

## Training Opportunity for Belgian Trainees

Reference	Title of Training Opportunity	Duty Station
BE-2020-OPS-SWa)	Space Weather Service Performance Analysis	ESOC
<p><b><u>Overview of the unit's mission:</u></b></p> <p>ESA's Space Safety Programme has the overall aim to detect, predict and assess threats from space and their potential risk to life, property and infrastructure. The Space Weather Office under Space Safety Programme Office is addressing those risks associated to the activity of our Sun with the goal of providing owners and operators of critical spaceborne and ground-based infrastructure timely and accurate information that will enable mitigation of the adverse impacts of space weather. ESA's Space Weather Office is responsible for defining and implementing European space based observation systems to enable operational space weather services. It is also responsible for pre-operational developments and R&amp;D activities geared towards fulfilling the needs of European space weather service users.</p>		
<p><b><u>Overview of the field of activity proposed:</u></b></p> <p>This training opportunity will focus on performance analysis and testing of space weather products and services newly developed within the framework of the Space Safety Programme.</p> <p>Space weather refers to the environmental conditions in the Earth's magnetosphere, ionosphere and thermosphere due to the Sun and the solar wind that can influence the functioning and reliability of spaceborne and ground-based systems and services or endanger property or human health.</p> <p>Within the Space Safety Programme, the Agency is developing a network of space weather products and services geared towards mitigating the effects of space weather on infrastructure located in space and on ground. The network builds on existing European expertise and prototypes with the aim to further develop and deploy these existing assets in a pre-operational context.</p> <p>In order to provide reliable products and services to end-users, it is crucial to understand the strengths and potential limitations of the various elements underpinning these products and services, including the scientific assumptions and algorithms on which they may be based. Both existing prototypes and newly developed products, must undergo comprehensive testing and validation in order to ensure that information presented to the service users is accurate.</p> <p>This project will focus on evaluation of space weather prototype service performance and functional testing of newly developed products under variety of conditions. A range of statistical techniques currently in use by both the space weather and meteorological communities will be evaluated for their applicability. Select techniques will be applied to a broad range of products, contributing to the development of an overall reference product validation toolkit.</p>		
<p><b><u>Required education:</u></b></p> <ul style="list-style-type: none"> <li>• Master-level Degree in space physics with a good understanding of statistical techniques</li> <li>• Good computer skills including familiarity with IDL and/or Python would be an advantage;</li> <li>• Good interpersonal and communication skills;</li> <li>• Ability work in a multi- cultural environment as part of a team;</li> <li>• Fluency in English and/or French, the working languages of the Agency;</li> <li>• Belgian nationality is a mandatory condition.</li> </ul>		