

ARIADNA NEWS

Ariadna Call for Proposals 2013/01 released

The team is looking for academic research partners in three new research topics:

- **Automatic extraction and characterization of structures in area-preserving maps**
([Study description](#))
- **Space-based femtosecond laser filamentation**
([Study description](#))
- **Climate tipping points: Detection and analysis of patterns using an ordinal regression approach**
([Study description](#))

Submission deadline: **25th February 2012**

Ariadna studies targeting university researchers interested to join the ACT for some months of collaborative joint research. These studies are also suited for researchers not yet linked to space or ESA. ([More information, AO7415](#))

Recent and Ongoing Ariadna Studies

The ACT has teamed up with universities for the following research topics:

- Scent of Science: Autonomous Source Localization for Exploration with [Carleton University](#)
[Study description, project site](#)
- Subsurface investigation and interaction by self-burying bio-inspired probes (12-6401) with [Univ. of Florence](#), (Dep. of Plant, Soil and Env. Science)
[Study Description, project site](#)
- Kinetic modelling of the jet extraction mechanism in spherical IEC devices (12-3201) with [Univ of Stuttgart](#)
[Study Description, project site](#)
- Probabilistic Computing for Efficient Robotic Vision in Space (12-5101) with [Carleton University](#)
[Study Description, project site](#)
- Mimicking the thigmotactic behaviour of climbing plants to design a tactile-based grasping device for the space environment (12-6402) with [Univ. of Bozen-Bolzano](#)
[Study Description, project site](#)
- Space Gaits (12-5201) with [Nat. Techn. Univ. of Athens](#)
[Study Description, project site](#)

[ACT Youtube channel](#) with Ariadna executive presentations

ACT PERSONNEL

In the end of 2012 we said goodbye to Guido de Croon.

Current ACT team members are Aurélie Héritier, Camilla Pandolfi, Dejan Petkow, Johannes Simon, Marcus Mörtens, Sante Carloni, Veronica Ramos, Annalisa Riccardi, Francisco Fernández-Navarro, Isabelle Dicaire, Matthias Gerstgrasser, Wiktor Piotrowski, Christos Veziris, Zivile Dalikaite, Dario Izzo and Leopold Summerer ([all ACT members](#)).

ACT NEWS

Open Post-Doc in Biomimicry

The Research Fellow (post-doc) opportunity in biomimicry in the ACT is still open for applications. Deadline for application is at 4th of February. More information can be found [here](#).

Stardust Project

The ACT is one of the 14 partners of the Stardust project, aiming at training the next generation of scientists, engineers and policy-makers on investigating the removal of space debris and deflection of asteroids. The FP7 Marie Curie ITN project is led by [Max Vasile](#) from Strathclyde University (and former ACT research fellow). The network will kick off in March 2013 at ESTEC. (<http://www.stardust2013.eu>)

GENERAL ESA NEWS

Invitations to Tender (ITTs)

The European Space Agency periodically issues Invitations to Tender on a broad range of subject areas and activity types. A list of both upcoming and currently open ITTs can be accessed at [EMITS](#).

Some potentially interesting studies for universities include:

- [AO7414](#) System Concept Simulator
- [AO7413](#) Innovative autonomous navigation techniques
- [AO7374](#) Advanced Model Techniques for Future Satellite Access Networks
- [AO7367](#) System Verification Through the Life Cycle

UPCOMING CONFERENCES AND EVENTS

- July 06 – 10, 2013 [Genetic and Evolutionary Computation Conference](#), Amsterdam
- August, 2013 Workshop “[AI in Space](#)”, Beijing

European University students have opportunity to participate in various ESA conferences and workshops in space-related fields around the world. The first opportunities of 2013 ESA conferences have now been posted [here](#). ESA conferences: <http://conferences.esa.int>

About the ACT: The aim of ESA's Advanced Concepts Team is to perform, monitor and foster research on advanced space systems, innovative concepts and working methods.