

## Postdoctoral Research Fellowship in Mission Analysis and Design

(posted: 22/02/2008)

The European Space Agency's Advanced Concepts Team (ACT) is looking for highly motivated young researchers, with good analytical and communicational skills and an excellent aptitude for team work.

### The Team

The Advanced Concepts Team (ACT) is a group of research fellows (post-docs) and young graduates who originate from a broad variety of academic fields and aim at an academic career. Its task is to monitor, perform and foster research on advanced space systems, innovative concepts and working methods. It interacts externally almost exclusively with academia and operates as a truly interdisciplinary team bound to high scientific standards. Via its research, the team acts as a cross-departmental pathfinder to explore novel, potentially promising areas for ESA and the space sector, ranging from applied to basic fundamental ones.

Internally, the Advanced Concepts Team acts as the technical think tank of the Director General's Policy Office. Thus, an important effort of the team is put in communicating scientific trends and results, as input to the strategic planning of the Agency.

### Duties and tasks

Successful candidates will carry out research in mission analysis and design and will in particular carry out the following tasks:

- Propose and perform high-level research in the field of mission analysis and design both within the team and together with universities of ESA member states (in particular through the Ariadna programme)
- Lead and assist interdisciplinary projects with the other Advanced Concepts Team Research Fellows and Young Graduate Trainee
- Perform and participate in small internal studies to provide in-house expertise to ESA Director General's Policy Office and its General Studies Programme
- Follow and monitor the progress of research in the area of mission analysis and design in order to derive and report strategic long-term trends
- Participate, with the rest of the team, in the assessment of space system concepts - not being restricted only to the mission analysis and design area - and propose new concepts and assessment studies

Areas of research are partly chosen by the successful candidate based on his/her own expert judgements and insight into trends and developments in informatics/applied mathematics, partly chosen by the team as to follow strategic directions of the Agency.

Based on current assessments, ACT areas of research in mission analysis and design include **automated trajectory optimisation, asteroid deflection**, novel methods in **dynamics and control, complex tether systems**.

### Qualifications

The candidate should hold a degree in Aerospace Engineering. He or she should also have completed (or be about to complete) a PhD in Aerospace Engineering, subject of the thesis being relevant to the description of the tasks outlined above, and aim at an academic/research career.

The candidate should demonstrate the ability and interest to get actively involved in prospective interdisciplinary research.

Successful candidates are expected to show an aptitude to contextualise specialised areas of research and to quickly assess their potential with respect to other domains and applications. An avid, natural curiosity and a

passion for new subjects and research areas are essential. As member of an interdisciplinary, multicultural team of peers, the candidate should have a natural aptitude to teamwork, while being able to set-up, follow, monitor and be responsible for his/her own personal research plans and directions.

Experience with Linux operating system, scripting and applications are an asset.

### Application

Applicants should send their CV and covering letter stating their research interests to: [act@esa.int](mailto:act@esa.int). The [general eligibility criteria of the ESA Research \(Internal\) Fellowship Programme](#) apply. Additionally, an [application form](#) should also be submitted to ESA's personnel department:

EUROPEAN SPACE AGENCY C/o Personnel Department; 8 – 10, rue Mario Nikis; 75738 PARIS Cedex 15

All applications will be considered until the available post is filled. A first round of interviews is expected to take place in May-June 2008; to enter this call it is recommended to submit applications no later than April 14, 2008.

For more information, please visit our website [www.esa.int/act](http://www.esa.int/act).