SUMMARY OUTLINE OF THE NOTICE OF COMPETITION

Subject:

Public selection procedure, based on qualifications and possible interview, for the awarding of a post-doc research fellowship, lasting one year, for the needs of the project "Archive and off-site infrastructure of the projects ASTRI and Mini-Array", entitled: "Development and realization of an archive for the ASTRI Mini-Array project on funds from the PON IBISCO project".

Description of the research activity to be carried out:

- Development and integration, within the Ibisco infrastructure, of solutions for the creation of data storage federations, clusters and software components, as part of the creation of a data archive for the ASTRI Mini-Array project and of the future testbed for the Bulk Archive of the Cherenkov Telescope Array (CTA) international project. The creation of a highly reliable system for federated access is planned, according to a data-lake model, supporting versatile "on demand" functions in the collection, storage and modelling of the data itself. Particular attention is paid to the "High Availability" properties and to the "Quality" of the services offered according to the needs of the end users of the archive, who access and / or analyze the data.
- Development of code and libraries in C / C ++ / Python for the software of the Archive of the ASTRI Mini-Array project.
- Responsibility for the integration, release and installation of the Archive software in an operational environment.
- Support for defining and reviewing software documentation (use cases, software requirements, software design, etc.).

The possible integrative interview will focus on the topics specified below, relating to the sector of activity for which the selection is announced and the activities specified in art. 1 of this announcement:

- Astronomical Archives: methods and techniques of Archiviation of scientific data;
- Big Data: methodologies and techniques for the use of large databases;
- E-INFRA: Infrastructures and computing tools for archiving scientific data and metadata.

Admission requirements:

In order to be admitted to the selection procedure governed by this "Call", the possession of one of the following qualifications is required:

- PhD in Computer Science, Engineering, Physics or equivalent, issued by a Higher Institute or University (including foreign);

or

Osservatorio Astronomico di Roma
SETTORE I
STATO GIURIDICO DEL PERSONALE -
TRATTAMENTO ECONOMICO E
MISSIONI DEL PERSONALE

Via Frascati, 33
00078 Monte Porzio Catone
Roma
Tel. [+39] 06.942864.1

MAIL: nome.cognome@inaf.it
PEC: inafoaroma@pcert.postecert.it
WEB: www.oa-roma.inaf.it

Istituto Nazionale di Astrofisica - Sede Legale - Viale del Parco Mellini, 84 - 000136 Roma C.F. 97220210583 - P.IVA 06895721006

- Master degree (or 2nd level Laurea degree, if issued by an Italian University) in Computer Science, Computer Engineering or Physics or equivalent qualification, issued by a Higher Institute or University (including foreign), together with at least three years of documented experience in scientific activities or technological after graduation. The equivalence will be established by the selection board according to criteria defined for the purposes of the selection procedure.

A good knowledge of the English language is required.

The following skills and experiences will be considered preferential requirements:

- Master in computer science, big data archiving and / or analysis;
- Certifications and professional specialization schools for the management of clusters, databases and big-data mining;
- Deep knowledge of C / C ++ / Python programming languages;
- Deep knowledge of creating, managing, and accessing relational and non-relational databases;
- Experience with compute clusters and data storage management;
- Advanced knowledge of resource and storage federation tools such as Rucio, Dynafed, OneData, etc.

Application for admission:

Applications must be submitted in one of the following ways:

• for Italian citizens: by certified e-mail, including all the required documents in PDF format, sent to inafoaroma@pcert.postecert.it. The documentation must be sent to the address indicated, only if you have a certified e-mail box (PEC, not ordinary mail), **by 31 May 2022 - 23:59 CET**. Only the certified e-mail from one of the operators listed in the AgID Digital Italy Agency list is considered valid pursuant to Presidential Decree no. 68 of 02/11/2005).

• for foreign citizens: by ordinary electronic mail (e-mail) to the address inafoaroma@pcert.postecert.it or by express courier to INAF-Astronomical Observatory of Rome - Via Frascati 33, 00078 Monte Porzio Catone (RM). Applications must be received **no later than May 31, 2022 - 11:59 pm CET** (the date of the postmark will not be sufficient). Late applications will not be considered.

