Deadline: until filled

APPLY 48-2023

Research Scholar - computational analysis of social media data

The IIASA Energy, Climate, and Environment (ECE) Program looks to recruit a strong candidate for its Sustainable Systems Service (S3) Research Group, to support with advancing the understanding of global changes in low-carbon behaviors and public opinion on climate policies.

BACKGROUND

The ECE Program at IIASA is 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. Continuing a long tradition going back to the foundations of IIASA, ECE's modeling tools stand at the heart of IIASA integrated assessment capabilities, used to explore linked solutions for energy, food, land, and water. 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. 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).

THE POSITION

Demand reduction through behavioral changes is considered an important mitigation option, and the crucial role of social systems in rapid decarbonization is increasingly acknowledged. Complementing available empirical sources with global social media data to explicitly capture bottom-up behavioral and opinion change will enable assessing the feasibility of widespread behavioral changes and social tipping mechanisms.

The selected candidate will contribute to developing new global datasets and subsequent analyses to study the social dynamics and heterogeneity of low-carbon behavior changes. They will join and (co-)lead existing research efforts, while helping identify, plan, and create new opportunities and research directions. This work will include, but is not limited to:

- Data collection from the main social media platforms and data validation for confidence building with respect to existing (global) datasets
- Data analysis using various machine learning techniques on the numerical and categorical audience size data and textual content data
- Contributing to the development of harmonized datasets and an online dashboard that visualizes the data analysis results

Additionally, there will be opportunities to collaborate with several IIASA researchers on projects that require data science expertise for development and analysis of climate scenarios.

TASKS AND RESPONSIBILITIES

- Data collection from the major social media platforms and/or related academic datasets such as Social Science One, comparison of these to corresponding conventional data sources, such as national or global surveys, and creating harmonized datasets.
- Data analysis with a high degree of rigor using various machine learning techniques on the numerical and categorical audience size data and using text mining and natural language processing on the textual content.
- Contribute to the development of an online dashboard that visualizes the data analysis results for widespread behavioral changes; source appropriate data/measures from diverse sources.
- Collaborate with modelers to quantify the representation of social systems and behavior changes in simulation models.
- Produce figures, maps, and visualizations to check results and efficiently communicate findings.
- Collaboratively develop data analysis code that is version-controlled, documented, and reproducible, to enable low-cost adaptation of methods for different contexts.
- Present methods and results to both technical and non-technical audiences; write reports and scientific papers to communicate findings.
- Contribute to ongoing and future projects, and participate in external fundraising/grant applications, related to the social dynamics of low-carbon consumption and climate change mitigation and their implications for broader sustainable development issues.
- 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

- PhD degree (or a master's degree with equivalent research experience) in data science, computational social science, engineering, or a similar field.
- **Essential skills:**
  - knowledge of and hands-on experience with social media data analysis,
  - programming ability, ideally in Python or a similar language, and experience with packages relevant for social media data collection, numeric data analysis, machine learning, and textual data analysis,
  - fluency in English; good presentation skills; and experience writing publications.
- **Desirable skills:**
  - strong domain knowledge in climate-related behaviors, public perception of climate change and climate policies, and the role of social heterogeneity in those,
  - experience in modeling human behavior such as social diffusion, innovation adoption, epidemics,

APPOINTMENT TERMS

The successful candidate should be available to take up the position as soon as possible. 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 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 and scientific profile.
- Career development perspectives.

or behavior change,

- experience with GitHub and version control systems.

- 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.

- **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 for R2 Research Scholars.
  EUR 36,875.00 for R1 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.
- Moving and settlement 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:

Dr. Sibel Eker Research Scholar, S3 Research Group
or
Dr. Bas van Ruijven, Research Group Leader, S3 Research Group

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.**

Review of applications will begin immediately.

Deadline for receipt of applications: Until filled

APPLY