

We will continue to accept applications until the post is filled



APPLY 15/2020

Research Software Engineer / Full-Stack Developer

IIASA ENERGY (ENE) PROGRAM

Vacancy 15/2020: 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 tools to support energy- and climate-related research at ENE and in the wider academic community.

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.

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).

The databases are 3-tier web applications (Web UI, JAVA servlets, ORACLE RDBMS), which are based on more than 10 years of experience supporting the research community. The entire software stack has been re-designed and re-implemented over the past four years. For an example of this tool, visit the **IAMC 1.5°C Scenario Explorer**^[1], 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 our **modeling platform infrastructure**, please refer to the documentation.^[2]

In addition to the modeling platform, researchers and software developers at ENE 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. Two highly visible tools here are the **MESSAGEix framework**^[3] for integrated-assessment modelling and the **Python package pyam** for scenario data analysis and visualization^[4].

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 at 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.

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

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

[3] <https://message.iiasa.ac.at>

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

THE POSITION

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

- 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.
- Contribute to ongoing research activities by implementing new features in the scientific software packages in close collaboration with scientific staff.
- Provide user support to scientific staff at ENE and collaborators in the wider community concerning the use of all ENE web databases and scientific software.
- Maintain and enhance the aforementioned existing web database software platform in a modular and portable fashion in accordance with modern standards of software engineering.
- Ensure that the web-based tools and features are functional across different devices (desktop computers, tablets, mobile phones).
- Documentation of the software stack and all modules at high professional standards.
- Assist in operating the existing web applications and database instances.

SKILLS REQUIRED

Candidates 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 oral communication skills in English are essential.

Preferably, the selected candidate will hold a BS or MS (or equivalent, e.g. DI_{Fit}) in computer science or related fields. Experienced software practitioners are welcome as well. Applicants should have hands-on experience with developing software and be familiar with relevant tools and techniques (RDBMS, Java and RESTful interfaces, vue.js, Python, docker) and/or keen on extending their skill set.

APPOINTMENT TERMS

This position is classified as "Professional". The successful candidate will be offered a full-time (40 hours per week) position with an initial contract of one year and the possibility for extension following review of the first year's work.

The successful candidate should be available to take up the appointment by as soon as possible. Duties will be carried out at the IIASA premises in Laxenburg, near Vienna in Austria.

About IIASA

IIASA is committed to a working environment that promotes equality, diversity, tolerance and inclusion within its workforce, and encourages qualified female and male candidates 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](#).

For information on benefits offered, please visit [working at IIASA](#).

Further Information

For further information about this opportunity please contact:

Name: Alia Harrison

Function: Recruitment Coordinator

Email: harrison@iiasa.ac.at

Applications

Please submit:

- A letter of application outlining your motivation and fit to the position
- A detailed *Curriculum Vitae*
- The names and contact details of two work-related reference givers

Deadline for receipt of applications: We will continue to accept applications until the post is filled

APPLY