

Bando 2017-12-AR

D.D. n. 27 del 21/03/2017

**Subject:** *Selection procedure based on qualifications and possible interview for the awarding of a post-doctoral research fellowship entitled: "Study of acceleration processes in astrophysical gamma-ray sources"*

**NATIONAL INSTITUTE FOR ASTROPHYSICS  
INSTITUTE FOR SPACE ASTROPHYSICS AND PLANETOLOGY**

**The Director**

- ***In accordance with*** Law n. 240 dated 30 December 2010 and its art. 22 in particular;
- ***In accordance with*** the Provisions for the assignment of research grants approved by INAF Administrative Council on June 22<sup>nd</sup> 2011;
- ***In accordance with*** the request by Dr. Marco Tavani, P.I. of the project AGILE;
- ***Ascertained*** that financial coverage with the funds of the projects Agile and Teche-cta allocated in balance sheet 2017 on chapter 1.05.08 – Scholarship and research grant

**DECREES**

**Art. 1- Research Project**

A call is open for a selection procedure on the basis of candidates' qualifications, possibly integrated by an interview, for the assignment of one "Post-Doc" research grant of the duration of one year entitled: ***"Study of acceleration processes in astrophysical gamma-ray sources"***.

The research will be carried out at INAF Istituto di Astrofisica e Planetologia Spaziali (IAPS) in the framework of the Italian activities for multi-satellite data analysis, theoretical activities, and multiwavelength studies of high-energy astrophysical sources. The successful candidate will work in collaboration with Dr. M. Tavani and IAPS staff on the following activities:

- study of particle acceleration processes in astrophysics and in particular collisionless magnetic field reconnection;
- development and use of numerical techniques (kinetic codes, PIC) for numerical simulations of relativistic plasmas;
- theoretical interpretation of X-ray and gamma-ray data (AGILE, Fermi, CTA) of astrophysical sources.

Further questions on the scientific project can be addressed to Marco Tavani (e-mail: pi.agile@iaps.inaf.it).

**Art. 2 – Requirements for participation**

Participation to the selection is reserved to Italian and foreign citizens holding the following minimum requirements:

- Ph.D. degree in Physics, Mathematics, or Astronomy, with a focus on computational and theoretical physics or equivalent degree, issued by an Italian (or foreign) University;

Or

- degree either in Physics, Mathematics or Astronomy, issued according to previous Italian University regulations or degree in Physics, Mathematics or Astronomy which would formally entitle to the admission to a Doctorate awarded by an Italian University or by a foreign University, together with at least three years of documented experience in scientific or technological activities;

The candidate is required to have experience in the field of numerical analysis of laboratory and astrophysical plasmas as well as ability in theoretical investigation of high-energy processes.

The following knowledge, skills and experience will be considered as preferential qualifications:

- experience in use and development of kinetic codes for simulations of laboratory and/or astrophysical plasmas; in particular, experience in PIC (particle-in-cell) simulations;
- theoretical analysis of laboratory and astrophysical plasmas;
- programming skills and knowledge of advanced programming languages.

-Professional knowledge of the English language

### Art. 3 – Application

1 - Applications must be submitted in English by means of:

- hand-delivery to the IAPS 'area concorsi' which will acknowledge the receipt date.
- From **certified e-mail**, including all the required documents in PDF format, sent to [inafiaps@pcert.postecert.it](mailto:inafiaps@pcert.postecert.it), you can send the documentations to the indicated address only if you have a personal certified mail (pec), pay attention not ordinary mail, by 08/05/2017 – 23:59 CET. Only certified emails sent through one of the email providers included in the list of the AgID (Agenzia dell'Italia Digitale) in according to DPR no.68 of 11/02/2005.
- **registered mail** with acknowledgement receipt or express courier to INAF-Istituto di Astrofisica e Planetologia Spaziali – Via Fosso del Cavaliere 100, 00133 Roma. The applications need to arrive by 08/05/2017 – 23:59 CET (**postmark date will not suffice**).

Applications are to be received by and not after 23:59 (CET) on 08/05/2017. Late submissions will not be considered.

Applications which are not consistent with the attached forms (Annexes 1 and 2) or without the applicant's signatures will be excluded from the selection procedure.

The applications must be delivered reporting on the envelope or in the e-mail subject the following sentence: **“Application selection 2017-12 -AR”**.

Aware that false declarations are against the law and that the Administration will carry out random checks on their accuracy, the applicant under his/her own responsibility, must clearly and precisely state in the application the following:

- name(s) and surname, date and place of birth, nationality, place of residence and address for correspondence;
- that s/he satisfies all the requirements described in article 2 of this Call;
- that s/he is aware of and is not ineligible under any of the restrictions described in article 4 of this Call.

