

In the following, we report the translation of the essential parts of the Call for the post doc position “Multi-wavelength lensing and radio analysis of galaxy clusters and their outskirts in the era of large surveys”, id. code 2023/06/IRA/AR.

Article 1 – Number, duration and disciplinary scope of the postdoc fellowship

1. The “Istituto Nazionale di Astrofisica” (INAF) – Istituto di Radioastronomia, according to art. 22 of Law 30/12/2020, nr. 240, and subsequent amendments and additions, issues a public selection procedure, based on qualifications and interview, for the awarding a two-years **postdoc fellowship** (“*Assegno di Ricerca*”) named “Multi-wavelength lensing and radio analysis of galaxy clusters and their outskirts in the era of large surveys”.
2. We are looking for a postdoc to work on the study of galaxy clusters and the large-scale structure, using mainly optical and weak-lensing data (mainly KiDS, HSC-SSP, and DES) and radio data (mainly LOFAR; www.lofar.org). The candidate should investigate the connection between the galaxy cluster dynamical status, the mass accretion from the cluster’s outskirts and the presence of diffuse radio emission in the central (radio halo and relics) and in the outskirts of galaxy clusters (mega-halo, external relics). The mass distribution would be determined with weak-lensing studies, mainly on data from the so-called Stage-III surveys, developing methods that will be used in the framework of the Stage-IV surveys (Euclid e Rubin-LSST). The radio emission will be mainly studied from the exploitation of LOFAR surveys. The candidate would be involved in the CHEX-MATE collaboration (2021 A&A 650, 104), a follow-up project in the X-ray band with XMM-Newton of a statistical sample of galaxy clusters selected in SZ from the Planck catalog. He/she will have the opportunity to use multiwavelength data and to investigate statistically and theoretically the effect of cluster dynamics on the generation of cluster non-thermal components.
3. The Fellowships is simultaneously aimed at:
 - a) offering a change of professional growth to young researchers holding a PhD, fellows, or young people who have gained experience in the research field, and want to try their hand at the National and International research circuit, with a view to rotation and mobility, as well as recruiting specific skills within fixed-term projects and/or activities;
 - b) filling positions outside the programming of permanent staff requirements, and therefore do not constitute a binding condition for taking up a permanent position within the Institute.
4. The research fellowship covered by the selection procedure is defined as follows:
 - a. Title: Multi-wavelength lensing and radio analysis of galaxy clusters and their outskirts in the era of large surveys.
 - b. Location: INAF – Istituto di Radioastronomia, Bologna headquarters;
 - c. Scientific Supervisors: Dr. Rossella Cassano, INAF-IRA; Dr. Mauro Sereno, INAF-OAS

Article 2 – Eligibility Requirements

1. In order to be eligible to apply to this call the candidate, **at the date of call closure**, should have one of the following academic titles:

- a) PhD in Physics or Astronomy, or a PhD equivalent to the above and relevant to the activities of interest for the present Call;
 - b) or, Master degree or equivalent Diploma, such to grant access to a PhD path, in Physics or Astronomy or equivalent matter, followed by a minimum of 3-years documented research experience in National or International Universities, Institutes, Organizations, Research Centers, or other public or private qualified Entities.
2. In order to be admitted to the present selection procedure, the equivalency of the presented academic titles (if not issued by Italian Universities/Institutions) will be ascertained by the “Selection Committee”, on the basis of the documents submitted by the candidate, on the understanding that, in case the candidate is selected, the Administration, receiving the results of the assessment made by the “Selection Committee”, will transmit the presented academic titles to the Ministry of University and Research, in order to acquire the opinion about their equivalence to corresponding Italian titles.
3. Candidates wishing to take part in the selection procedure disciplined by the present “Call” over and above the afore-mentioned requirements, should also be compliant with the following requirements:
 - a) Italian citizenship, with the exception of:
 - European Union Citizens;
 - Candidates with citizenship of a country outside the European Union, holding a residence permit, or a permanent residence permit;
 - Candidates with citizenship of a Country outside the European Union not already holding a residence permit in Italy;
 - b) Inscription in the electoral lists of the town of residence (for Italian citizens only);
 - c) Enjoyment of Civil and Political Rights in the Country of residence;
 - d) Have not been convicted of a criminal offence;
 - e) Have no active criminal proceedings;
 - f) Have a very good knowledge of the English language, both written and spoken.
4. According to art. 3 of the Decree of the President of the Council of Ministers 7 February 1999, nr. 174, citizens of the EU Member States, as well as of States outside the EU, should:
 - a. hold all the requisites of the present “Call”, with the exception of the Italian citizenship;
 - b. enjoy civil and political rights in their home country and/or in the country of origin;
 - c. have an adequate knowledge of the Italian language (solely for the purpose of filling in the application forms).
5. Outside the cases expressly contemplated in par. 2 and 3 of art.3 of the Presidential Decree 28 December 2000, nr. 445, and subsequent amendments and additions, citizens of States outside the EU, not holding the right to residence permit or permanent residence permit, should prove that they meet the requirements as from the preceding par. 3 by submitting certificates - issued by the competent Italian Consular Authority – of conformity to the original.
6. All the requisites foreseen by the present “Call” must be held at the expiry date of the deadline for submission of the application in order to take part in the selection procedure.
7. Candidates will be admitted to the selection procedure subject to the verification of compliance with the requirements of the present “Call” and stated in the related application.
8. The non compliance with even just one of the requirements of this “Call” will result in the exclusion of the candidate from the selection procedure.
9. Exclusions from the selection procedure, whatever its reason, can be ordered at any time, by reasoned decision of the Director General of the “National Institute for Astrophysics”, on the

