

ARIADNA NEWS

www.esa.int/gsp/ACT/ariadna/news.htm

Five new studies kicked-off

Following the Call for Proposals 2008/01 focussed on bio-mimetics and bioengineering, we received many interesting proposals, almost entirely from research teams with no prior contact to ESA or space. Among these, five teams were chosen to study with the ACT internal researchers:

- Quantifying the Landing Reaction of Cockroaches
[University of Applied Sciences, Bremen](#)
- Neuromorphic Computation of Optic Flow Data
[ETH/USZ, Zurich](#)
- Université de la Méditerranée, Marseilles
- Curiosity Cloning – Neural Modelling for Image Analysis
[Ecole Polytechnique Fédérale de Lausanne](#)
[Dublin City University](#)

Other Ariadna studies

To see our ongoing studies:

www.esa.int/gsp/ACT/ariadna/ongoing.htm

To see all previous studies:

www.esa.int/gsp/ACT/ariadna/completed.htm

ESA ACT News

Call for Papers: Planetary Defence

The student competition of the 1st IAA Planetary Defence Conference is now including also an ESA call for student papers supporting the best European students. Post-graduate student researchers are encouraged to submit abstracts by **15th December 2008** on one of the [suggested topics](#), all related to the theme of *Apophis* and small body encounters. Financial support for selected students is available.

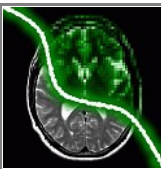
[Click here for more information.](#)



ACT image viewer

In support of the research on curiosity cloning – neural modelling for image analysis, Marek Rucinski (YGT) has developed an ultra-precise image viewer "CCViewer", available open source to the scientific community on SourceForge.net..

ccviewer.sourceforge.net



GENERAL ESA NEWS

Lunar Robotic challenge

European university students were invited in March to compete at ESA's first Lunar Robotics Challenge to create an innovative, mobile robot capable of retrieving samples from a lunar-like crater. The challenge was held at the Minas de San José in the National Park of Teide on the island of Tenerife in October. The eight rover teams shared their experiences at a special session at ESA's 10th Workshop on Advanced Space Technologies for Robotics and Automation.

www.esa.int/esaHS/SEMTOH4KXMF_research_0.html

Invitations to Tender (ITTs)

Periodically the European Space Agency issues Invitations to Tender on a broad range of subject areas and activity types. List of upcoming and currently open ITTs: emits.esa.int.

CONFERENCES AND EVENTS

- 1st Planetary Defence Conference: Protecting Earth from Asteroids. The IAA will hold its first conference on protecting our planet from impacts by asteroids and comets the week of April 27, 2009 in Granada, Spain.

www.esa.int/gsp/ACT/events/events.htm

- "International Joint Conference on Artificial Intelligence (IJCAI-09)" will include a 'Workshop on Artificial Intelligence in Space', held at Pasadena, California, USA on the 17 - 18 July 2009.

www.congrex.nl/09c17/

CAREER OPPORTUNITIES

ESA

ESA's Young Graduate Trainee (YGT) programme offers recent graduates a one-year training contract designed to give valuable work experience and to prepare for their future activities.

This year the ACT is recruiting 3 research oriented graduates in the following areas:

- Computational Intelligence / Computational Management Science
- Earth Systems Science
- Artificial Intelligence / Neuroinformatics

In addition the ACT will host the following 2 YGTs:

- Advanced Studies Knowledge Engineering
- Space for Security - Strategic Technical Analysis

(closing date: **14th December 2008**)

www.esa.int/hr/ygt.htm

Other opportunities

If you have any other opportunities you would like us to inform the Ariadna research community about, please tell us.

- 2 PhDs at Glasgow University under supervision of Massimiliano Vasile (m.vasile@aero.gla.ac.uk): "Computational fluid dynamics with application to wind turbines" and "Design and testing of a solar pumped laser for asteroid deflection".
- The French Space Agency CNES offers currently more than 200 internship positions, among these several on advanced concepts (e.g. Ristretto and Perseus projects).
www.cnes.fr/web/CNES-fr/175-stages-cnes.php

ACT PERSONNEL

Since July, four new Research Fellows have joined the ACT:

- Pacôme Delva, Fundamental Physics, did his PhD on theoretical tools for experimental gravitation and applications to matter wave interferometers and cavities at the Paris VI university in France.
- Christos Ampatzis, Artificial Intelligence, did a PhD on Artificial Intelligence and Swarm Robotics at the Université Libre de Bruxelles in Belgium.
- Chit Hong Yam (a.k.a. Hippo) received his Ph.D. from Purdue University (USA) with his doctoral thesis on interplanetary mission design and trajectory optimization.
- Francesco Biscani, Informatics & Applied Mathematics, obtained his PhD from the University of Padua developing a computer algebra system for celestial mechanics.

We also say farewell to Luzi Bergamin, who has spent 3 years with the team, and to Aurélien Hees, who will be starting his PhD in General Relativity at the Royal Observatory of Belgium. One Research Fellows will be joining us in January: Joris Olympio, Mission Analysis & Design.

www.esa.int/gsp/ACT/whoweare/whoweare.htm

About: The aim of ESA's Advanced Concepts Team is to explore emerging technologies with potential applications in future space missions. This team collaborates on studies with academic research centres through the Ariadna scheme, specifically tailored to their needs and limited administrative resources. In particular, we wish to enable cost-effective, focused consultation of the academic community on innovative concepts and topics.