



TWO ESR (Early Stage Researcher) POSITIONS at the Department of Mathematics UNIVERSITY of PISA (Italy)



The Department of Mathematics of the University of Pisa (UniPi) offers 2 fully funded Early Stage Research (ESR) positions as part of Stardust-R, an Innovative Training Network - Marie Skłodowska-Curie Actions (MSCA).

These positions are open to international students, and concern research on the following subjects:

1. **ESR7: Patching simple dynamics to model a more complex one;**
2. **ESR8: Identification and correlation of very short arcs of observations.**

Further information is available on:

<http://www.stardust-network.eu/about/jobs/>

Job Description

The post of each Early Stage Researchers is for 36 months. It will consists of the following activities:

a) **Research:**

- **ESR7:** study when a patched integrable dynamics is representative of a more complex one; study how linked integrable solutions can be used in orbit determination; search for a new definition of region of influence of the Earth by studying patching techniques in the restricted three body problem.
- **ESR8:** apply some of the new initial orbit determination (IOD) methods and create a complete OD pipeline which is able to deal with very large database of observations; include in the existing IOD methods some perturbations, e.g., planetary close approaches for asteroids, Earth oblateness for debris.

- b) **Training:** attendance of schools and training events; participation in planned secondments; collaboration with other ESRs through Working Groups.
- c) **Outreach:** i) communication through multiple social media platforms; ii) participation in the campaigns managed by the Stardust-R network; iii) education outreach, addressed to school students.

MSCA eligibility criterion

The ESRs must, at the date of recruitment by the beneficiary, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree.

Moreover, they must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting beneficiary for more than 12 months in the 3 years immediately before the recruitment date.

Applications

Interested candidates should send by e-mail to

giovanni.federico.gronchi@unipi.it

as well as to

info@stardust-network.eu

the following documents:

- curriculum vitae (CV) in English, following the template available at <http://www.stardust-network.eu/about/jobs/>;
- transcripts and certificates;
- two letters of reference;
- a cover letter explaining their motivation and research interests.

Applicants to Stardust-R ESR positions can apply for a maximum of 2 different posts, with each post ranked in terms of preference.

Requirements

- **Educational and/or Professional Qualifications:** master degree in Mathematics, Physics, Astronomy or Aerospace Engineering;
- **Experience and Training:** knowledge of fundamentals of Celestial Mechanics;
- **Skills:** programming with scientific software, good knowledge of English language.

Selection

The candidates will be first shortlisted on the basis of their CV, then by interviews (via Skype, or similar). The last phase of the selection will possibly be done at UniPi. In that case travel and living expenses will be covered by UniPi.

Benefits

The ESR fellows will be employed according to the regulations of the MSCA Innovative Training Networks and the employment conditions of UniPi. They will also have the opportunity to be enrolled in the Mathematics doctoral program at UniPi.

Application Deadline: 31 March 2019

Job starting date: 1 November 2019

Contact information:

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