



**To support the activities of the new FED-tWIN research programme:
“A Belgian greenhouse gas emissions Monitoring and Verification System”
(BE-MVS), we are looking for a**

scientist (M/F/X)

Let's shape the future - University of Antwerp

The [University of Antwerp](#) is a dynamic, forward-thinking, European university. We offer an innovative academic education to more than 20000 students, conduct pioneering scientific research and play an important service-providing role in society. We are one of the largest, most international and most innovative employers in the region. With more than 6000 employees from 100 different countries, we are helping to build tomorrow's world every day. Through top scientific research, we push back boundaries and set a course for the future – a future that you can help to shape. The Global Change Ecology ([GCE](#)) consortium is one of the research centres of excellence at the University of Antwerp, a.o. aiming to couple innovative fundamental research on environmental issues with societal solutions.

The Royal Belgian Institute for Space Aeronomy (BIRA-IASB) is a scientific institution under the umbrella of the Belgian Federal Science Policy located in Uccle (Brussels). Its principal mission is the development of scientific and technological expertise in the field of aeronomy. One of its research domains is the study of sources and sinks of atmospheric constituents. For this study, the Institute uses spectrometric observations from ground and space, as well as dedicated numerical modelling. Among the atmospheric constituents that BIRA-IASB is focusing on are the long-lived climate pollutants or greenhouse gases; for their observations, the Institute uses infrared remote sensing from space and ground as well as in-situ observations at or near the surface. The development of inverse modelling dedicated to greenhouse gases is planned starting 2024. For more information about the Institute, its activities and the projects in which it is involved: see www.aeronomie.be

The Faculty of Science of the University of Antwerp and the Royal Belgian Institute for Space Aeronomy (BIRA-IASB) have the following full-time vacancy (100%) vacant.

The **promotors** of this research profile are both partners in the European Research Infrastructure ICOS (Integrated Carbon Observation System), with UAntwerpen - GCE focusing on the functioning of Belgian terrestrial ecosystems and co-leading the ICOS' ecosystem component, and BIRA-IASB contributing to the ICOS atmosphere component and TCCON (Total Carbon Column Observing Network).

This vacancy is part of the federal government's FED-tWIN funding program, in particular the FED-tWIN research profile **Prf-2022-039** BE-MVS. As you implement the FED-tWIN BE-MVS research profile in the UAntwerpen (50%) and the Royal Belgian Institute for Space Aeronomy (BIRA-IASB) (50%), there will be appointments at both institutions:

- 1. A part-time (10%) appointment as Senior Academic Staff (ZAP) and a part-time (40%) appointment as postdoc researcher (BAP) at UAntwerpen, Faculty of Science**
- 2. Part-time (50%) appointment as postdoc researcher at the Royal Belgian Institute for Space Aeronomy (BIRA-IASB)**



FED-tWIN is a federal research program of the Federal Public Service Science Policy Programming Service (BELSPO) with the aim of stimulating sustainable cooperation between ten federal science institutions and Belgian Universities through the funding of joint research profiles.

Brief description of the FED-tWIN BE-MVS research profile

The mitigation of climate change is high on the agenda in Belgium, at the European level and world-wide. Following the signature of the Paris Agreement in 2015, Belgium has committed to reduce its greenhouse gas (GHG) emissions. For tracking its progress on cutting emissions, regular monitoring, reporting and verification (MRV) of emissions, including the five-yearly global stocktake, are mandatory.

Current national GHG emissions inventory reporting for Belgium is based on bottom-up calculations, using statistical information about the economic activity in various sectors and measured emission ratios. It has been shown that this reporting can be improved by adding complementary information acquired from a top-down approach combining atmospheric observations with an inverse modelling framework.

The objective of this research profile is therefore to develop and implement such a top-down national Monitoring and Verification System (MVS) for GHG emissions in Belgium. The MVS aims at (1) quantifying the GHG concentrations above Belgium at subregional scale, (2) identifying and quantifying major sources and sinks, (3) distinguishing between anthropogenic and biogenic sources and sinks, (4) monitoring the evolution of the atmospheric burden of GHGs above Belgium and evaluating the impact of mitigation strategies, and (5) to provide indications for sectors or point-sources with a high potential for GHG reductions. It will also enable assessing the feedback between the GHG balance and climate change.

This research program intends to foster a multi-disciplinary approach involving atmospheric and ecosystem research to address the challenges of a Belgian greenhouse gas emissions monitoring and verification system.

Position at the University of Antwerp

- The 10% ZAP assignment focuses on the three core tasks of Independent Academic Personnel, namely education, research and services.
- The 40% BAP assignment is aimed at research.

Position as a postdoc researcher at the University of Antwerp

Education

- You will provide high-quality education on climate change-related topics.
- Your teaching role will evolve along with the study programmes. You will teach a limited number of courses, which may include components of the Master programmes Global Change Biology, Environmental Sciences and Sustainable Development, or Energy and Climate.
- You will play a role in developing activating, student-centred and competence-driven programme components and study programmes.
- You will supervise students and their Bachelor and Master dissertations.

Research

- You will initiate and coordinate high-quality scientific research in the research profile described above.
- You will participate in ongoing research programmes by the host institutions, in particular in the ICOS project, and develop an international scientific network.
- You will publish in peer-reviewed scientific journals.



- You will help coordinate project proposals in the research profile described above and attract external funding.

Services

- You will play a role in the provision of both academic services and service to society, within the institution and externally.

