



ISTITUTO NAZIONALE DI ASTROFISICA
NATIONAL INSTITUTE FOR ASTROPHYSICS



OSSERVATORIO ASTRONOMICO DI PADOVA

DECREE N. 50/2013

Selection procedure by qualifications and possible interview for the assignment of one post-doc research grant entitled: ***“Dynamics of black holes in star clusters by means of N-body simulations”***

The Director

- ***In accordance with*** Law n. 240 dated 30 December 2010 of which art. 22 in particular;
- ***In accordance with*** the INAF Statute, in force from the 1st May 2011;
- ***In accordance with*** the M.I.U.R. Ministerial Decree n. 102 dated 9th March 2011;
- ***In accordance with*** the Provisions for the Organisation and Functioning of INAF, approved by the Board of directors with deliberation n. 44 of the 21st June 2012;
- ***In accordance with*** the Provisions for the assignment of research grants approved by INAF Administrative Council on 22nd June 2011 and with the subsequent modification of the 13th October 2011;
- ***In accordance with*** the request for a call offering one research grants of the duration of twenty-four months with possibility of renewal, with the title *“Dynamics of black holes in star clusters”*;
- ***Ascertained*** that financial coverage of the grant is granted by the FIRB "FUTURE IN RESEARCH" GRANT 2012, CRAM 1.05.01.26.02, on chapter 1.05.08 - Fellowships and Research Grants - of the 2013 budget of the INAF - Astronomical Observatory of Padova (cost center 1.03);

DECREES

Art. 1- Research Project

A selection based on qualifications, possibly integrated by an interview, is open to award a research grant entitled: *“Dynamics of black holes in star clusters by means of N-body simulations”*.

The postdoc will participate in the 2012 FIRB project *“New perspectives on the violent Universe: unveiling the physics of compact objects with joint observations of gravitational waves and electromagnetic radiation”*.

In this framework, the postdoc will develop a new code to study the dynamics of compact objects in star clusters. This requires to interface a direct N-body code with a stellar evolution code (including different models of stellar winds and accounting for the effect of metallicity).

Art. 2 – Requirements for participation

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

- PhD degree either in Physics or Astronomy, or equivalent degree, issued by an Italian or foreign Advanced Studies Institute or University.

Or

- degree either in Physics or Astronomy, issued according to the previous Italian University regulations or degree in Physics or Astronomy, either “specialistica” or “magistralis” (new Italian University regulations) or equivalent degree issued by an Italian or foreign Advanced Studies Institute or University, together with at least three years of subsequent documented experience in scientific or technological activities.

Good knowledge of the English language is required.

Preferential qualification will be considered:

- Experience in numerical methods and in computational astrophysics (knowledge of python, C and C++ is preferred).
- Experience in (at least) one of the following research fields:
 - dynamics of collisional systems
 - stellar evolution

- study of gravitational wave sources.

Foreign citizens holding a degree or a title considered equivalent according to international agreements or to any applicable regulation may apply.

The foreseen requirements are to be fulfilled at the moment of the application.

Art. 3 – Application

Applications must be consistent with the attached application form (*Attachment 1*), with the addition of the date and the signature of the candidate. Applications, integrated by the requested documentation, are to be submitted either by hand delivery to the Astronomical Observatory of Padova (from Monday to Friday from 9.00 until 12.30 o'clock) or sent by express courier or by registered letter with acknowledgement of receipt. Applications have to be addressed to the Director of INAF - Osservatorio Astronomico di Padova, vicolo dell'Osservatorio n. 5, 35122 Padova, Italy. Applications are to be submitted by **January, 9th 2014**.

Late applications, or applications missing the applicant signature, or not consistent with the attached form, will not be considered.

On the application's envelope the following must be clearly quoted: applicant's name, family name and address, and the caption: "Assegno di Ricerca. Ref **D.D. 50/2013**". Incomplete applications will not be considered for the selection procedure.

