INAF
ISTITUTO NAZIONALE DI ASTROFISICA
OSSERVATORIO ASTRONOMICO DI CAPODIMONTE

JOB ANNOUNCEMENT

The Istituto Nazionale di Astrofisica – Osservatorio Astronomico di Capodimonte (INAF-OACN) is offering a post-doctoral position in "**Development of an automated pipeline for characterizing active objects detected with the Rubin-LSST**", coordinated by Prof. Laura Inno. This is part of the project "Partecipazione LSST Large Synoptic Survey Telescope (ref. Adriano Fontana)", with local PI Massimo Brescia, as *in-kind contribution* S11 (contribution lead: Laura Inno) in the agreement INAF-Rubin LSST.

RESEARCH PROJECT

The postdoctoral fellow will primarily focus on further developing a software to compute a probabilistic tail model to be automatically fitted to Rubin/LSST images of active objects in order to characterize their dust environment. This tool is designed to determine structural parameters and morphological details for thousands of comets once the survey begins as part of the LSST data reduction pipeline. The postdoc will also develop all the necessary software to perform image reduction techniques specific to the characterization of active objects. The post-doc will also be able to dedicate the 30% of their time to their own research projects, preferably in the field of Solar System Science and Space Missions. The postdoctoral fellow should possess a strong proficiency in simulation software and date reduction and analysis. The post-doc will primarily collaborate with Laura Inno, at the Parthenope University of Naples, working closely with other colleagues who are experts in machine learning, space missions and Solar System science in the Napoli area.

ELIGIBILITY

The appointment is expected to begin by February 1, 2024, and will be for 12 months in the first instance, and renewable afterwards, for additional 12 months.
The yearly gross salary is 28,373.85 Euros, corresponding to a net salary of around 25,000 Euros.
The deadline for sending applications is January 20, 2024 – 11.59 p.m. (Italian time).

REQUIREMENTS

- PhD in Astronomy or Physics or equivalent qualification awarded by public or private Universities, Institutions, Research Organizations or Centers or other qualified research bodies, both in Italy and abroad, in the topics relevant to the scientific and technological area and the research object of this call.

Or alternatively

- Master Degree in Astronomy, Engineering, Physics, Computer Science or equivalent qualification, together with 3 years of documented experience, awarded by public or private Universities, Institutions, Research Organizations or Centers or other qualified research bodies, both in Italy and abroad, in the topics relevant to the scientific and technological area and the research object of this call.

With the sole scope of admission to this selection procedure, the equivalence of educational qualifications obtained abroad will be verified by the "Selection Committee" as of Art. 8 in the Call, on the basis of documentation forwarded by the candidate as foreseen by Art. 3 of the"Call", provided that, in case the candidate is the winner of the aforesaid procedure, the Administration will acquire the results of the verification performed by the "Selection Committee" and will forward them together with the documentation listed in Article 3, paragraph 2, letter a) or b) of the Decree n. 189 of the President of the Republic of 30 July 2009, plus the application of the candidate, to the Ministry of University and Research with the scope to acquire the opinion foreseen in Article 4, paragraph 2 of the aforementioned Decree.

PREFERENTIAL QUALIFICATIONS

We are particularly interested in candidates with expertise in one or more of the following:

- solid expertise in simulation coding and interfaces between different simulations codes and python coding;
- solid knowledge in analysis of data from space missions and supporting software;
- solid knowledge of space missions and especially of the European Space Agency Comet Interceptor mission;
- solid knowledge of data reduction and analysis.

APPLICATION PROCEDURE

Applications must be sent via certified e-mail to inafoanapoli@pcert.postecert.it; or, alternatively, via email to concorsi@oacn.inaf.it.

In the email subject the applicant should make explicit reference to "**Assegno di Ricerca** "**Development of an automated pipeline for characterizing active objects detected with the Rubin-LSST**"**, tipologia B" Postdoc**".

Applications must include the following Annexes dated and signed:

- the Application Form (Annex A);
- the self-certification Form (Annex B);

Up to two reference letters will be appreciated. Editors/contacts should address them by the deadline for application to: inafoanapoli@pcert.postecert.it, or to concorsi@oacn.inaf.it, reporting in the object of the mail:

"**Assegno di Ricerca *in-kind contribution* S11**" and the name of the candidate they are referred to.

The applicant also needs to attach:

- a curriculum vitae (dated and signed);
- a complete list of relevant publications, dated and signed, which should contain all details: title, journals, years of publication, lists of authors, and web addresses on which they can be viewed;
- a list of all submitted documents.
- a copy of a valid identification document;
- any other work or publication the applicant deems useful.

Incomplete or unsigned applications will be rejected.

Napoli, December 18, 2023

Il Direttore
Dott.ssa. Marcella Marconi