The lack of any of the above mentioned declarations will determine the exclusion from the selection procedure for incomplete application.

For selection purposes the applicants:

- shall directly state any academic qualifications in the application form (Annex 1)

In addition

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

2 - The following documents have to be submitted:

1. Annex 1 “Application form”;
2. Annex 2 “Certification - Declaration in lieu of affidavit (Art. 19 - 46-47 the DPR 28th December 2000, n. 445)”;
3. “Curriculum vitae”, **signed and dated** by the applicant including a list, if applicable, of grants and fellowships held in the past or in progress;
4. copy of a valid identity document (ID card or passport);
5. list of publications;

6. any other qualification, working task, research activity for public and private institutions and publications consistent with the application;

7. The list of all submitted documents.

8. Annex 3 "Interview Request In Video Conference". For applicants residing abroad: you can make the possible interview remotely by means of a conference call audio and video (e.g. Skype or similar). The candidate who chooses this option must indicate this in the application and make an explicit request by filling out the appropriate form (request for interview Videoconference) and attach it to the application form, together with the front/back copy of a readable valid identity document.

3 - Applicants are admitted to the selection with reserve and may – at any time – be notified of exclusion from the selection procedure for the following reasons:

- submission of the application after the deadline;
- incomplete and/or unsigned application form;
- unsigned curriculum vitae;
- lack of the copy of a valid identity document;
- lack of the requirements indicated in paragraph 2.

Should the reasons for exclusion be determined after completion of the selection procedure the applicant will lose any right deriving from participation in the selection procedure; similar loss will be applied to applicants providing any false statement or document.

INAF accepts no responsibility for lost applications or documents when the applicant provided incorrect contact details or failed or delayed in notifying any changes to these details.

#### **Art. 4 – Ineligibility and incompatibility with other funding**

Full professors, associate professors and researchers of Italian Universities and employees of Italian public research institutions are all excluded from entering the competition.

The grant is not compatible with the attendance of academic courses as those that formally give access to a doctorate, as well as with Ph.D. fellowships. For employees of the Italian Public Administration (Italian State) unpaid leave of absence is mandatory.

The grant is not compatible with other kinds of fellowships, except for those awarded with the aim of integrating the training or research activity of the fellowship holder with a period spent abroad.

Incomes from working activities, also part-time, carried out continuously are not allowed. On the contrary, limited self-employed occasional work is compatible with the grant, only if it does not affect the research activity and must be authorized in advance by the Director of INAF- Istituto di Astrofisica e Planetologia Spaziali (IAPS).

Retired persons are not eligible for Research fellowship.

Applications are not accepted from candidates who carried out research fellowships under article 22 of Italian Law 240/2010 and integrative for a total period indicated in the current law, including extensions, but excluding the concurrent periods of doctoral studies up to the legal duration of the course and excluding periods of maternity leave or sick leave, in accordance with current legislation. When formally accepting the grant, the successful candidate will provide a declaration of absence of inadmissible conditions.

#### **Art. 5 – Duration of the Research fellowship**

The Research fellowship is expected to begin in May 2017. The fellowship is for one year with possible extension of one year depending on the favourable opinion of the scientific leader of the project and on funding availability and in any case within the limits of Article 22 paragraph 3 of Law 240/2010 and subsequent amendments.

#### **Art. 6 – Host Institution**

The host institution of the grant is INAF-Institute for Space Astrophysics and Planetology. The successful candidate will have to travel on duty abroad.

## **Art. 7 – Salary amount**

The annual gross salary of the grant is 30,000.00 (Thirty thousand) Euros to be paid in deferred monthly payments. This amount does not include the burdens paid by INAF-Institute for Space Astrophysics and Planetology.

Applicable tax regulations are stated art. n. 4 of Italian law n. 476/1984 and subsequent modifications and integrations. Applicable social security rules are stated in art. n. 2, paragraph 26 and following paragraphs of the Italian law n. 335/1995 and subsequent modifications and integrations. Applicable regulations for mandatory maternity leave are provided in the Decree of the Ministry of Labour and Social Security dated 12 July 2007, published in the “Gazzetta Ufficiale” n. 247 dated 23 October 2007. Applicable regulations for sick leave are provided in art. n. 1, paragraph n. 788 of Italian law n. 296 dated 27 December 2006 and subsequent modifications. During the period of mandatory maternity leave the allowance paid by INPS (the Italian National Institute for Social Security) according to art. n. 5 of the above-mentioned Decree dated 12 July 2007 is integrated by INAF up to the total amount of the grant. The period of mandatory maternity leave will not contribute to the duration of the grant.

As for third party liability, the grand holder will be covered by insurance policy at the expense of INAF. This will not cover the civil liability of the grant holder towards INAF.

The grant holder must pay at his/her own expenses an insurance policy against work related injuries.