Organisation and leadership

- Your leadership style will be motivating and coaching. You will be attentive to your employees' growth and development processes.

Position as a postdoc researcher at the University of Antwerp

- You will assist in ongoing research projects, in particular the ICOS project.
- You will help coordinate relevant project proposals and contribute to attracting external funding.
- You will assist in the supervision of PhD students and other team members.
- You will participate in the provision of academic services: you will represent the research group both internally and externally, help to coordinate service projects, and so on.

Position at the the Royal Belgian Institute for Space Aeronomy (BIRA-IASB)

- You will assist in ongoing research projects, in particular the ICOS project.
- You will help coordinate relevant project proposals and contribute to attracting external funding.
- You will assist in the supervision of PhD students and other team members.
- You will participate in the provision of academic services: you will represent the research group both internally and externally, help to coordinate service projects, and so on.

Your profile

- You hold a PhD in natural sciences (e.g. physics, chemistry, biology, ...) or applied sciences (e.g. physics engineering, bio-engineering, ...)
- You obtained a PhD no more than 12 years before the predetermined deadline for submitting the application files. This 12-year period is extended by one year for any absence due to pregnancy, parental or adoption leave, as well as any long absence due to illness of the candidate or long absence due to illness of a first degree relative.
- Your research qualities are in line with those of the host institutions.
- You have established an excellent research portfolio including peer-reviewed publications in the field of Earth-, atmosphere-, ecosystem sciences.
- The candidate must be able to demonstrate research activities in one of the above scientific (sub)disciplines during at least 5 years.
- You have a good knowledge of global Earth observations systems, including ground-based remote-sensing and/or in-situ instruments for GHG observations.
- You have expertise or express a definite willingness to acquire inverse modeling skills using in situ or remote sensing Earth Observation data to estimate GHG fluxes.
- You have very good knowledge of programming languages: in-depth knowledge of Python and passive knowledge of Fortran, C and MATLAB, under UNIX and windows environments
- Your teaching competences are in line with the University of Antwerp's [educational vision](#). You are motivated to develop your teaching skills further through the [professionalisation opportunities](#) available.
- You have experience with working in national or international projects while taking responsibilities for project work packages / tasks including some project management tasks.



- If you do not speak Dutch, the administrative language of the university, you should be willing to obtain a CEFR B2 level of proficiency in Dutch. As soon as you take on teaching duties as a programme component coordinator, you should be able to demonstrate a CEFR C1 level of proficiency in the language of instruction. The University of Antwerp supports international staff members through an integration trajectory and offers tailor-made language coaching in compliance with Flanders' statutory [language regulations](#).
- You demonstrate leadership potential and organisational skills.
- You act with attention to quality, integrity, creativity and cooperation.

What we offer

The University of Antwerp offers :

- We offer a part-time 10% appointment as a member of the Senior Academic Staff for a period of three years. Following a positive evaluation, the appointment can be renewed. The level of your appointment (assistant professor, associate professor, professor or full professor) is determined on the basis of your professional experience and academic qualifications.
- Your gross monthly salary for this 10% position is calculated according to the [pay scales](#) for Senior Academic Staff (ZAP) and calculated proportionally on the basis of your employment percentage.
- A part-time 40% contract (open-ended) as a postdoctoral researcher.
- Your gross monthly salary for this 40% position is calculated according to the [pay scale](#) for principal research fellows in the Contract Research Staff category (Dutch: *Bijzonder Academisch Personeel*, BAP), and calculated pro rata based on the 40% employment.
- You will receive ecocheques, Internet-connectivity allowance and a bicycle allowance or a full reimbursement of public transport costs for commuting.
- You will do most of your work at Campus Drie Eiken in a dynamic and stimulating working environment.
- Find out more about working at the University of Antwerp [here](#) and discover all the other [benefits](#).

BIRA-IASB offers:

- We offer a 50% contract of undetermined duration as work leader - salary scale SW2
- Salary is according to the federal regulations for the scientific contractual SW2 personnel.
- Dynamic working environment with international contacts.
- Refund of commuting expenses when using public transportation or bicycle.
- Access to special advantages arranged for the employees of the federal scientific institutions (e.g., collective hospital insurance and possibility to follow training, regular teleworking options).
- Green working environment



The planned start date is as early as possible, preferably October 1st 2023.

Want to apply?

- You can apply for this vacancy through the University of Antwerp's online job application platform up to and including **12 May 2023** (by midnight Brussels time). Click on 'apply', complete the online application form and don't forget to include the following documents: (1) your motivation letter, (2) [the completed job application appendix for ZAP](#), (3) your academic CV.
- The selection committee will review all of the applications as soon as possible after the application deadline. As soon as a decision has been made, we will inform you about the next steps in the selection procedure.
- If you have any questions about the online application form, please check the [frequently asked questions](#) or send an email to jobs@uantwerpen.be. If you have any questions about the job itself, please contact Dr. Martine De Mazière (martine.demaziere@aeronomie.be) and Prof. Ivan Janssens (ivan.janssens@uantwerpen.be).

The University of Antwerp received the European Commission's [HR Excellence in Research Award](#) for its HR policy. We are a sustainable, family-friendly organisation which invests in its employees' growth. The University of Antwerp and BIRA – IASB encourage [diversity](#) and attach great importance to an inclusive working environment and equal opportunities, regardless of gender identity, disability, race, ethnicity, religion or belief, sexual orientation or age. We encourage people from diverse backgrounds and with diverse characteristics to apply.