax in Austria (subject to the principle of income aggregation – "Progressionsvorbehalt")

The advertised salary is:

- Negotiable, based on the qualifications, skills and experience of the selected individual
- 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

Details about further attractive benefits [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 [Core Values](#). We encourage qualified candidates, irrespective of gender, from all religious, ethnic and social backgrounds to apply. In the case that candidates are equally qualified, preference will be given to applicants who are nationals of [IIASA member countries](#).

Further Information

For further information about this opportunity please contact:

[Dr. Daniel Huppmann](#).

For general inquiries about working at IIASA:

Name: Alia Harrison

Function: Recruitment Coordinator

Email: harrison@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
- Your Curriculum Vitae or Resume
- The names, addresses (including e-mail), and telephone numbers of two work-related reference givers

Applicants are also encouraged to include with their applications evidence of successful contributions to development of open-source (scientific) software and/or of collaboration on multi-developer software projects; for instance, links to a GitHub profile and/or specific projects or pull requests; or references/testimony from collaborators.

Deadline for receipt of applications: Until filled

APPLY