The following qualifications have to be attached to the application:

1. candidate's curriculum vitae et studiorum (CV), including a list of grants and fellowships held in the past, if applicable;
2. list of publications available online;
3. any other qualifications or publications relevant to the applicant's scientific experience and/or training, not available online (these attachments could be submitted on electronic support);
4. non-Italian citizens should attach a copy of their PhD certificate, or copies of their University degrees inclusive of the list of exams and the degrees' final marks, or copies of the equivalent foreign degrees;
5. a list of qualifications and of all attached documents, in which the number of attachments is specified;
6. a personal declaration (valid as self-certification) that:
 - the submitted copies of academic thesis and dissertations, of publications and works are conformal copies of the original documents;
 - states that the candidate has a PhD degree and holds any other specialization degree or certificate of attendance to post-degree specialization courses or certificate concerning research activities, carried out either under contracts, fellowships or grants, that he/she deems appropriate to submit.

The above self-certification must be consistent with the attached form (*Attachment 2*), and must be dated and signed by the applicant, and a copy of a valid identity document must be attached. In using self-certification the candidate must list the submitted qualifications with details which may enable possible verification by the Observatory's Administrative Office. Alternatively, the candidate must submit original or authenticated copies of his/her qualifications.

The candidate could submit up to two reference letters addressing them either to the Director of the Astronomical Observatory of Padova, vicolo dell'Osservatorio, 5, 35122, Padova, or by e-mail to michela.mapelli@oapd.inaf.it.

Art. 4 – Incompatibility

According to the Italian Law 240/2010, 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.

The grant cannot be held contemporarily with attendance at any academic course, as well as with attendance at PhD courses with fellowship. For employees of the Italian Public Administration compulsory unpaid leave of absence is foreseen.

Aggregation of income from working activities, also part-time, is not allowed.

Art. 5 – Duration of the grant

The grant is for 24 months, with possible further extension depending on the favourable opinion of the scientific leader of the project and on funding availability, in accordance with art. 22, paragraph 3 of the Italian Law n. 240/2010.

Art. 6 – Host institution

Host institution of the grant is INAF - Osservatorio Astronomico di Padova. Depending on the needs of the research programme – established by the Scientific leader of the project – it could be possible that the grant holders are requested to carry out a period of activity at other INAF research Institutes or other Italian or Foreign Astronomical Research Institutes, in accordance with the economical treatment stated by the “Manuale per il trattamento delle spese di missione” of INAF.

Art. 7 – Salary amount

The grant is worth 28,000.00 (twenty-eight thousand) Euros gross per year. This amount is net of burdens to be charged to INAF - Osservatorio Astronomico di Padova and will be paid in deferred monthly instalments. Applicable fiscal rules are the provisions of art. n. 4 of Italian law n. 476/1984 and subsequent modifications and integrations. Applicable social security rules are art. n. 2, paragraph 26 and following paragraphs of the Italian law n. 335/1995 and subsequent modifications and integrations. Applicable rules for obligatory 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 rules for sick leave are provided by art. n. 1, paragraph n. 788 of Italian law n. 296 dated 27 December 2006 and subsequent modifications. During the period of obligatory maternity leave the allowance paid by INPS (Italian national institute for social security) according to art. n. 5 of the above Decree dated 12 July 2007 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

The selection of eligible candidates will be performed by a Selection Committee appointed by the Director of INAF - Osservatorio Astronomico di Padova.

Art. 9 – Selection procedure

The selection is based on qualifications possibly integrated by an interview. The possible interview has the aim to verify the candidate’s attitude to research and his/her professional value in order to carry out the tasks required for the selection.

Evaluation criteria will be defined in advance, and qualifications will be evaluated before the possible interview.

Applicants selected for the interview will be summoned with adequate advance notice by registered letter with acknowledgement of receipt or by e-mail, if the candidate stated in the application form his/her e-mail address.

The interview may be carried out by phone or videoconference.

To be admitted to the interview, candidates must exhibit their identity documents.

Art. 10 – Qualifications evaluation and ranking list

The comparative evaluation is based on the qualifications performed by the applicants possibly integrated by an interview. Evaluation criteria, and particularly the ones concerning the specific research activity, and qualifications applicable scores will be defined and reported by the Selection Committee before examining the available applications.

Ranked scientific qualifications and research activities will be, among others, University Degree Thesis, Postgraduate qualifications and specializations, research activities both at public and/or private institutions, grants and publications.

Considering the qualifications evaluation and the applicants experience related to the proposed research subject, the Selection Committee could draw up a limited list of eligible applicants to be interviewed.

