



**ISTITUTO NAZIONALE DI ASTROFISICA
OSSERVATORIO ASTROFISICO DI ARCETRI**

L.GO E. FERMI, 5, 50125 – FIRENZE
TEL. +39-055-27521; FAX: +39-055-220089
C.F: 97220210583 P.IVA: 06895721006
pec: inafoarcetri@pcert.postecert.it

**Decreto n. 71
Anno 2015**

Selection procedure based on qualification and possible interview for the awarding of one research fellowship, entitled: “*Phenomenology of particle acceleration in supernova remnants in the proximity of molecular clouds*”- Category: A/Post-doc. (in accordance with Article 22, Law 240/2010)

THE DIRECTOR OF INAF ASTROPHYSICAL OBSERVATORY OF ARCETRI

- Having seen** the Statute of the Istituto Nazionale di Astrofisica (INAF), adopted by INAF Administrative Council on 7 March 2011 and entered into force on 1 May 2011;
- in accordance with** Italian Law n. 240 dated 30 December 2010, Article 22;
- having seen** the INAF Regulations for the awarding of research fellowships approved by INAF Administrative Council on 22 June 2011, Resolution n. 06/11 and subsequent modifications and integrations;
- considering** it appropriate to issue an announcement of competition for the award of a research fellowship;
- given** the availability of finance form fund CRAM 1.05.01.01 (Ricerca di base) and CRAM 1.05.02.84 FP7 PWNtori (ref. Elena Amato) CUP C18C13000100006 chapter 1.05.08, of the 2015 INAF budget;

Art. 1 – Research project

A selection based on qualifications, possibly integrated by an interview, is open to award one research fellowship, entitled: **“Phenomenology of particle acceleration in supernova remnants in the proximity of molecular clouds”**

The research project will be focused on the investigation of the processes of transport and interaction of cosmic rays accelerated at supernova remnant shocks with special attention for the phase following the escape from the sources.

The emphasis of the project will be on studying the implications of the presence of molecular clouds in the environment where the supernova explosion occurs, when non-linear effects induced by cosmic ray propagation are taken into account.

In particular, the awarded fellow is expected to carry out the following activities:



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- Investigation of particle acceleration at supernova remnant shocks developing in molecular clouds
- Investigation of the propagation of cosmic rays in the surroundings of supernova remnants, with and without molecular clouds in their proximity
- Implications of our calculation for multi-frequency observations
- Applications to specific cases of supernovae interacting with dense regions

Art. 2 – Requirements

In order to participate in the selection, applicants must possess, on pain of exclusion, the following requirements:

- a) PhD degree in Physics or Astronomy awarded by an Italian university or by a foreign university by the deadline for the application to the present position;

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

- Previous experience on the topics of the present call

Art. 3 – Application procedure

Applications must be submitted in English as closed envelope by “Raccomandata A/R”, authorized carrier (ex. DHL, FedEx, UPS, etc.) or, in person, at the Office Protocol to the address INAF-Osservatorio Astrofisico di Arcetri, Largo Enrico Fermi 5, 50125 Firenze (ITALY). Alternatively, the application can be submitted using PEC (Posta Elettronica Certificata: no ordinary e-mail) to the following PEC address: inafoarcetri@pcert.postecert.it.

Applications are to be submitted by and not after **midday (UT) on November 26th, 2015**. Late submissions will not be considered.

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

The application must be delivered reporting on the envelope or in the PEC subject “**Application for Postdoctoral Fellowship position at INAF-Arcetri – DD n. 71/2015**”.

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

- a) name(s) and surname, date and place of birth, nationality, place of residence and address for correspondence;
- b) that s/he satisfies all the requirements described in article 2 of this Call;
- c) 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.



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For selection purposes the applicants:

- a) shall directly state any academic qualifications in the application form (Annex 1) in addition
- b) EU citizens, and non-EU citizens residing outside Italy, if successful, must produce originals or suitably certified copies of academic qualifications obtained outside Italy.

The following documents have to be submitted:

- a) Annex 1 “Application form”;
- b) Annex 2 “Curriculum vitae”, **signed and dated** by the applicant, providing evidence of possession of the titles and the skills required to carry out the research and including a list, if applicable, of grants and fellowships held in the past and a statement of research interests;
- c) copy of a valid identity document (ID card or passport);
- d) list of publications;
- e) any other qualification, working task, research activity for public and private institutions and publications that the applicant deems appropriate to submit.

In addition to the documents listed above, the candidate should arrange for two recommendation letters to be sent directly to Dr. Pasquale Blasi by e-mail to the following address: blasi@arcetri.astro.it

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

- submission of the application after the deadline;
- failure to complete and sign the application form;
- failure to sign the 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 ascertained 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 where this is due to the applicant having provided incorrect contact details or having failed or delayed in notifying any changes to these details.