proposal of the “Secretary” of the “Selection Committee” in its quality as “Responsible for the Procedure”.

Article 3 - Details and Deadline for the Submission of the Application

1. The application form for the admission to the selection procedure will be written in plain paper, following the scheme provided in “Annex A” of this “Call” and shall include all the required documentation. The application shall be sent, **under penalty of exclusion, no later than 23h00m (Italian time) on 31st January 2024** (the date and time of submission of the application will be certified by the computer system). The application form shall be accompanied by all required documents and by a legally valid identity card or passport, **under penalty of exclusion**.
2. The application must be submitted, **under penalty of exclusion**, via certified electronic mail (PEC) or ordinary electronic mail (e-mail) **in “PDF” format** to the following address concorsi.ira@legalmail.it, with the subject: **“Codice selezione 2023/06/IRA/AR”**.
3. Applications shall be sent by a personal certified mail or e-mail account. Applications sent from addresses with a different owner will not be considered valid.
4. The application form shall be signed with the candidate digital signature. Alternatively, it must be signed with the candidate’s holographic (manual handwritten) signature, accompanied by a copy of a legally valid identity card or passport.
5. The candidate will be excluded by the selection procedure, if:
 - a) the application is not signed, as specified in par. 4 of this article;
 - b) the application is submitted after the mandatory deadline indicated in par. 1 of this article.

Article 4 – How to fill in the application form

1. The Application form should be filled in following the template provided (see Annex A). Specifically the candidate shall declare under her/his responsibility, according to articles 46, 47, 75 and 76 of the Presidential Decree 28 December 2000, nr.445, and subsequent amendments and additions:
 - a) Family name, given name, place and date of birth, place of residence and Italian tax code (if available).
 - b) Citizenship, according to art. 2, par. 3, a) of this “Call”.
 - c) Enjoyment of civil and political rights and, for Italian Citizens, the town of enrollment on the electoral registers.
 - d) The possession of one of the required qualifications, as from art.2, par. 1 of this “Call”, specifying: year of graduation, name of the University, Research Centre, or other qualified Entity of issue and final votes. In case of documented experience, of at least 3 years, in research activities in the framework specified in the proposed project, please specify the periods spent at a University, Institute, Research Centre or other qualified public or private Body in which it was gained, with the understanding that:
 - i. In case of a foreign degree the candidate shall specify if it has been already declared equipollent or equivalent to one of the qualifications required in this “Call” according to current regulations.
 - ii. If the above is not the case the candidate shall add to the application a copy of the certificate or documentation attesting the degree, the list of the exams and any other information to allow the proposals evaluation committee to ascertain its equivalency.
 - f) Commitment not to receive other fellowships – awarded for any title - all along the duration of the research fellowship, except as provided for in art. 9 of this “Call”.