Accidents insurance will be paid by INAF-IAPS in favour of the fellow, to provide coverage for work related injuries, diseases and invalidity.

## **Art. 8 – Selection Board and selection procedure**

The selection of eligible candidates will be carried out by a Selection Board appointed by the Director of INAF-IAPS. The Selection Board is composed of 3 members, from both Italian and foreign research staff, including also University staff, with expertise in the research field of the position. According to the current regulation, the composition of the Selection Board should comply with gender balance. The president of the Selection Board is nominated in the appointment decree and is chosen among the Board members. The Selection Board Secretary is also appointed in the above-mentioned decree.

The selection is based on qualifications, possibly integrated with an interview. candidates must exhibit their identity documents in order to be admitted to the interview.

The Selection Committee can establish a short list of the eligible applicants to be interviewed, on the basis of qualifications and documented experience in scientific or technological activities concerning the specific subject of the research fellowship. All the activities of the selection procedure (e.g. meetings of the Selection Board, interviews...) can be carried out by using videoconference systems.

Applicants selected for the interview will be formally notified 15 days in advance by e-mail with acknowledgement of receipt, containing the individual evaluation score.

The selected candidates who miss the interview will be excluded from the competition.

The total ranking score is 100 points, of which 60 points is the maximum score for qualifications and 40 points is the maximum score for the interview. The minimum score in order to access the possible interview is 42/60. The candidates who obtain, in the same test, a score of at least 28/40 will pass the oral examination.

At the end of the selection process the selection board will draw up a ranked list based on the sum of the scores obtained both in the qualifications evaluation and the interview.

For candidates with the same score on the ranked list, preference will be given to the younger candidate.

The approval decree of the selection procedure and the ranked list will be published on the following website: <http://www.iaps.inaf.it/work-with-us/>

### **Art. 9 – Awarding of the fellowship**

The highest ranked candidate will receive written notification of award of the research fellowship.

Within 10 days from receipt of the formal notification of the award he/she must provide a formal declaration of acceptance of the research grant. The declaration will also state that he/she is not subject to any of the exclusion conditions listed in article 4 of this Call.

If the candidate does not provide declaration of acceptance within a time limit of 10 days, he/she will lose his/her entitlement to the research fellowship that is automatically awarded to the next ranked candidate.

Under no circumstances the signing of the contract establishes a subordinate employment relationship or ensures any rights to access to permanent INAF staff positions.

### **Art. 10 – Fellowship obligations**

The holder of the fellowship:

- will start the research activity at INAF-IAPS on the date indicated in the contract, unless prevented by exceptional circumstances, of which the Director of INAF-IAPS must be timely informed;
- will carry out his/her research activities under the supervision of the scientist in charge of the project, Prof. Marco Tavani;
- is required to issue an activity report every 12 months. The activity reports will be subject to approval from the scientist in charge of the project and will be transmitted to the Director of INAF - IAPS. Approval failure, properly explained by the supervisor, will give INAF- IAPS the right to withdraw the contract;
- is required to send a written note in case of withdrawal, with at least 30 days' notice, otherwise INAF-IAPS is entitled to retain or request the reimbursement of the salary amount corresponding to the missed notice period.

The holder of the fellowship who does not carry out his/her research activity regularly without justifications, or repeatedly fails to fulfill the requirements or, according to the supervisor, Prof. Marco Tavani, shows evident lack of skills with the planned research activities, will incur the withdrawal of the contract.

Temporary suspensions of the research fellowship are due in case of mandatory maternity leave or in case of illness periods exceeding one month or of any other serious reasons. The reasons for suspending the research fellowship must be proved and certified, and promptly sent to the Director of INAF-IAPS.

### **Art. 11 - Proceedings Responsible**

In accordance with Art. 8, paragraph 3 of INAF Regulations on the assignment of research grants, Mrs. D. Segatori ([daniela.segatori@iaps.inaf.it](mailto:daniela.segatori@iaps.inaf.it)) is the responsible of the selection procedure relevant to this call.

### **Art. 12 – Applicable regulation**

The INAF-IAPS shall comply with the current regulations promoting equal opportunities for women and men, non-discrimination and respect for privacy in processing personal data.

As for the cases not mentioned in this call, INAF-IAPS shall act in compliance with the current regulations concerning Italian public selection procedures.

THE DIRECTOR OF THE INAF-IAPS  
Dr. Fabrizio Capaccioni



**ANNEX 1  
APPLICATION FORM**

To the Director of INAF-Institute for Space Astrophysics and Planetology  
Via Fosso del Cavaliere 100  
00133 ROMA - Italy

I, THE UNDERSIGNED,  
(Forename(s))..... Surname).....  
Place of birth (City/State/Country) .....  
Date of birth (dd/mm/yy) .....  
Nationality .....  
Gender .....  
Permanent residence address (number/street/town/postal code/Country):  
.....  
Email address: .....  
agree to the processing of my personal data, in accordance with Italian Leg. Decree n. 196/2003,  
for the purposes of the present selection procedure.

