Vacancy Notice

Internal Research Fellow (post-doc) in Biomimetics

The European Space Agency's Advanced Concepts Team (ACT) is looking for highly motivated young researchers in the area of biomimetics, with good analytical and communicational skills and an excellent aptitude for teamwork.

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. The team's 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 topics. The team is in constant evolution and attempts to lead and embrace changes and new trends. Each member is therefore encouraged and expected to suggest and contribute changes also in the team.

Internally, the Advanced Concepts Team acts as the technical think-tank within Future Preparation and Strategic Studies Office. Thus, an important task of the team is to communicate scientific trends and results, as input to the strategic planning of the Agency.

The team has entered the related field of biomimetics in 2002 and has since then concentrated on research topics including sensing, control, actuation, and behaviour. The successful candidate will work in a team of scientists and engineers having diverse backgrounds ranging from physics to economy and will define and shape her/his research together with the team drawing from his or her own insight and analysis. Research within the team is predominantly performed by theoretical and simulation approaches. Where experiments are useful or necessary, these are usually done either at cooperating universities, or in and with ESA labs, e.g. the robotics and automation group, with which the team traditionally maintains strong ties.

Duties and tasks

Successful candidates will carry out research in biomimetics and will in particular carry out the following tasks:

- Perform research in biomimetics aiming at potential space applications
- Proactively communicate own research projects, difficulties, trends and results inside the team
- Initiate, develop, and assess research ideas (not necessarily only within own field of expertise) and their potential for space applications
- Lead and contribute to interdisciplinary research projects

- Publish results in peer-reviewed publications and additionally use modern communication tools to communicate with broader community inside and outside ESA.
- Monitor relevant science and technology trends (outside and inside the space sector), and provide summarizing reports both by own initiative and upon dedicated request.
- Monitor developments in previously performed biomimetic research projects of the team.
- Network with the related academic community to establish and strengthen links between ESA and European academic research groups especially outside the space sector.
- Identify and address potentially related research groups and communities from ESA Member and cooperating States.
- Perform and participate in studies on subjects of strategic interest to provide in-house expertise.

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

Qualifications

The candidate should hold a degree in either biomimetics, technical biology, physics, engineering, mathematics, informatics, or a related field. She or he should also have completed (or be about to complete) a PhD in biology (or eventually another discipline with a solid biomimetic focus), with the subject of the thesis relevant to the task description above. The applicant should aim at an academic/research career. Experiences in trans-disciplinary research as well as in computational analysis/modelling of biological systems are considered strong assets.

The candidate is expected to bring to the team a broad knowledge of the biomimetic research fields and communities. The candidate should demonstrate an interest in space science and / or technology as well as the ability and interest to get actively involved in prospective interdisciplinary research.

Applicants must be fluent in English and/or French, the working languages of the Agency. A good proficiency in English is required

Successful candidates are expected to show an aptitude to put their areas of research into a broader context, to quickly assess the potential of research ideas with respect to other scientific domains and (space-) applications and to be able to communicate their research to peers and superiors with completely different scientific and professional background. 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. Good methodological and organisation skills are therefore a valuable asset.

Application

Information on the ESA Research Fellowship Programme and the application form are available at:
http://www.esa.int/SPECIALS/Careers_at_ESA/SEMICLRTJRG_0.html .
Applicants should send their CV, a covering letter stating their research interests and the filled-out RF application form to: act@esa.int as well as temp.htr@esa.int. (if not possible by email, the reference letters can also be sent via normal mail to: ESTEC HR Division, HFI-HTR, ESA/ESTEC; Keplerlaan 1, PO Box 299, 2200AG Noordwijk ZH, The Netherlands).
The general eligibility criteria of the ESA Research (Internal) Fellowship Programme apply.

All applications will be considered until the available post is filled. Application deadline for this round of interviews: no later than January 9, 2013. Typically the interview process will include a pre-interview by videoconference/skype, a short presentation of a research proposal in a seminar type setting with the current team present and a classical face-to-face interview.

To prepare for the interview please visit: ESA: www.esa.int, the Advanced Concepts Team: www.esa.int/act, read the publications about the team on the publications page (http://www.esa.int/gsp/ACT/publications/index.htm) or in case of questions, send us an email to: act@esa.int