



# JOB OFFER

BIRA-IASB is looking for:

## Aspiring Ph.D. Candidate holding a Master Degree in Sciences or Applied Sciences (m/f)

Deadline for applications: March, 25<sup>th</sup> 2019

Start date: May, 1<sup>st</sup> 2019

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 formation of organic aerosols in the troposphere. More details on the interests and activities of the group can be found at the TROPO website : <http://tropo.aeronomie.be>.

### Job description

In the framework of the OCTAVE project studying the variability, sources and sinks of oxygenated organic compounds in the tropical atmosphere, we are looking for an **aspiring scientist holding a recent Master degree in Sciences or in Applied Sciences, to work on a Ph.D. thesis for a total duration of four years, starting from May 1<sup>st</sup>, 2019.**

The project aims at an improved assessment of the budget and role of oxygenated volatile compounds (OVOCs) in the tropical atmosphere, using an integrated approach combining in situ measurements, global-scale satellite retrievals and modelling. OVOCs have a significant impact on the self-cleansing capacity of the atmosphere and on climate. They are primarily released by terrestrial vegetation, oceans, fires and human activities, and by the atmospheric oxidation of other hydrocarbons. However, large discrepancies in current OVOC budget estimates exist, due to incomplete knowledge of key processes and large associated uncertainties.

### 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.

Our scientists use instruments on the ground, in the air, on board balloons or in space and computer models.

[www.aeronomie.be](http://www.aeronomie.be)

One of the specific goals is to improve our understanding of the atmospheric sources and sinks of OVOCs, with focus on methanol, acetaldehyde and glyoxal, based on satellite observations from the IASI and TROPOMI sensors, aircraft, ship-based and ground-based measurements, and chemical-transport models (IMAGES, MAGRITTE, WRF-Chem) at different spatial scales.

The successful candidate will be in charge of the (i) development and implementation of an improved representation of the organic aerosols in the model; (ii) update of the anthropogenic VOC oxidation schemes; (iii) analysis of atmospheric OVOC measurements and interpretation through model comparisons; (iii) identification of key mechanisms leading to OVOC formation; (iv) assessment of the OVOC budget through derivation of satellite-driven emission estimates. He/she will present the research results through scientific publications, and communications to workshops and international congresses.

## Qualifications

### Required competences:

- Master degree in Sciences or Applied Sciences
- Advanced level in oral and written English, knowledge of Dutch and/or French is an asset
- Scientific curiosity, initiative, motivation and team spirit
- Good communication skills, sense for organization, timeliness
- Data handling and analysis skills
- Knowledge of programming languages (e.g Python, Linux, Fortran, Matlab, HDF, NetCdf, LaTeX)

## We offer

- Full-time 4-year contract
- 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., possibility to follow trainings, free childcare in July/August)
- Working in a green and pleasant environment



## Interested?

Send your application letter to:

[hr-ae@aeronomie.be](mailto:hr-ae@aeronomie.be) with [trissevgeni.stavrakou@aeronomie.be](mailto:trissevgeni.stavrakou@aeronomie.be) in copy  
with the following reference "D23\_TROPO"