



JOB OFFER

BIRA-IASB is looking for:

Postdoctoral Scientist (m/f) to work on high-resolution atmospheric modelling

Deadline for applications: January 15th, 2022

Start date: March, 1st 2022

Statute: Contractual

Assignment, division & context

Within BIRA-IASB, the Tropospheric Modelling Team is focusing on the emissions of pollutants in the atmosphere, the chemistry and role of chemical compounds involved in the budget of oxidants, and the derivation of emissions of trace gases from satellite data by inverse modelling. More details about our activities can be found at <http://tropo.aeronomie.be>.

Job description

In the frame of the PRODEX project TROVA (TROPOMI Validation), aiming to support satellite missions with evaluation of satellite products of air pollutants using high-resolution atmospheric modelling, we are looking for a **postdoctoral scientist holding a recent Doctoral degree in Sciences, for a total duration of two years, starting from March 1st, 2022.**

The project aims at an improved understanding of air composition in polluted regions through the use of satellite data and atmospheric modeling. It also intends to evaluate the quality of current satellite products and to develop expertise for supporting future space missions. The targeted species are nitrogen oxides (NO_x), formaldehyde, carbon monoxide and ammonia, all very important for air quality and climate. To achieve these objectives, we will use the WRF-Chem (Weather Research Forecast with Chemistry) high-resolution atmospheric model to simulate air composition at spatial scales ranging from 15 km to below 1 km. WRF-Chem is an open-source community model. It is widely used to investigate air quality issues and as a tool for evaluating satellite and other data at regional, local or city scale. The model will be used as an inter-comparison platform between ground-based, airborne and satellite data.

More about BIRA-IASB

The Royal Belgian Institute for Space Aeronomy (BIRA-IASB) is a Belgian Federal Scientific Institute. Since its founding in 1964, BIRA-IASB has been conducting research and providing public services in space aeronomy, i.e. the physics and chemistry of Earth's atmosphere and other planets, and outer space. The research performed at BIRA-IASB addresses issues of societal interest such as atmospheric composition changes and their link with climate.

For more information on the institute and its activities, visit our website www.aeronomie.be

The successful candidate will be in charge of the

- Improvement of key features of the model, e.g. emissions and their variability
- development of high-resolution simulations using the WRF-Chem model over selected regions of interest
- development of analysis tools for the visualization of the model input/output
- evaluation of the model against satellite observations of air pollutants, aircraft and ground-based data
- investigation of assimilation techniques for the derivation of top-down high-resolution emissions
- quantification of the added value of top-down estimates for air quality analyses and forecasts.

He/she will present the research results through scientific publications, project reports, communications to workshops and international congresses.

Qualifications

Required competences:

- Doctoral degree in Sciences
- Experience in Atmospheric science and modeling are strong assets
- Knowledge of programming languages (e.g. Fortran, Python, C++, Matlab)
- Experience with data handling and analysis
- Advanced level in oral and written English, knowledge of Dutch and/or French would be an asset
- Strong motivation, initiative, scientific curiosity and team spirit
- Excellent oral and written communication skills, sense for organization, timeliness

We offer

- Full-time 2-year contract, with possibility of extension (upon positive evaluation)
- Possibility to acquire a bonus for bilinguism (Dutch/French)
- Salary according to the federal regulations for the scientific career
- Dynamic working environment with international contacts
- Refund of commuting expenses when using public transportation or bicycle
- Flexible schedule and possibility to work occasionally from home
- Access to special advantages arranged for the employees of the federal scientific institutions (e.g., collective hospital insurance, possibility to follow trainings, free childcare in July/August)
- Working in a green and pleasant environment



Interested?

Send your application (CV and cover letter) to:

trissevgeni.stavrou@aeronomie.be

with the reference "D23_TROPO" before January 15th, 2022