

INAF/IRA Fellowship for “Radio observations of gamma-ray and multi-messenger sources”

Fellowship code: 2024/02/IRA/AR

This page is intended to provide information in English for people interested in applying to the INAF/IRA fellowship “Radio observations of gamma-ray and multi-messenger sources”. Please refer to:

- <https://info.ira.inaf.it/opportunities/1-assegno-di-ricerca-tipologia-post-dottorato-cod-s-elezione-2024-02-ira-ar/> for official information in Italian
- https://drive.google.com/drive/folders/1iZX32tdGmM22f2PrcqXaJHAJZ_Cb18bP?usp=share_link for unofficial templates and information in English

Our group is active in the field of high energy astrophysics, in particular in the study of compact radio sources over a large range of mass scales. We have strong involvement in multi-wavelength and multi-messenger activities, especially in the follow up of gravitational wave and neutrino events. Since the position is funded on a Fermi-LAT grant, activities will be mostly based on radio-gamma-multimessenger studies. Our group is active on both AGNs (and the connection to neutrino emission) and transients, such as gamma-ray bursts, tidal disruption events, and more (with a connection to gravitational wave detection). We have quite well developed projects in both fields, and can provide more details if there is interest. We are also open to new projects, as long as gamma ray and radio astronomy can be a relevant angle.

The position is offered as a two-year term in the VLBI and high energy group at the Institute of Radio Astronomy (IRA) in Bologna. The IRA is one of several institutions part of the greater Italian National Institute for Astrophysics (INAF). IRA operates the 32m VLBI dishes in Medicina and Noto, which are part of the European VLBI Network, and the Northern Cross interferometer in Medicina. IRA is a large radio astronomy institute with scientific and technological involvement in all the major radio astronomical projects (ALMA, LOFAR, SKAO, and precursors). It is located in a campus where also the Astronomy Department, the Observatory, and the CTAO headquarters are found, providing a lively scientific and social environment. INFN and Physics Department are also located in Bologna.

The position is offered for 24 months, starting as soon as possible (ideally no later than September 2024), with a gross salary of 28000 EUR/year. The net salary is just above 2000 EUR/month, with a budget for conferences and hardware of about 5000 EUR over the two years. There is a possibility of an extension if funds are available. Italy has a fairly good public health service, so the compulsory personal insurance should not be very expensive.

Please remember that all the official information is given in Italian at <https://info.ira.inaf.it/opportunities/1-assegno-di-ricerca-tipologia-post-dottorato-cod-s-elezione-2024-02-ira-ar/> . The information provided here should be treated as **unofficial guidelines**. It should provide sufficient context and help to prepare an application. For any other information, feel free to email me at mgirolet@gmail.com.

In order to participate in the selection process, you need to download the [call](#) and the two annexes (“[Allegato A](#)”, with the application template, and “[Allegato B](#)”, with the template for declarations). In particular the relevant documents can be found at the following links:

- Italian [official]
 - [Call](#)
 - [Allegato A](#), with the application template
 - [Allegato B](#), template for declarations
- English [unofficial]
 - [Call](#) [see also the short version below]
 - [Attachment A](#)
 - [Attachment B](#)

The call

The call starts with ten pages of legal background information. You may safely ignore all of them. The actual relevant content starts on page 11, with a series of 13 articles. These are shortly summarised in the following.

Art. 1 - *Numero, durata ed ambito disciplinare dell’Assegno di Ricerca* (Number, duration and subject of the fellowship)

1.1 The call is open for a biennial contract of the “post-doc” type, for two years, and renewable pending funding availability.

