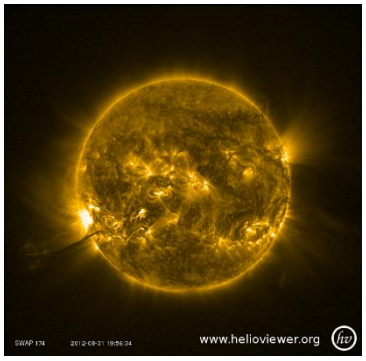
ROYAL OBSERVATORY OF BELGIUM

JOB OPENING

The Royal Observatory of Belgium seeks a NEW SCIENTIFIC COLLABORATOR for its SPACE WEATHER ACTIVITIES



The Sun is the only star that has a significant impact on life on Earth. The space environment around Earth, which is variable and can change rapidly, is known as "Space Weather," and it is influenced by solar activity. Solar flares, coronal mass ejections, and solar energetic particles can all affect the Earth's environment on timescales ranging from minutes to days. On longer timescales, the 11-year sunspot cycle determines the seasons of space weather.

Our society is highly dependent on space technology, and as such, it is becoming increasingly vulnerable to the short-term variations in space weather. These variations can have a significant impact on communication and GNSS services, among others. To mitigate the potential effects of space weather, it is crucial to monitor solar activity continuously and improve our understanding of how it affects the Earth's environment. By doing so, we can better prepare for and mitigate any adverse effects on our technology and infrastructure.

As a federal scientific institute, the Royal Observatory of Belgium (ROB) provides services to citizens, industry, and government through alerts and predictions for space weather. These Space Weather activities are being developed further through support from the European Space Agency ESA (S2P - "Space Safety Program"), Belgian project funding (SUNRISE - "Sustained and Unified Research Infrastructure for Solar Data Services"), and PECASUS (Space weather services for ICAO - International Civil Aviation Organization). To ensure the successful continuation of our operations in this highly competitive international context, ROB is seeking a collaborator to further develop and support its space weather services data service infrastructure for monitoring the Sun and improving space weather forecasting capabilities. The successful candidate will participate to operational surveillance and forecasting of space weather, including on-call operation and shift work. And the candidate will also be involved in developing a comprehensive data model to be used by the forecasters for describing the complex chain of solar eruptive events that occur on the Sun and travel towards Earth. It encompasses the description of individual events and features in the chain, such as sunspot group and active region, flare, waves, Coronal Mass Ejection (CME) and CME-driven shock, particle event and, at the end of the chain, geomagnetic disturbance on Earth. The collaborator will work as part of the ROB-SIDC (Solar Influence Data Analysis Centre), a leading space weather forecast center at the European level.

Tasks

The offered position involves:

- Operational surveillance and forecasting of space weather, including on-call operation and shift work.
- Contributing to the elaboration of documentation and procedures for space weather operators and forecasters.
- Contributing to the maintenance of the IT infrastructure to support space weather services, including both internal applications and applications to end-users.
- Setting up and integrating new data models for describing the complex chain of solar eruptive events within the forecasters workflows, procedures and internal applications.
- Developing and maintaining IT infrastructure for space weather services, including databases of space weather data and metadata, along with associated dataflow management processes.

Profile

The selected candidate must:

- Hold a Master's or PhD degree in exact sciences, with the equivalent recognized in Belgium [*].
- Have experience in Solar Physics, Space Weather or related Space Sciences.
- Demonstrate an accurate, timely, systematic, and autonomous working attitude.
- Be capable of working within an environment with strict and well-defined procedures while also being able to define and implement appropriate new procedures.
- Be familiar with at least one programming language.
- Have excellent communication skills in English.

The following experience is considered advantageous:

- Experience with operational Space Weather services.
- Experience with at least one relevant data-model or data-processing application.
- Experience with the management or execution of (international) projects.
- Acquaintance with UNIX and several programming languages.

ROB offers

The ROB (http://www.observatory.be) is a Belgian federal institute located in the green outskirts of Brussels in Ukkel. The institute is seeking a qualified candidate for a job opening in the “Solar Physics and Space Weather” Operational Directorate (https://www.sidc.be), which is a group of dedicated international scientists and engineers. The working conditions include a flexible system of working hours and teleworking, allowing for a healthy work-life balance.

The job offer is a **full-time position** in the SW1 category. To get an estimate of the salary, a simulator is available at https://salsim.fedweb.belgium.be/mod2-q1.php. The position is for a **one-year contract**, renewable based on mutual satisfaction.

How to apply

Send your CV and an accompanying motivation letter as soon as possible to judith.depatoul@oma.be with cc: veronique.delouille@oma.be and dir-rob@oma.be. Candidates can contact Dr. Judith de Patoul for additional information. Applications are welcome until **June 25, 2023**.

[*] If your master was awarded outside of Belgium, the Netherlands and the Grand-Duchy of Luxembourg, you will need a certificate to demonstrate the equivalence of your degree (see https://www.belgium.be/en/education/equivalence_of_diplomas) before we can offer you a contract.