



ARIADNA NEWS: CALL FOR PROPOSALS 04/01 CLOSED AND UNDER EVALUATION

With plenty of good proposals received, the second round of Ariadna Calls for Proposals is closed and the evaluation board is now assessing them. The next edition of the Ariadna Newsletter will list the awarded contracts. We are looking forward to work along with you in this new phase of Ariadna studies.

As for the first Ariadna Call for Proposals 03/01, the studies are now finished and we can say it is been a successful and fruitful collaboration. The final reports can be accessed online on the Ariadna website under the section "Completed Studies". The following final presentations will take in the next couple of months:

27 October 2004 03/4101 Advanced Global Optimisation Tools for Mission Analysis and Design, by University of Glasgow and University of Reading.

01 November 2004 03/6201 Biologically inspired solutions for robotic surface mobility, by University of Helsinki

ESA INVITATIONS TO TENDER

Periodically the European Space Agency issues Invitations To Tender (ITTs) on a broad range of domains and activity types, ranging from scientific and technical studies, to technology development activities or even basic infrastructure support services. A list of both the intended and currently open ITTs can be accessed at <http://emits.esa.int/>. Below a selection of those that could be of particular relevance to universities and academic researcher is provided:

LET-SME Announcement of Opportunities 2004

ESA intends to issue an Announcement of Opportunities (AO) Calling for Innovative Technology Proposals as part of its Leading-Edge Technology (LET-SME) Programme. The specific needs selected as priority topics for LET-SME 2004 and on the basis of which SMEs will be invited to make proposals are the following:

1. Engineering tool for qualification of optical coatings
2. Alternative rigidisation method for inflatable structures
3. Low-power, small hall effect propulsion system
4. Green hydrogen peroxide monopropellant rocket engine with advanced catalytic beds
5. Integrated plasma and fluid dynamics solvers

The selected proposals will receive a funding commensurate to the proposed activities, and typically ranging from 50000 Euro to a maximum of 200000 Euro each, and for a study duration between 6 and 18 months. Tender Status: Issued (closing date 18/10/2004). More information at: http://emits.esa.int/emits/owa/emits_online.showa.o?actref=04.179.04&user=Anonymous

ESA Innovation Triangle Initiative

The ESA Innovation Triangle Initiative (ITI) aims at supporting the fast introduction of disruptive innovations in the European space industry by combining the creativity, know-how and experience of the Research Community, Space Customers and Industry. The technical scope of ITI is large, accepting proposals of possible disruptive innovations in any technical domain applicable to space, with particular emphasis on innovations coming originally from non-space industrial or research sectors.

Tender Status: Issued (closing date 07/11/2004).

Price Range: >500 kEuro. More Information at: http://emits.esa.int/emits/owa/emits_online.showa.o?typ1=2637&user=Anonymous

Experimental Evaluation of Quantum Communications in The Framework of The Current Needs of Space Systems

The proposed study will comprise:

- 1) The detailed definition of a Quantum Communications/entangled photons experiment (selected and specified by ESA based on the results of two running studies).
- 2) The detailed design of the hardware needed for the execution of the experiment (e.g. single photon source, single photon receiver etc.).
- 3) The simulation and quantitative estimation of the expected experimental results.
- 4) The manufacturing and procurement of the hardware.
- 5) The execution of experiments in laboratory environment to verify the performance of the built hardware.
- 6) The planning and logistics for an experiment in space, or between a spacecraft and the Optical Ground Station in Tenerife (to be subject of a separate activity), including the investigation of co-operations with National Agencies and science institutes.

Tender Status: Issued (closing date 29/10/2004).

Price Range: 200-500 kEuro. More Information at: http://emits.esa.int/emits/owa/emits_online.showa.o?typ1=2715&user=Anonymous



Techniques and Spaceborne Concepts for The Study of Earth-Quake Precursors and Analysis of Associated Atmospheric Effects

Ground sensors have observed electric disturbances in the atmosphere that can be related to seismic activity. The technique, if successfully implemented from space, has the potential to enable new studies of earthquake generation and consequences on a global basis, on all kinds of geological structures over the whole world. The resulting science would be important for the understanding of precursor mechanisms to major earthquakes and of follow-on seismic activity. The study will review the state-of-the-art regarding post-seismic ionospheric perturbations, their detection and phenomenology. Tender Status: Issued (closing date 01/12/2004). Price Range: 200-500 kEuro. More Information at: http://emits.esa.int/emits/owa/emits_online.showa.o?typ1=2739&user=Anonymous

Neural Networks for Radionavigation

The objectives of this activity are to assess the use of neural networks for multipath mitigation, (building on previous ESA activities and on available published results), select and propose a specific method/algorithm particularly suitable for use in conjunction with receivers used for positioning and attitude determination of spacecraft (limited, for the time being, to satellites in LEO and MEO orbits), and also to validate the approach by implementing it within a software breadboard and operating with real data collected from a selected source.

Tender Status: Issued (closing date 17/11/2004). Price Range: 200-500 kEuro. More Information at: http://emits.esa.int/emits/owa/emits_online.showa.o?typ1=2727&user=Anonymous

SPACE TECHNOLOGY CONFERENCES

This section contains information of conferences of relevance to advanced space technology and some of the studies we are conducting.

ASTRA 2004: 8th ESA Workshop on Advanced Space Technologies for Robotics and Automation.

2-4 November 2004, Noordwijk, The Netherlands.
<http://www.congrex.nl/04c21/>

Materials for space applications.

29 November - 2 December 2004, Boston, MA, USA.
<http://www.mrs.org/>

CANEUS 2004 Conference on Micro-Nano-Technologies for Aerospace Applications

30 October – 5 November 2004, Monterey, CA, USA.

<http://neutrino2004.in2p3.fr/>

First European Space Weather Week

29 November - 3 December 2004, Noordwijk, The Netherlands.

<http://www.congrex.nl/04c27/>

OTHER ESA NEWS

01 July 2004 Cassini-Huygens enters orbit around Saturn

17 August 2004 Discovered two new moons of Saturn

27 September 2004 SMART-1 celebrates its first year in space

15 October 2004 Ariane's Vulcain-2 engine ready for a new test flight

ACT NEWS

The Advanced Concepts Teams has open two research post-doc positions:

- Collaborative Open Design
- Biomimicry

For more details and information on how to apply please check

<http://www.esa.int/gsp/ACT/opportunities.htm>

ARIADNA IN SHORT

With Ariadna, ESA intends to strengthen the bond between Academia and ESA by providing opportunities to work in partnerships and making up-to-date information available on on-going ESA studies and advanced space technology news relevant to the academic world. Check <http://www.esa.int/ariadna> for news or updates on coming Ariadna call for Proposals.