



The European Association of
Aerospace Students

Academic Competition
on

GMES



www.nereus-regions.eu - www.euroavia.eu

Call for Papers Earth Observation (EO)/GMES thesis competition

NEREUS and Euroavia invite postgraduate students to participate in a **competition for the best academic thesis on the theme of Global Monitoring for the Environment and Security (GMES) - innovative approaches**. NEREUS is a network of currently 26 European regions which join forces with the objective to spread the use of space technologies throughout Europe for the benefits of regions and their citizens (More info: <http://www.nereus-regions.eu/home>). Education and Training on space related matters are among the pivotal areas of cooperation on the NEREUS platform. EUROAVIA is the European Association of Aerospace Students (More info: www.euroavia.net).

The competition is part of an ongoing collaboration between NEREUS and Euroavia to support young graduates and professionals in the development of their careers and to improve their Europe-wide visibility among players in the European space and aeronautics industry.



Participants' submissions will be examined by a panel of industrial and academic experts from NEREUS and Euroavia and assessed against the criteria below. There will be an official award ceremony and presentation of the best works made at a high-profile event organized by both networks, which will be attended by senior personalities from across the Space and Aeronautical sectors, European policy makers, academics and politicians.

Theme

EO/GMES is one of the European Union's flagship initiatives in space and aims to provide information services which give access to reliable data to monitor natural environmental conditions according to pre-defined user needs, e.g. information on biodiversity, the state of our oceans, the composition of our atmosphere but also on natural disasters, man-made crises and border surveillance. The major objective of this program is to have access to accurate and timely information at hand for supporting decision-makers in both public and private sectors in



better managing the environment, understanding and mitigating the effects of climate change and thus secure the lives and well-being of the European citizens. The data is collected from both earth observation (EO) satellites and ground-based systems to deliver a vast array of information services. Currently GMES evolves around six thematic areas: marine, land, atmosphere, emergency, security and climate change.



After years of research, GMES has entered the initial operational phase and is soon to become a fully operational service programme. However in some areas GMES is still at an initial stage and needs to be further developed. But also the areas that are entering the operational phase need permanent research input in order to be state of the art. If GMES wants to be successful, more societal and professional groups need to understand and use the system and be able to articulate their needs. At the same time the service developers and service providers have increasingly to respond to the specific needs of different user groups. As GMES is a user-driven programme, more needs to be known about the demand side for GMES services and uses in Europe. This is an crucial prerequisite to develop applications for a wide range of public policies. More needs to be learned about user-communities, which includes also identifying new user-communities and establishing an effective dialogue among the different user groups as well as to structure and cluster end-user groups.

With its promotional publication “25 Uses of GMES in the NEREUS Regions”, the NEREUS – Working Group EO/GMES made a first step in identifying a number of illustrative examples of GMES uses in different domains which showed the extensive potential of regional applications and the energy with which they are developed. This initiative has however to be grown and also reflect increasingly on operational examples. These concrete regional GMES applications will contribute to learn more about the needs of regional end-user.

Therefore the organizers of this academic competition are interested:

- 1.) **in new approaches how data from GMES sources (e.g. sentinels) and products from GMES services could be used for specific applications at a regional or local scale.** Ideally, the concept takes into account not only technical aspects (e.g. algorithm developments) but also organizational aspects (e.g. governance, general conditions for user take up, sustainable financing).
- 2.) A second approach could be to look for cost-benefit analysis of using specific GMES applications – at a regional or local scale – with respect to more traditional methods.
- 3.) Finally, a third approach could focus on the indirect economical impacts (spillover effects) generated by space-based services.
- 4.) Further to this should the submitted works particularly **address:**
 - a.) **the integration of GMES products/services with other sources of information (in particular attention to in situ component),** - integration of GMES in new areas;
 - b.) **into new areas for development, in order to increase the value of source products aiming at better meeting the needs of regional and local end users.** - relevance for the space market (e.g. satellite application industry);
 - c.) Added value with respect to **economic aspects;**

Award

The best thesis will be awarded in a festive ceremony organized by NEREUS in 2012. The winner will get the opportunity to participate in a renowned European EO/GMES-conference. Costs to participate at the conference (conference fee, travel costs, etc.) will be covered up to 1000 €. Apart from that, the winner will get the opportunity to publish the thesis in a relevant scientific journal (if the peer-review is passed successfully).

Participation

Participation is open to all postgraduate students at universities and colleges **which are situated in NEREUS regions¹ or who are members of Euroavia.** The competition is however open to postgraduate students from all relevant disciplines covering also geo-related subjects, e.g. geography, geoinformatics, geodesy, as well as

¹ Abruzzo (Italy), Andalusia (Spain), Apulia (Italy), Aquitaine (France), Azores (Portugal), Baden-Wüttemberg (Germany), Basilicata (Italy), Bavaria (Germany), Brandenburg (Germany), Brittany (France), Brussels Capital (Belgium), Castilla y Leon (Spain), City of Vienna (Austria), Madrid (Spain), East Midlands (United Kingdom), Free Hanseatic City of Bremen (Germany), Guyana (France), Hesse (Germany), Lombardy (Italy), Mazovia (Poland), Mecklenberg-Vorpommern (Germany), Midi-Pyrenees (France), Molise (Italy), Piedmont (Italy), Veneto (Italy), Wallonia (Belgium).



environmental planning or spatial planning. Postgraduate thesis (Master, Phd and Doctorate) are eligible that are submitted after January 2010.

Language

The thesis can be in any EU Official Language which is represented in the NEREUS network. However, all works must be accompanied by an English executive summary (up to 1500 words – approximately 3 pages) in addition to the abstract presented in the submission form. The submission form has to be in English.

Submission and evaluation criteria

The work must be submitted electronically, as an attachment (MS Word or PDF) to nerereus.assistant@euroinbox.com by **31 December 2011**.

The complete submission includes **all** the following documents:

1. **Thesis:** there is no upper or lower word limit.
2. **Submission form:** candidates must complete and submit the attached form as a summary of their submissions, highlighting the salient points and stating how their work meets the selection criteria.
3. **English executive summary** of up to 1500 words.
4. **Copy of MA or PhD degree.**

Submissions will be judged on the basis of their applicability to the following criteria:

1. **Relevance to the scope of the call:**
 - a. Relevance to the integration of GMES in new areas
 - b. Relevance for the space market (e.g. satellite application industry)
 - c. Added value with respect to economic aspects
2. **Innovation**
3. **Theoretical basis**
4. **Methodology (quality of the argument, structure, presentation)**

The winner will be notified by both email and letter and he/she will be invited to participate to the award ceremony that will take place in 2012.

The best theses will be displayed on a dedicated webpage on the Euroavia and NEREUS websites. Enquires and submissions should be sent to nerereus.assistant@euroinbox.com.

For further information:

<http://www.nerereus-regions.eu/NEREUS-EUROAVIA>

