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The Royal Belgian Institute for Space Aeronomy (BIRA-IASB) is a scientific institution of the Space Pole in Uccle (Brussels, Belgium). One of its main missions is to acquire scientific and technological expertise in the field of aeronomy. This interdisciplinary science studies the physics and chemistry of the planetary atmospheres by addressing issues of societal interest such as atmospheric composition changes and their link with climate. For more information on the institute and its activities, please visit our website at <http://www.aeronomie.be>.

Within BIRA-IASB, the UV-vis team concentrates on the study and monitoring of the atmospheric composition using a combination of satellite observations and ground-based measurements, the latter being performed as part of the international Network for the Detection of Atmospheric Composition Change (<http://www.ndacc.org>).

**The Institute is looking for  
1 SCIENTIST  
to strengthen the ground-based activities of the UV-vis team.**

Associated to a research group of 13 members, the successful candidate will contribute and strengthen the research and development activities related to the ground-based observations performed by using the Multi-AXis Differential Optical Absorption Spectroscopy (MAXDOAS). This technique allows to retrieve the vertical distribution of pollutants like nitrogen dioxide ( $\text{NO}_2$ ), formaldehyde (HCHO), and aerosols by applying appropriate mathematical algorithms to multi-angular scattered-sunlight radiance observations.

Candidate's main task will be to work on the further development and harmonization of retrieval tools for MAX-DOAS observations, in collaboration with 5 international partners within the framework of the ESA (European Space Agency) project FRM4DOAS (see <http://frm4doas.aeronomie.be/>). This project aims at demonstrating MAX-DOAS network capabilities suitable for the large-scale calibration/validation of current and future satellite missions focusing on the global monitoring of the air quality, in particular the ESA Sentinel 4, 5 and 5P, and the future TEMPO and GEMS geostationary missions planned in the US and Korea respectively. We expect from the candidate that he/she contributes also to the improvement of the data analysis and retrieval methods/algorithms currently used at BIRA-IASB, more particularly the bePRO profiling tool which retrieves the vertical distribution of atmospheric trace gas constituents and aerosols in the troposphere. Furthermore, the candidate will participate to the scientific exploitation of the

ground-based UV-Visible measurements currently performed by BIRA-IASB at different sites in Europe and in China. Part of the job will also consist in disseminating research results through publications and presentations at international conferences and workshops.

**Required competences:**

- Master's or doctoral degree in sciences (chemistry, physics, or applied sciences)
- Good communication skills
- Good oral and written English, knowledge of French and/or Dutch is a plus.
- Knowledge of scientific programming language (Fortran, Matlab)
- Good knowledge about optics and molecular spectroscopy
- Ability to work effectively in an international context, both independently and in a team
- Flexible, ready to travel occasionally (typically less than 2 weeks)

**Specific expertise in any or more of the following fields is a bonus:**

- Experience with the python programming language
- Experience of scientific data formats (hdf, netcdf)
- Experience with Office applications

**We offer:**

- One year contract at start, with renewal possibility
- Salary according to the federal regulations for the scientific career in the SW11 barema. All relevant work experience (public + private sector) will be considered when determining seniority.
- Possibility to acquire a bonus for bilinguism (Dutch/French)
- 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).

This job will be filled in as full-time contractual position, based at the Royal Belgian Institute for Space Aeronomy. If you are interested in this position, please send your application (CV and cover letter) including the reference "D31\_GBUVVIS" to the BIRA-IASB Human Resources Department ([hr-ae@aeronomie.be](mailto:hr-ae@aeronomie.be)) with a copy to [francois.hendrick@aeronomie.be](mailto:francois.hendrick@aeronomie.be) before **31 January 2017**.

More information about this vacancy and the project can be obtained from François Hendrick, by Email [franch@oma.be](mailto:franch@oma.be) or by phone +32 (0) 2 373 6766.