The total ranking score established by the Selection Committee is 100 points, of which 70/100 is the maximum score for qualifications and 30/100 is the maximum score for the interview.

Nevertheless, the Selection Committee could define in advance a minimum score to reach in order to be admitted to the interview. Likewise, the Committee could foreordain a minimum final score to draft a possible ranking list with minimal appropriate qualification requirements.

The ranking list and individual scores by the Selection Committee shall be publicly notified by posting on the official Notice Board of INAF - Astronomical Observatory of Padova, vicolo dell'Osservatorio n. 5, Padova. The decree of approval of the selection procedure and any other decrees relevant to the selection shall be notified by posting on the Notice Board of the Observatory. In case of renunciation of the grant winner, the grant shall be awarded to the next eligible candidate in the ranking list.

Art. 11 – Contract Formalization

The highest ranked candidate will receive written notification of award of the research fellowship. Within 10 days from the receipt of the formal notifications of the award, the successful candidate will provide a formal declaration of acceptance of the research grant without reservation and under the conditions prescribed in the contract which shall be signed on the date and place established by the Observatory. The successful candidate will also declare that he/she is not subject to any of the exclusion conditions listed in Article n. 4 of this announcement. Within the same time limit of ten days, in case of renunciation, the winner is bound to provide formal declaration of renunciation to the Astronomical Observatory of Padova. Under no circumstances the signing of the contract starts a subordinate employment relationship or ensures any rights to access to permanent INAF staff positions. The grant holder is bound to take out a health insurance - unless he/she benefits from the National Health Service pursuant to Law 833/1978 – and an insurance policy against accidents at work prior to starting his/her research activities, otherwise revocation of the grant is foreseen. The insurance policy documents must be produced upon contract signing. As for third-party civil liability, the grant holder will be covered by insurance policy drawn up by INAF. The policy does not cover civil liability of the grant holder towards INAF. The Director of the Observatory shall appoint a scientific leader/tutor of the grant holders that supervises and coordinates their research activity. In case of voluntary resignation or layoff of the grant holder, the next eligible applicant in the ranking list is entitled to receive the remaining amount of the grant salary, after signing the contract. Invalidation of the selection procedure will cause termination of the contract, without prior notice and with payment of the fulfilled period.

Art. 12 – Starting date and obligations

The starting date of the grant is established by the Director of INAF - Astronomical Observatory of Padova in the notice of summons for drawing up the contract. Starting date of the grant is expected to be **between February, 1st and March 15th 2014**.

The grant holder has to fulfil the following obligations:

- a) to sign in advance the contract governing collaboration to the planned research activity project and to whatever else foreseen in the contract;
- b) to start research activity at the date due as for the contract at the INAF-Astronomical Observatory of Padova, unless prevented by motivated temporary hindrance, of which the Observatory must be timely informed;
- c) to carry out research activity for the whole duration of the grant regularly and continuously;
- d) to comply with the rules and regulations of the Observatory and with the directives of the Director and of the scientific leader of the project;
- e) to present a final report of the overall research activity to the Director of the Observatory after approval from the scientific leader.

In case of no compliance with the above obligations, the grant holder will be informed of the possible start of administrative procedure for terminating the contract, and he/she will be allowed to submit his/her own reasoned reply on the matter to the Director of the Observatory in writing.

The grant holder will be informed by reasoned notice both in case the administrative proceedings are filed away without further consequence, and in case of actual decision to terminate the contract.

Temporary suspensions of the research grant are justified only if absence is due to pregnancy and post-natal leave, or to illness which lasts longer than one month, or to any other serious reason. The reasons for suspending the research grant must be proved and certified, and promptly sent to the Observatory.

In case of contract rescission, the grant holder is bound to send a written communication with 30 days' notice. The notice starts from day 1 or day 16 of each month. In case of lack of notice, the Institute has the right to retain or request the reimbursement of the salary amount corresponding to the notice time-span which the grant holder failed to communicate.

Art. 13 - Publicity

This competition announcement shall be electronically forwarded to Astronomical and Astrophysical Observatories and to scientific institutes in the field of interest. The announcement will be posted on the websites of INAF (<http://www.inaf.it>), of the Astronomical Observatory of Padova (www.oapd.inaf.it), of the Italian Ministry of Education, University and Research and of the European Union according to MIUR guidelines.