- g) Have a very good knowledge of the English language, both written and spoken.
2. Citizens of the European Union must also declare they have the requisites provided for in art. 3 of the Decree of the President of the Council of Ministers, 7 February 1994, nr. 174, as specified in art. 2, par. 4, of this “Call”.
 3. Non-EU citizens with resident status in the EU, according to art. 38 of the Legislative Decree 30 March 2001, nr. 165, and subsequent additions and amendments, shall declare under their responsibility to comply with all the requirements set out in art. 2, par. 4 of this “Call”.
 4. Non EU Citizens without resident status, according to art. 38 of the Legislative Decree 30 March 2001, nr. 165, and subsequent additions and amendments, shall document the compliance with the requirements set out in art.2 of the present “Call” through certificates and attestations issued by suited authorities of the foreign Country translated in the Italian Language and authenticated by the Italian Consulate in the Country, following a warning on the criminal consequences of submitting false documents, or documents not corresponding to real facts.
 5. All candidates must fill in the application form for the admission to the selection procedure in Italian, following the scheme outlined in Annex A and B (English copy available).
 6. All candidates shall:
 - a) provide the address to which any communication related with the application shall be addressed, including phone number and e-mail address.
 - b) promptly communicate any modification to the above addresses.
 7. The application form shall be accompanied by:
 - a. “**Curriculum Vitae et Studiorum**”, in **Europass** format, (to be written in Italian or English).
 - b. A copy of the certificate or a self-declaration, according to articles 46, 47, 75 and 76 of the Presidential Decree 28 December 2000, nr.445, and subsequent amendments and additions, which should certify, according to paragraph 1 d), point ii), of the present article, the educational qualification held, a list of the exams and/or training and research activities carried out, and the final vote, so that the Selection Committee can acquire all necessary and/or useful elements in order to ascertain its equivalence to one of the qualifications required for admission to the selection procedure subject of this “Call”.
 - c. A self-declaration (see Annex B) certifying the possession of the requirements specified in Art. 2 of this “call”, as well as any other useful qualifications. Qualifications may include, for example:
 - documentation of experience relevant to the subject of the “Call”;
 - list of publications relevant to the topics of interest of the “Call” (including title, journal, year of publication, authors, websites where they can be viewed);
 - other qualifications, activities or publications qualifying the scientific curriculum.
 - d. A complete list of the qualifications presented to prove the applicant's professional competence, as well as his/her ability to carry out the activities that are the subject of this “Call”. This list must be **dated and undersigned**.
 - e. Copy of a valid photo-ID document (passport or National Identity Card).

All electronic documents shall be provided – **under penalty of exclusion** – in not directly editable PDF format.

8. Candidates who are recognized as disabled according to Law 5 February 1992, nr. 104, and subsequent amendments and additions, shall specify any specific equipment required to access the interview, according to their specific condition.
9. The Administration assumes no liability in the event of a) loss or failure to communicate with candidates attributable to failure or late notification by candidates of change of domicile and/or address as in the application form, including certified and/or ordinary e-mail address; b) mistakes or delays attributable to facts of third parties, unforeseen circumstances, or force majeure;
10. The Administration will only use, for communications related to the selection procedure, subject of this “Call”, the certified e-mail address or the ordinary e-mail address quoted in the application form.
11. In case a communication is sent through a non-certified e-mail address, the candidate will necessarily confirm that he/she has received the message.
12. Concerning the checks on the truthfulness of the substitute declarations or attestations made by candidates in order to take part in the selection procedure, subject of this “Call”, the provisions laid down in articles 75 and 76 of the Presidential Decree 28/12/2000, no. 445, and subsequent amendments and additions, as well as of the Law 12 November 2011, nr. 183, shall apply.

Article 5 – Selection Committee

1. The “Selection Committee” is appointed by the Director of INAF-Istituto di Radioastronomia, and will consist of a chairperson and two members, with adequate gender balance.
2. Similarly, the “secretary” of the Selection Committee will be appointed, with the role of ascertaining and ensuring the formal regularity of the procedure.
4. During its first meeting, which may take place also online, the Selection Committee will establish:
 - a) the evaluation criteria for CVs and qualifications, as well as for any interviews;
 - b) the schedule of the possible interviews.
3. The Selection Committee can assign up to a total of **100 points** to each candidate, divided as follows:
 - a) **up to 60 points** will be assigned for qualifications as specified above;
 - b) **up to 40 points** will be assigned based on the possible interview.