Art. 4 – Ineligibility and incompatibility with other funding

Full professors, associate professors and “ricercatori” in Italian universities and employees of Italian research public institutions are all excluded from entering the competition.

The grant cannot be held at the same time with attendance at academic courses as those that formally give access to a doctorate, as well as with attendance at PhD courses with fellowship.

The grant cannot be held contemporarily 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.

Aggregation of income from working activities, also part-time, carried out continuously is not accepted. Instead, limited self-employed occasional work is compatible with the grant, only if this



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is not prejudicial to the research activity carried out for INAF. This must be authorized in advance by the Director of INAF-Arcetri

Retired persons are not eligible for Research fellowship.

Also excluded from participation are any person who has carried out Research fellowships under article 22 of Italian Law 240/2010 for a total period exceeding six years, including extensions, but excluding the periods in which the grant has been held in coincidence with doctoral studies up to the maximum legal time limit of the course and excluding periods of maternity leave or sick leave, in accordance with current legislation.

Art. 5 – Duration of the Research fellowship

The Research fellowship will have a duration of one year, possibly renewable for a second year, depending on performance and on funding availability. The scientific activity is expected to begin within **January 2016**.

In accordance with Italian Law n. 240/2010 the duration of the fellowship, inclusive of possible renewal, will not exceed six years, excluding periods of maternity leave or sick leave, in accordance with current legislation.)

Art. 6 – Host Institution

The fellow will carry out the research at INAF-Arcetri, Largo Enrico Fermi 5, I - 50125 Firenze

Art. 7 – Salary amount

The gross annual salary will be **28.000 Euro**. This amount is net of burdens to be charged to INAF-Arcetri, social charges and health coverage and will be paid in deferred monthly instalments. The fellow will be requested to have a personal accidents insurance for the duration of the fellowship. During the period of obligatory maternity leave the allowance paid by INPS (Italian National Institute for Social Security) is supplemented by INAF up to the total amount of the grant. The period of obligatory maternity leave will not contribute to the duration of the grant foreseen by the contract.

Art. 8 – Selection Committee and selection procedure

The selection will be performed by a Selection Committee appointed by the Director of INAF-Arcetri and is composed of three members, including the scientists in charge of the project, Dr.Elena Amato and Dr.Pasquale Blasi.

The selection is based on qualifications possibly integrated by an 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 on the specific subject of the research fellowship. All the stages of the selection procedure (e.g. meetings of the Selection Committee, interviews and so on) can be performed also using electronic devices for the communications.

Applicants selected for the interview will be summoned with 15 days notice by e-mail with acknowledgement of receipt, containing the individual score for qualifications.



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The total ranking score is 100 points, of which 70 points is the maximum score for qualifications and 30 points is the maximum score for the interview. At the end of the selection procedure the Selection Committee will draw up the ranked list.

The approval decree of the selection procedure and the ranked list will be published on the following website: <http://www.arcetri.astro.it>

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 she/he must provide a formal declaration of acceptance of the research grant. The declaration will also state that she/he 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, she/he will surrender his/her entitlement to the research fellowship and it can be awarded to the next ranked candidate.

Under no circumstances the signing of the contract starts 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 the date due as per the contract at INAF-Arcetri, unless prevented by force majeure or exceptional circumstances, of which the Director of INAF-Arcetri. must be timely informed;
- will carry out her/his research activities under the supervision of the scientists in charge of the project, Dr. Elena Amato and Dr Pasquale Blasi, who will also monitor the fellow's progress;
- is required to send a written note in case of withdrawal, with at least 30 days notice, otherwise the INAF-Arcetri is entitled to retain or request the reimbursement of the salary amount corresponding to the notice time-span she/he has failed to send.

The holder of the fellowship who does not carry out her/his research activity regularly without producing justified reasons or lacks repeatedly to fulfil requirements or, according to the evaluation of the local coordinators of the activities, Dr. Pasquale Blasi and Dr. Elena Amato, eventually shows evident lack of skills at the planned research activities, will incur the termination of the contract.

Temporary suspensions of the research fellowship are due in case of obligatory maternity leave or in case of illness which lasts longer than one month or to any other serious reason. The reasons for suspending the research fellowship must be proved and certified, and promptly sent to the Director of INAF-Arcetri.

Art. 11 – Proceeding Responsible

The Responsible of this Call proceedings is Dr. Serena Donati (email: donati@arcetri.astro.it).



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Art. 12 – Applicable regulation

The INAF-Arcetri shall abide by provisions in force promoting equal opportunities for women and men, non-discrimination and respect of privacy in processing personal data.

For what not explicitly mentioned in this announcement, the INAF-Arcetri shall act in compliance with the regulations in force concerning Italian public selection procedures, when applicable by analogy.

Firenze, November 3rd 2015

Dr. Filippo Mannucci