UNIVERSITÄT PADERBORN
Die Universität der Informationsgesellschaft

IFIM INSTITUTE FOR INDUSTRIAL MATHEMATICS

OPEN Ph.D. and PostDoc Positions in Mathematics

in the European Astrodynamics Network

Dynamical Systems and Optimal Control methods in Space Mission Design

Marie-Curie 'Early Stage Researcher' Fellowship (Ph.D. Position)
Salary: circa € 32,500 gross p.a. basic living allowance (circa € 20,000 net for an unmarried single) plus further allowances..
Marie-Curie 'Experienced Researcher' Fellowship (PostDoc Position)
Salary: circa € 46,500 gross p.a. basic living allowance (circa € 26,000 net for an unmarried single) plus further allowances.

The successful applicants will work in a multidisciplinary team with members of the **Institute for Industrial Mathematics (IFIM) at the University of Paderborn, Germany**, and their partners in the European Marie-Curie Research Training Network '**AstroNet – the Astrodynamics Network**'. The working language in this project is English.

Topics: Applications are invited for an up to 2 year Marie-Curie Research Fellowship to work in the field of Dynamical Systems or Optimal Control methods in Space Mission Design. Possible topics are the mathematical research on gravity assisted and continuous low thrust trajectories for spacecraft in the Solar system or the mathematical modeling, analysis and simulation of spacecraft formation control.

Early Stage Researcher: Applicants should have a good degree in **Mathematics or a related discipline**. A sound knowledge of Dynamical Systems theory, Hamiltonian mechanics and/or numerical methods is desirable, but not essential. They should also have the ability to work as part of a group and possess good communication skills. The successful applicant will be expected to register for, and work towards, a doctoral degree in Mathematics.
Applicants must satisfy the Marie-Curie 'Early Stage Researcher' eligibility criteria. In particular at the time of appointment they should have less than 4 years research experience (including doctoral studies).

Experienced Researcher: Applicants should have a strong research background in an appropriate area of **Mathematics, Physics, Engineering or related discipline**. They should also have the ability to work independently and as part of a group, possess good communication skills, and have experience in writing high quality mathematics-based technical reports. Experience in coordinating research efforts within international teams is welcome.
Applicants must satisfy the Marie-Curie 'Experienced Researcher' eligibility criteria. In particular at the time of appointment they should have between 4 and 10 years of research experience (including doctoral studies) and will be expected to have a PhD degree or equivalent.

Restrictions:
Applicants for both categories will normally be nationals or long-term residents of one of the European Union member states or associated states ***other than Germany***. However exceptional candidates from outside this region as well as German citizen that have been resident outside Germany within the last few years are also encouraged to apply. For further details of the Marie-Curie Research Training Network program, including eligibility criteria, see the RTN Handbook: ftp://ftp.cordis.europa.eu/pub/fp6/docs/calls/mariecurie-action/r_rtn_200501_en_pdf.zip. Informal enquiries are welcome and may be made to either Prof. Dr. Michael Dellnitz (dellnitz@ifim.uni-paderborn.de) or Dr. Robert Preis (preis@ifim.uni-paderborn.de).

The successful applicants' gross **salary** will be approximately € 34,000 p.a. for an Early Stage Researcher and € 48,000 p.a. for an Experienced Researcher. He or she will have access to additional travel and subsistence funding.

The **Institute for Industrial Mathematics (IFIM)** at the University of Paderborn works together with its industrial partners by identifying mathematical problems and developing efficient solutions. This way of cooperation between Science and Industry often results in significant scientific, economical as well as technological benefits. Further information (in German) can be found at http://ifim.uni-paderborn.de.

AstroNet is a new European Marie-Curie Research Training Network coordinated by the University of Surrey, England. In addition to Paderborn and Surrey, it has teams in Finland, Poland, Scotland, Spain and Turkey and strong links with astrodynamics groups in the USA, with the space agencies ESA and NASA, and with the space industry. The Network brings together mathematicians, engineers and astronomers from these sectors to work on innovative new methods for designing spacecraft trajectories and controlling their dynamics. Further information on AstroNet can be found at: http://www.maths.surrey.ac.uk/hosted-sites/astronet/.

IFIM and the EU seek to increase the number of women in science. Therefore especially female students and researchers are strongly encouraged to apply. Interested students and researchers should send their application together with the usual attachments (CV, copies of degree certificates and qualifications, references, research interests, publication list and any further relevant material expressing their scientific background and experience) to

Prof. Dr. Michael Dellnitz
Institute for Industrial Mathematics
University of Paderborn
33095 Paderborn
Germany

Applications from qualified and highly motivated students and researchers are welcome and are accepted any time. It is desired to fill the positions as early as spring 2009.