1.2 The successful candidate will carry out the following activities:

- a) analysis and interpretation of the results of observations carried out in gamma ray band with the Fermi Large Area Telescope and in radio with the technique of interferometry
- b) study of the astrophysical targets in a multi-frequency and multi-messenger context, especially in view of future facilities such as SKAO in radio, CTAO at very high energy, and multi-messenger detectors of neutrinos and/or gravitational waves

1.3 The call is meant to support the growth of young researchers and not for permanent recruiting.

1.4 Basic fellowship information:

Title: “Radio observations of gamma-ray and multi-messenger sources”

Place of work: INAF Institute of Radioastronomy, Bologna (Italy)

Scientific reference: Dr. Marcello Giroletti, INAF/IRA Researcher

Art. 2 - *Requisiti di ammissione* (Eligibility requirements)

2.1 The formal requirements are as follows:

- PhD degree in Astronomy or Physics awarded by an Italian or by a foreign University/Institute -- **or**
- Degree in Astronomy or Physics which would formally entitle for the admission to a doctorate awarded by an Italian university or by a foreign university, with at least three years of documented experience in scientific or technological activities (including any years spent as Ph.D. student; i.e. if you have not defended your PhD Thesis yet, but have already done three years of research for it, you can still apply)

Experience in the analysis of data from radio interferometers, high-energy facilities, or multi-messenger detectors will be considered a preferential qualification.

2.2 The evaluation committee will decide about eligibility for the selection process. Upon completion of the selection procedure, the Administration will forward the relevant documentation to the Ministry.

2.3 Further eligibility criteria

- a) being an Italian citizen or an EU state citizen; non-EU state citizens can participate if they fulfil criteria listed at point 2.5
- b) this is just for Italian citizens, you may ignore it
- c) enjoyment of civil and political rights
- d) no criminal record
- e) good knowledge of written and spoken English

2.4 Further requirements for non-Italian citizens

- f) all the same as for Italian citizens, except it is not necessary to be an Italian citizen
- g) enjoyment of civil and political rights in their country of provenance
- h) fair knowledge of Italian language

2.5 For non-Italian EU citizens, and non-EU citizens, the requirements at point 2.3 have to be documented with certificates from the authorities in their state of provenance, with official translations authenticated from the Italian consulate.

2.6 All eligibility documents must be in place by the date of closure of the application.

2.7 Candidates will be admitted to the selection process and a verification of the possession of the eligibility requirements will be carried out after.

2.8 The lack of fulfilment of even just one of the requirements will result in the exclusion of the candidate.

2.9 Exclusions will be decided by the IRA Director.

Art. 3 - *Modalità e termini di presentazione della domanda di ammissione alla procedura di selezione* (Terms of application)

3.1 The applications can be prepared following the draft in Annex A and be submitted before 2024 July 10, 23:00 (CEST). Applications need to be accompanied by the necessary documentation and a valid ID document.

3.2 Applications need to be sent by certified or ordinary e-mail in PDF format to the address concorsi.ira@legalmail.it with subject "Codice selezione 2024/02/IRA/AR".

3.3 Applications will only be accepted if they come from the applicant's email address

3.4 Applications need to be signed with a digital signature or hand-signed and accompanied by a valid ID document

3.5 Candidates will be excluded from the selection process if

- a) the application is not signed
- b) the application is not sent by the deadline
- c) eligibility requirements are not fulfilled
- d) no valid ID document is included in the application

Art. 4 - *Modalità di redazione della domanda di ammissione alla procedura di selezione* (Preparation of the application form)

4.1 In the application, you will have to indicate:

- a) First and Last Name; date and place of birth; permanent address; Italian fiscal code (if you have it)
- b) citizenship
- c) enjoyment of civil and political rights in your country
- d) the possession of the titles indicated at art. 2.1, with indication of

- the year of graduation, the name of the University that awarded it, and the final grade

- in case of at least three years of documented experience in research activities, the indication of the Universities/Institutions where such research was carried out

noting that

1 - for degrees awarded abroad, the applicant will state if the degrees have been declared equivalent to those requested

2 - if a declaration of equivalence is not available, the candidate will need to include all the documentation attesting the possession of the title, including a list of exams with marks, so that the Commission can evaluate the equivalence

- e) criminal record

- f) statement that you will not receive other fellowships during your contract with INAF (with exceptions at Art. 9)
- g) excellent knowledge of English language

4.2 EU state members will also need to declare the fulfilment of requirements in Art. 2.4

4.3 non-EU state members with permanent residence in Italy/EU need to declare the fulfilment of requirements in Art. 2.4

4.4 non-EU state members without permanent residence in Italy/EU need to document the fulfilment of requirements in Art. 2.4 by producing the relevant certificates with translations authenticated from the Italian consulate