Requests to participate can be delivered by reporting in the subject of the e-mail the following sentence: "Selection PON IBISCO".

Aware that false declarations against the law are punishable for and that the Administration can proceed to verify the veracity of the declarations made, the candidate must clearly and precisely declare:

- name and surname, date and place of birth, nationality, residence and address for sending correspondence,
- to possess all the requisites described in art. 2 of this announcement;
- not to be in some of the incompatibility conditions added to art. 4 of this announcement.

Osservatorio Astronomico di Roma
SETTORE I
STATO GIURIDICO DEL PERSONALE -
TRATTAMENTO ECONOMICO E
MISSIONI DEL PERSONALE

Via Frascati, 33
00078 Monte Porzio Catone
Roma
Tel. (+39) 06.942864.1

MAIL: nome.cognome@inaf.it
PEC: inafoaroma@pcert.postecert.it
WEB: www.oa-roma.inaf.it

Istituto Nazionale di Astrofisica - Sede Legale - Viale del Parco Mellini, 84 - 000136 Roma C.F. 97220210583 - P.IVA 06895721006

The lack of the declarations mentioned will result in exclusion from the selective procedure for incomplete application.

For the purposes of selection, the candidate can self-certify the possession of academic qualifications through Attachment 1.

In addition, non-EU citizens residing outside Italy, if successful, must produce originals or suitably certified copies of academic qualifications obtained outside Italy.

To participate, the following documents must be presented:

- Complete Application Form, as provided in the Annex 1 of this announcement;
- Annex 2 - substitutive declaration of certification - substitutive declaration of deed of notoriety (art. 19 - 46 - 47 of Presidential Decree 28 December 2000, n. 445);
- "Curriculum vitae", signed and dated by the candidate, which also indicates any scholarships and research grants previously or in progress;
- Copy of a valid identity document;
- List of publications;
- Any other qualification, work experience, research activity at private public institutions and publications that the candidate deems appropriate to attach;
- List of all documents presented.

Candidates are admitted to the selection with reserve and may, at each stage, be notified of their exclusion from the selection for the following reasons:

- the application was submitted after the deadline;
- lack of demand;
- lack of a copy of a valid identity document;
- lack of the requisites indicated in art. 2.

If the reasons for exclusion are ascertained after the conclusion of the selection procedure, the candidate will lose all rights to participate in the selection; similarly, we will proceed if the production of false declarations is ascertained.

INAF declines all responsibility for loss of the application or documentation when this derives from the fact of the applicant for having provided incorrect contact details or for having failed or delayed notification of any changes.

Duration of the research fellowship

The duration of the fellowship is one year, renewable if necessary subject to the assessment of the needs of the research program, subject to a reasoned request from the Scientific Responsible and subject to verification of financial availability and, in any case, within the limits provided for in article 22, paragraph 3, of Law 240/2010 and subsequent amendments and additions.

Osservatorio Astronomico di Roma
SETTORE I
STATO GIURIDICO DEL PERSONALE -
TRATTAMENTO ECONOMICO E
MISSIONI DEL PERSONALE

Via Frascati, 33
00078 Monte Porzio Catone
Roma
Tel. [+39] 06.942864.1

MAIL: nome.cognome@inaf.it
PEC: inafoaroma@pcert.postecert.it
WEB: www.oa-roma.inaf.it

Istituto Nazionale di Astrofisica - Sede Legale - Viale del Parco Mellini, 84 - 000136 Roma C.F. 97220210583 - P.IVA 06895721006

Location of the research grant

The location of the study and research activity will be the <u>Astronomical Observatory of Rome</u>. The candidate will be able to participate in a transfer abroad.

Amount of the research grant

The gross annual amount of the research grant is **€ 28,000.00**; this amount is to be understood net of the charges to be borne by the Astronomical Observatory of Rome and will be paid in deferred monthly installments.

THE DIRECTOR OF THE "OSSERVATORIO ASTRONOMICO DI ROMA"

Dr. Lucio Angelo Antonelli