Art. 14 – Applicable regulation

The Astronomical Observatory 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 Observatory shall act in compliance with the regulations in force concerning public selection procedures, when applicable by analogy.

Art. 15 - Proceedings Responsible

In accordance with the Italian Law n. 241 dated 7 August 1990, dr. Andrea Busato is the responsible of the competition proceedings relevant to this competition announcement.

Padova, 28/10/2013

Il Direttore
(Dott. Massimo Turatto)

ATTACHMENT 1

APPLICATION FORM FORMAT FOR PARTICIPATION TO THE SELECTION

To the Director
 INAF - Osservatorio Astronomico di Padova
 Vicolo dell'Osservatorio, 5
 35122 Padova

The undersigned (Name(s))..... (Surname).....
 Place of birth (Town/State).....
 Date of birth (dd/mm/yy)
 Fiscal Code.....
 Permanent residence address (number/street/town/postal code/Country):

Hereby applies to participate to the selection for the appointment of one research grant entitled “*Dynamics of black holes in star clusters by means of N-body simulations*” to be carried out at the INAF – Astronomical Observatory of Padova (ref. D.D. 50/2013).

Under her/his personal responsibility the undersigned declares:

- 1) her/his nationality is:
- 2) to enjoy civil and political rights of the State of which she/he holds citizenship;
- 3) to have/to have not fulfilled to the required military service;
- 4) not to have been in the past or not to be at present under any penal sentence (if liable, please specify)
- 5) to hold the following educational qualifications:
- 6) research grants and/or fellowships hold in the past (duration and host Institution):
- 7) to be presently holding the following research grant or fellowship (length and host Institution):

The following documents are attached:

1. curriculum vitae et studiorum, in which also past research grants or fellowships are listed;
2. list of publications available online;
3. any other qualifications or publications relevant to the applicant's scientific experience, including degree thesis or equivalent foreign qualification, not available online (these attachments could be submitted on electronic support);
4. for non-italian citizens, copy of their PhD certificate, or copy of the University degree/academic qualification certificate inclusive of the list of individual exams and the final score, or copy of the equivalent foreign degree certificate;
5. list of qualifications and of any other submitted document, specifying the number of attachments;
6. declaration (Attachment 2).

The undersigned authorizes the Administrative Office of INAF-Osservatorio Astronomico di Padova to use and store her/his personal data only for the purpose of the present selection.

The undersigned asks to receive communications concerning the selection at the following address (number/street/town/postal code/State, if possible list also phone number, fax number and e-mail address):

Place and date (dd/mm/yy)

 (Applicant's signature, not to be authenticated)

ATTACHMENT 2

SELF-CERTIFICATION

The undersigned (Name(s))..... (Surname).....
 Place of birth (Town/State)
 Date of birth (dd/mm/yy)
 Permanent residence address (number/street/town/postal code/Country),

As candidate to the selection for one research grant issued by INAF-Osservatorio Astronomico di Padova with Director's Decree n. 50/2013, aware that producing false statements and forged documents, as well as the use of forged documents shall be punished in accordance with the Penal Code and with any other applicable special act on this matter,

DECLARES AND SELF-CERTIFIES

- 1) that submitted copies of academic theses and dissertations, of publications and works are conformal copies of the original documents;
- 2) to hold the following degree in: (discipline)
 Date of award: (dd/mm/yy).....
 Awarding University: Final mark:
- 3) to hold the following academic qualifications:
 PhD degree in: (discipline)
 Date of award: (dd/mm/yy)..... Awarding University:.....
 Final mark:
- 4) Certificates of attendance to post-degree courses:
- 5) Fellowships/Research contracts/grants at private and/or public institutions:
 From..... to..... at..... Type:.....
 From..... to..... at..... Type:.....
 From..... to..... at..... Type:.....
 From..... to..... at..... Type:.....
 From..... to..... at..... Type:.....
- 6) Ongoing fellowship/contract/grant:
 From..... to..... at..... Type:.....

Place and date (dd/mm/yy)

 (full applicant's signature) (*)

(*) Not authenticated

N.B. A photocopy, not authenticated, of a valid identity document of the applicant must be attached.