4.5 non-Italian citizens still need to write the application in Italian

4.6 Candidates need to also:

- Provide home address for communication about the selection, including telephone number and email address
- Inform of any changes about the contact details

4.7 The application needs to be accompanied by:

- a) CV, dated and signed, following the [Europass](#) format
- b) copy of your degree certificate or all the relevant documentation to allow the Commission to evaluate equivalence of your title (see 4.1, d, 2)
- c) Annex B stating possession of the requirements
- d) a list, dated and signed, of all the submitted documents
- e) a valid ID document

4.8 Disabled applicants will have to request any special need for the participation in the selection procedure

4.9 Administration is not responsible for any problem in the delivery of applications

4.10 Administration will only send communication to the email address provided in the application

4.11 If the email address is not a certified one, applicants will need to acknowledge receipt of the communications

4.12 About truthfulness of the statements, standard legislation is applicable

Art. 5 - Commissione esaminatrice (Examination committee)

5.1 The committee is nominated by the IRA Director

5.2 The secretary of the committee is also nominated by the IRA Director.

5.3 The committee will be gender balanced

5.4 In the first meeting, the committee will decide about:

- a) evaluation criteria and the possibility of interviews to the candidates.
- b) interview calendar, if needed

5.5 The commission will evaluate candidates on a scale from 1 to 100

- a) up to 60 points will be awarded for evaluation of titles
- b) up to 40 points will be awarded on the basis of the interview

Art. 6 - *Svolgimento della selezione e valutazione dei titoli* (Selection and evaluation procedures)

6.1 Selection is based on title evaluation and possible interview

6.2 Titles are evaluated as follows, for up to 60 points in total:

- a) CV, for up to 45 points
- b) publications relevant to the fellowship topic: up to 15 points

6.3 The minimum score to be admitted to the interview is 42/60

6.4 The interview can be held remotely and will be aimed at assessing the applicant's suitability to the research project

6.5 Candidates admitted to the interview will be notified by email at least 15 days prior to the interview

6.6 In such notification, candidates will be informed about:

- a) their score in the title evaluation
- b) date/time/place of the interview

6.7 During the interview, candidates will need to show a valid ID

6.8 For interviews held remotely, transparency and fairness will have to be guaranteed

6.9 For interviews held in person, the following will be required:

- a) a room open to public
- b) the commission will notify the outcome of the evaluation publicly at the end of every session
- c) the outcome will be on display at the IRA
- d) minutes will be prepared by the commission

6.10 Candidates will pass the interview if their evaluation will be at least 28/40

6.11 The final grade is obtained by direct sum of title and interview scores

6.12 The secretary will notify the Director

6.13 The final ranking will be published at <https://info.ira.inaf.it/opportunities/>

Art. 7 - Conferimento dell'assegno e stipula del relativo contratto (Award of the fellowship)

A bunch of bureaucratic stuff that we can discuss after the evaluation!

Art. 8 - Valutazione dell'attività di ricerca (Research activity evaluation)

The successful candidate will have to write a report about their research activity during the fellowship.

Art. 9 - Cumuli ed incompatibilità (Incompatibilities)

The successful candidate will not be allowed to receive other salaries from other institutions, except for limited short-term activities to be approved by the Director of INAF-IRA.

Art. 10 - Trattamento economico (Salary)

10.1 The yearly amount of the grant is 28000 EUR.

10.2 The above amount is after taxation due by INAF, but still includes taxation due by the recipient. It will be paid in monthly instalments in arrears.

10.3 Standard tax legislation applies.

10.4 Standard compulsory maternity leave legislation applies.

10.5 In addition to standard legislation, INAF will cover salary up to the full amount for any period of compulsory maternity leave

10.6 Compulsory maternity leave does not count towards the duration of the fellowship period.

Art. 11 - Treatment of personal data

INAF observes current laws about personal data protections.

Art. 12 - Publicity

The call is advertised on IRA and INAF web sites, and other registers.

Art. 13 - Applicable regulations

For what not explicitly mentioned in this announcement, the regulations in force concerning public selection procedures apply. IRA respects all the current regulations to provide equal opportunities to all applicants.