(Senior) Research Scholar - Transport and Energy

IIASA ENERGY, CLIMATE, AND ENVIRONMENT (ECE) PROGRAM

IIASA looks to recruit a motivated and talented (senior) research scholar in the area of transportation modeling to join the Energy, Climate, and Environment (ECE) Program.

BACKGROUND

The Energy, Climate, and Environment (ECE) Program at IIASA is one of the world’s leading global Integrated Assessment Modeling (IAM) teams, and works to deepen 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).

ECE seeks a strong candidate who can lead/support advancing transport-sector modeling methods as a key component of this broader research agenda. Transport and mobility help fulfill a diversity of essential human needs; and transport systems connect to infrastructures, cities, and incorporate a multitude of technologies. Consequently, global climate and sustainability transitions interact strongly with the evolution of transport systems.

The (Senior) Transport and Energy Researcher will, depending on the profile of the successful candidate (according to IIASA researcher profiles for research careers) either lead (R3) or contribute to (R2) developing modeling methods and data to study phenomena and transitions in and across these systems. 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:

- Development and application of the MESSAGEix-Transport model, the open source MESSAGEix modeling framework, and related software and data sets
- Complementary, quantitative analysis of transport phenomena including mobility activity; energy use; impacts of social and institutional change; and policies for greenhouse gas emissions mitigation
- Analysis of the impacts of lifestyle change on transport behavior and activity
- Development of low energy demand scenarios, through narratives incorporating all of the above phenomena
- Design and execution of model-model linkages, such as between discrete choice / random utility models and IAMs, to improve ‘realism’ in the latter.
The successful candidate will also represent IIASA and ECE in contributions to ongoing, multi-institution projects and fora, such as **ENGAGE, NAVIGATE**, extensions to the **Low Energy Demand (LED) study**, like the **EDITs project**, the **International Transport Energy Modeling (ITEM) consortium**, and other communities of transport scholars.

### MAIN DUTIES AND RESPONSIBILITIES

- Lead (senior research scholar) or contribute to (research scholar) the development of conceptual models of transport service- and energy demand: identify relevant methods from the literature; improve on these; source appropriate data/measures from diverse sources; and implement analysis with a high degree of rigor
- Lead (senior research scholar) or contribute to (research scholar) the application and development of transport futures in a complex integrated assessment model; apply the tool to address diverse research questions
- Process large volumes of data on (inter alia) transport sector activity, technology attributes, and consumer preferences
- Produce figures, maps, and visualisations to check results and efficiently communicate findings
- Collaboratively develop model code that is version-controlled, documented, and reproducible, to enable low-cost adaptation of methods for different spatial scopes and/or input data sets
- Present methods and results to both technical and non-technical audiences. Initiate and organize conference sessions and workshops
- Write reports and scientific papers to communicate findings
- Contribute to ongoing and future projects, and lead (senior research scholar) or participate in (research scholar) external fundraising/grant applications, related to energy and transport sector transitions and their implication 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.

### QUALIFICATIONS AND EXPERIENCE

- PhD degree (or equivalent) plus research experience in a related field of economics, engineering, planning, or another transport-related field. Additionally for senior research scholars: Experience (preferably at least 10 years) and a well-established international reputation and research profile
- Strong domain knowledge in the transport sector or parts thereof. Additionally for senior research scholars: A proven record of independent research capabilities, showing innovation and development/application of appropriate and innovative research methodologies and approaches
- For senior research scholars: A proven record of science management, a strong publication record, proven grant-raising competencies and team-building competencies
- Knowledge of and hands-on experience with detailed transport sector models essential
- Experience in integrated assessment modeling; with

### APPOINTMENT TERMS

The selected candidate should be available to take up the position as soon as possible. We offer an initial fixed-term, one year, full-time (40 hours per week) employment contract, with the possibility of extension after the first years’ work. Eligible applicants wishing to work part-time hours will also 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 possible).

The successful candidate will be hired as a senior research scholar (R3) or a research scholar (R2) according to their corresponding profile in the **IIASA researcher profiles for research careers**. IIASA does however, reserve the right to hire a researcher with a lower profile, and at a corresponding lower salary than the minimums stated below, if the qualifications and professional experience of the selected candidate do not meet the criteria described in the researcher profiles adequately.
models representing consumer heterogeneity; and/or with models of consumer decisions (e.g., discrete choice and random utility methods); and/or with direct modification of core methods of models desirable.

- Programming ability, ideally in Python, R, or a similar language essential, as ECE develops its modeling tools using these programming languages
- Experience with GAMS, version control systems, and collaborative software development (i.e., in teams, as opposed to solo) desirable
- Fluency in English essential together with good presentation skills, and experience writing publications. Additionally for senior research scholars: Efficient communication skills to the research community and wider society and preferably experience in playing prominent roles in relevant, high impact, international conferences, events, and the organization of workshop/conference sessions
- 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.

WE OFFER:

A minimum gross annual, full-time salary of:
EUR 59,624.00 for R3 senior research scholars
EUR 44,204.00 for R2 research scholars

The advertised salary is:

- Exempt from income tax in Austria
- 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.
- Subject to the principle of income aggregation (Progressionsvorbehalt in German).

IN ADDITION:

- Educational subsidies for children of school age enrolled in private schools in Austria.
- A generous annual leave allowance.
- Moving and settlement allowances and paid home leave for employees in scientific and professional categories hired from international locations.
- 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 National Member Organization (NMO).

Further Information

For further information about this opportunity please contact:

Dr. Bas van Ruijven, Research Group Leader and Senior Research Scholar, Sustainable Service Systems 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 work-related reference givers.

Deadline for receipt of applications: until filled