Article 6 – Selection Procedure and Assessment of Qualifications

1. The selection is based on qualifications evaluation followed by a possible interview of short-listed candidates.
2. The evaluable qualifications, up to a maximum of **60 points**, are the following:
 - a. “Curriculum vitae et studiorum” and titles proving the professional qualification of the candidate, as well as his/her suitability for carrying out research activity of interest for the present call (**up to 45 points**);
 - b. publications related to research activities of interest for the present project (**up to 15 points**).
3. Only Candidates scoring more than **42/60 points** in the evaluation of qualifications will be short-listed and might be invited for the interview.

4. The interview, either in person or in videoconference, is aimed at ascertaining the professional skills of the candidate and his/her attitude to carry out research activities in the areas of interest of this “Call”.
5. Candidates invited to the interview will be formally summoned with a communication by certified electronic mail or ordinary e-mail with acknowledgment of receipt, at least a fortnight before the date on which the interview has been scheduled.
6. In this message the following data will be provided:
 - a) score reported by the candidate in the evaluation of qualifications;
 - b) date, time and place (or video platform) of the interview.
7. In order to take the interview, the candidate will be identified by a valid photo-ID document.
8. If the interview takes place through videoconference, appropriate measures should be adopted so as to guarantee the principles of openness, transparency and impartiality.
9. On the other hand, if the interview is in person, the following measures should be adopted: a) the interview should take place in an open room, which may contain as many people as possible; b) at the end of each session devoted to the interview, the Selection Committee will prepare the list of candidates, with the score assigned to each of them; c) this list, signed by both the President and the Secretary of the Selection Committee, will be posted at the entrance of the room chosen for the interview; d) at the end of each session, the Selection Committee will draft official minutes in which the score of each candidate will be written.
10. The interview is considered passed if the candidate obtains more than **28/40** points.
11. The final score is obtained by summing the points obtained in the evaluation of qualifications and the points obtained with the interview.
12. At the end of the selection procedure, the Secretary of the Selection Committee who is also responsible for the procedure, will take care of the transmission of the documents to the Director of the Istituto di Radioastronomia, as well as of the final ranking.
13. The final ranking of the selection procedure, approved by the Director of the Istituto di Radioastronomia, will be published on the website: “<https://info.ira.inaf.it/opportunities>”.

Article 7 – Grant assignment and contract signature

1. The selected applicant will be formally summoned to sign the grant awarding contract.
2. The date of the contract signature is agreed with the selected applicant. A no show without previous advice at the date of the signature will cancel contract awarding, except in cases of objective impediment or force majeure.
3. The signature of such a contract is not a labor contract and does not guarantee in any manner the access to INAF as a permanent employee.
4. Within **10 days** from the communication of the outcome of the selection, the winner must formally accept the grant and declare not to be in any of the conditions of incompatibility as described in article 9 of this “Call”.

5. The successful candidate shall commit not to receive other fellowships or scholarships of any kind during the period of this fellowship, apart from those aimed at supporting research visits abroad.
6. If the selected applicant owns a foreign university degree not already declared as equipollent or equivalent, INAF will submit all the relevant documentation to the Italian Ministry for University and Research, for the authorization to award the grant.
7. In the case of positive feedback or silent consent, INAF will proceed to grant awarding, after informing both the Ministry and the candidate and recognizing the title as valid.
8. In case of negative feedback from the Ministry, the selected candidate is excluded from the procedure, and the grant is offered to the first suitable candidate.
9. The awarded candidate who intends to withdraw from the selection, must provide communication of his/her withdrawal within **10 days** from the communication of the outcome of the selection.
10. In case of withdrawal of a selected candidate, communicated according to par. 9, or in case, for any reason, it is impossible to sign a contract with the selected candidate, or the grant holder decides to withdraw, INAF will propose the grant to the next candidate in the final ranking of merit.
11. The grant holder, **under penalty of exclusion**, is required to arrange a work accident insurance policy, before starting the research activity.
12. As for risks resulting from civil liability towards third parties, the grant holder will be covered by a specific INAF insurance policy.
13. The above-mentioned policy does not cover grant holders from risks deriving from civil liability towards INAF.
14. Grant holders can withdraw from the position with at least a 30 days' prior notice. The period of notice starts on the 1st or the 16th of each month.
15. In the event of no or late notice, INAF holds the right to withhold the amount of salary equivalent to the period for which no notice has been given.
16. If, for any circumstances, the selection procedure gets cancelled, contracts will be terminated, with no need of prior notice, except for the payment of work already undertaken.