I, THE UNDERSIGNED,

having read the Call for applications D.D .... for the appointment of one research fellowship  
entitled: “.....”

request  
to apply for the above mentioned fellowship, and to this end, aware that false declarations are  
punishable by law and that this Administration will carry out random checks on the accuracy of the  
declarations made by candidates,

declare  
under my own responsibility  
that I hold the following Research Doctorate (PhD) ..... awarded  
by..... on date..... Title of  
thesis.....  
.....;  
that I hold the following educational qualifications.....,  
awarded by.....Date.....;  
that I have professional knowledge of the English language;  
that I have ..... years of documented experience in scientific or technological activities;  
that I am aware of the restrictions described in Article 4, of the Call for applications for this  
research fellowship;  
that I have never received a research award as per art. 22, Italian Law 240/2010;  
that I have previously received a research awards as per art. 22, Italian Law 240/2010 and, in  
particular I have been the recipient of:  
• a research fellowship entitled .....  
.....,  
at (name of the institution).....  
.....,  
beginning.....ending.....total months .....  
• a research fellowship entitled .....  
.....,  
at (name of the institution).....  
.....,  
beginning.....ending.....total months .....  
• a research fellowship entitled .....  
.....,  
.....

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<sup>1</sup> Indicate the number of months for which the award was used and the name of the institution granting the award. Please provide details of each award, for example, if you have had two awards of 24 months each at the same institution indicate these as two separate awards on two different lines.

at (name of the institution).....,  
beginning.....ending.....total months .....

that I am not a retired person;

that I am aware that, under art. 22 Italian Law 240/2010, the research fellowship:

- cannot be held contemporary with attendance at academic courses, “laurea specialistica” academic courses, and “laurea magistrale” academic courses, as well as with attendance at Ph.D courses with fellowship;
- cannot be held contemporary with other fellowships of whatever kind, except those awarded with the aim of integrating the training or research activity of the fellowship holder through a period spent abroad;
- cannot permit aggregation of income from working activities, also part-time, carried out continuously.

that I wish to receive any communication relating to the selection at the following address and that I will give due notice of any change of address:

Address (number/street/city /postal ode/Country):

Email address: .....

I attach to this form:

1. Annex 2 “Certification - Declaration in lieu of affidavit (Art. 19 - 46-47 the DPR 28th December 2000, n. 445)”;
2. “Curriculum vitae”, **signed and dated** by the applicant including a list, if applicable, of grants and fellowships held in the past or in progress;
3. copy of a valid identity document (ID card or passport);
4. list of publications;
5. any other qualification, working task, research activity for public and private institutions and publications that the applicant deems appropriate to submit;
6. The list of all documents submitted.

Done at ..... Date.....

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Signature (not authenticated)

ANNEX 2

**Certification and Self-Declaration in lieu of affidavit  
(Art. 19 - 46-47 the DPR 28th December 2000, n. 445)**

**DICHIARAZIONE SOSTITUTIVA DI CERTIFICAZIONE  
DICHIARAZIONE SOSTITUTIVA DI ATTO DI NOTORETÀ  
(Art. 19 – 46 – 47 del D.P.R. 28 Dicembre 2000, n. 445)**

I, the undersigned,

(Forename(s))..... Surname).....  
Place of birth (City/State/Country) .....  
Date of birth (dd/mm/yy) .....  
Nationality .....  
Gender .....  
Permanent residence address (number/street/town/postal code/Country:  
.....  
Email address: .....

aware that false declarations are punishable by law and that this Administration will carry out random checks on the accuracy of the declarations made by candidates

**self-declare**

- That the content of the attached “curriculum vitae” is true
- That the documentation produced in copy: of the original
- .....
- .....
- ....

Done at ..... Date.....

Signature (not authenticated)\*

*\* the photocopy of a valid identity document of the signer must be attached*



ANNEX 3  
INTERVIEW REQUEST IN VIDEO CONFERENCE

I, the undersigned / a (name) .....  
(last name) .....  
Place of birth .....  
Birth date .....  
Nationality .....  
Place of residence (country, town, postcode, street, n.), .....  
.....  
E mail .....

wonder

to be admitted to the oral exam provided by the call 2017-12-AR entitled  
*“Study of acceleration processes in astrophysical gamma-ray sources”*

through videoconference procedures for this purpose communicate the following data:

1 - platform used to connect via the web

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2 - address for the connection

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(Place and Date) .....

(Signature, not authenticate) \*

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*\* the photocopy of a valid identity document of the signer must be attached*