Article 8 - Evaluation of the Research Activity

1. Grant holders are subject to performance evaluation according to the schedule and modalities written in the grant awarding contract. To this end, they should write detailed reports on the activities they have carried out, and submit them to their Supervisor, who will approve them.
2. In case the Supervisor does not approve the report on the research activities carried out by the grant holder, and gives adequate reasons for his/her decision, the Director of the Istituto di Radioastronomia will terminate the contract.

Article 9 – Incompatibilities

1. Research grants cannot be awarded to INAF employees, as well as to employees of other Research Institutions and Universities, as listed in art. 22, par. 1, of the Law 30 December 2010, nr.240, and subsequent amendments and additions.

2. According to art. 22, par. 3, of the Law 30 December 2010, n. 240 and subsequent amendments and additions, the grant cannot be awarded to students enrolled in Master courses or financed PhD career paths, medical specialty courses, both in Italy and abroad.
3. An Italian civil servant will be temporarily suspended from his/her functions (including the salary) for the entire duration of the grant, even if he/she has a part-time contract.
4. The grant is incompatible with any other form of grants given by National Institutes, such as INAF, or International Institutes with the exception of those which support, for example, foreign leaves for research purposes.
5. The grant is incompatible with any other salary obtained through a continuative full-time or part-time job.
6. The grant is only compatible with a limited amount of occasional autonomous work, as far as this work is not in conflict with the research activities object of the grant.
7. The occasional activity must be previously authorized by the Director of the Istituto di Radioastronomia, after consulting the Supervisor.
8. The fellowship cannot be awarded to retired personnel of INAF or other research institutes or universities.

Article 10 – Salary

1. The gross salary of each single year of research grant is established in **Euro 29,000.00**
2. The amount is net with respect to any obligation in charge of INAF and gross with respect to personal income taxes to be paid by the fellow.
3. The Fellowships will be subject to the provisions as defined in art. 4 law n. 335, 13 august 1995.
4. Maternity leave is subject to the provisions of the decree of the Minister for Labour and Social Security 12 July 2007, published in the Official Journal nr. 247 of 23 October 2007, whereas health leave is covered by the provisions of art.1 par, 788 of the Law 27 December 2006, nr. 296, and subsequent amendments and additions.
5. During maternity leave, the allowance paid by the Social Security Institution, according to art. 5 of the Ministerial Decree 12 July 2007, as recalled in the preceding paragraph, is supplemented by INAF up to the full amount of the salary.
6. Mandatory maternity leave will not count for the duration of the grant.

Article 11 - Handling of Personal Data

1. In conformity with the EU April 27, 2016/679 regulation (art. 13), INAF, in its capacity responsible for personal data handling, informs that the data provided by the applicant will solely be used for the purpose of the present call and subsequent actions, and handled by people responsible for carrying out the procedure, including the Selection Committee.
2. Handling of personal data will be managed through certified electronic procedures, in forms and and to the extent necessary to pursue the purposes specified in the preceding paragraph.

3. Collection of personal data is necessary for the assessment of the requisites requested by the selection procedure. Failure to provide such data may preclude such verification.
4. Based on articles 15 and following of the *Data Protection Regulation*, the applicant has the right to access to his/her personal data, rectify or cancel them and limit their handling, or even oppose their processing, by sending a specific request to INAF in Rome, Viale del Parco Mellini 84, 00136, as detailed in the next paragraph.
5. The rights indicated in the previous paragraph can be exercised, without any formality, through a request sent to the INAF Data Protection Officer: a) via registered letter with acknowledgment of receipt to the address specified in par. 4 of this article; or b) via electronic mail to the address: rp@inaf.it; or c) via certified electronic mail to the address: inaf@legalmail.it
6. Applicants believing the treatment of their personal data represents a violation of the regulations have the right of appeal to the “Garante per la Protezione dei Dati Personali” established by the Italian Government, as established by art. 77 of the above-mentioned Regulation. They can also apply to the competent judicial authority, based on art. 79 of the same Regulation.

Article 12 Call Advertisement

1. This call for selection, and related official documents will be published online at the website of the Istituto di Radioastronomia – Section “Work with us”, at the address <https://info.ira.inaf.it/opportunities/>, at the INAF website, at the address www.inaf.it - Section “Lavora con noi”, sub-section “Assegni di Ricerca”, and on the institutional website of the Ministry for Education and Research, as well as on the EU website.

Article 13 Reference Legislation

1. For any issue not foreseen and regulated by this Call, we make express reference to the laws and regulations, regarding research grants.