

INAF



ISTITUTO NAZIONALE DI ASTROFISICA
OSSERVATORIO ASTRONOMICICO DI TRIESTE

Subject: *Selection procedure by qualifications and interview for the assignment of one research grant entitled “HPC for climate modellization of terrestrial-type exoplanets with temperate conditions”.*

CUP: F86C16000000006

**NATIONAL INSTITUTE FOR ASTROPHYSICS
ASTRONOMICAL OBSERVATORY OF TRIESTE**

The Director

- **In accordance with** Law n. 240 dated 30 December 2010 and its art. 22 in particular;
- **In accordance with** the guidelines for non-permanent staff position recruitment approved by INAF Administrative Council on January 30th 2018 that have introduced specific seniority parameters of educational qualification (N1) and maximum duration of research grants (N2) at the INAF, while providing for the possibility of exemptions for special calls;
- **In accordance with** the provisional guidelines for the assignment of research grants approved by INAF Administrative Council on January 29rd 2019;
- **Given** the Agreement between the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale - National Institute of Oceanography and Applied Geophysics (OGS) and INAF-OATs for co-financing 2 Post-doc research fellowships within the programme HPC-TRES (High Performance Computing Training and Research for Earth Sciences), drawn up on 29 November 2021;
- **In accordance with** the request by dr. Laura Silva, local project manager of “Life in Space” project and scientific co-responsible of the Agreement between OGS and INAF-OATs on the HPC-TRES project; ;
- **Ascertained** that financial coverage of the grant amounting to 34.390,00 euro has been provided, with assigned funds to Budget 2021 amounting from Ch. 1.05.04.02.08 "OPPS Vita nello spazio su Contratto ASI-Università della Tuscia n. 2019-3-U.0 (ref. John R. Brucato)", ch. 1.01.01.01.009 – “Research grants”.

DECREES

Art. 1- Research Project

A call is open for a selection procedure on the basis of candidates’ qualifications, integrated by an interview, for the assignment of one “Post-Doc” research grant of the duration of one year, with a possible extension, for the aims of the projects for the aims of the projects “Life in Space” and



“HPC-TRES” entitled “*HPC for climate modellization of terrestrial-type exoplanets with temperate conditions*”.

The selection based on qualifications and possible interview is aimed at the acquisition of one personnel unit qualified in research on climate modellization of terrestrial-type exoplanets, and at the enhancement of human resources, as well as at advanced training in the fields of HPC modelling and of numerical methods applied to Earth Sciences. Research will be carried out at INAF-OATs under the scientific supervision of dr. Laura Silva.

The following activities will be carried out during the fellowship:

- development of models of planetary atmospheres;
- radiative transport in planetary atmospheres with a wide parameter range;
- development and application of climate models;
- study of habitability of terrestrial-type exoplanets;
- simulations of observations of planetary atmospheric biosignatures;
- development of numerical methods of HPC;

This selection procedure is contextually aimed:

- to offer the opportunity of professional growth either to young PhD holders, or to research fellows, or to fix-term employees who are willing to get engaged in both national and international research environments in the perspective of turnover and mobility, which means to employ specific professional competences for fixed-term projects and/or research activities;
- to fill positions which stand outside programs of permanent staff recruitment, and consequently do not represent any binding prerequisite for employment as permanent staff of the Institute.

Further questions on the scientific project can be addressed to dr. Laura Silva (e-mail: [laura.silva\[at\]inaf.it](mailto:laura.silva[at]inaf.it)).

2 – Requirements for participation

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

- PhD degree either in Physics or Astronomy or equivalent degree, also if awarded abroad (equivalence will be set by the selection committee according to criteria defined for the purpose of the selection procedure)
Or
- Master degree issued according to the previous Italian University regulations or Degree (2nd level) either in Physics or Astronomy, together with at least 3 years of subsequent documented experience in scientific or technological activities.

Candidates are requested experience in the fields of planetary atmospheres, climatology, radiative transport, astrophysics and habitability of planetary systems, development of numerical codes, use of written codes of the CUDA language.

The following is also required:

- Excellent knowledge of the English language, both oral and written;
- Good skills to work autonomously;
- Good teamwork skills, also with remote elements.

Art. 3 – Application



Applications must be submitted in English or Italian, by e-mail with acknowledgement of receipt to the following email address: inafotrieste[at]pcert.postecert.it.

Applications have to be submitted by and not after midday (UT) January 10, 2022. Late submissions will not be considered.

Applications that are not consistent with the attached form (Annex 1) or without the applicant's signatures will be excluded from the selection procedure.

The application must be submitted with the e-mail subject: "Application for: Research grant - *"HPC for climate modellization of terrestrial-type exoplanets with temperate conditions"* at INAF- Osservatorio Astronomico di Trieste".

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:

- 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.

The following documents have to be submitted:

1. Annex 1 "Application form";
2. 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;
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.

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 ascertained after completion of the selection procedure, the applicant will lose any right deriving from participation in the selection procedure; the same will apply 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 the competition.

The grant cannot be held at the same time with attendance at academic courses as those that formally give access to a PhD, as well as with attendance at PhD courses with fellowship. For employees of the Italian Public Administration (Italian State) compulsory unpaid leave of absence is foreseen.

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

Retired persons are not eligible for Research fellowship.

Also excluded from participation are any applicants who carried out Research fellowships under article 22 of Italian Law 240/2010 for a total period exceeding six years, as amended by Law 11/2015, including extensions, but excluding the periods in which the grant was 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. When formally accepting the grant, the successful candidate will issue a declaration of absence of inadmissible cumulating of grants/fellowships.

Art. 5 – Duration of the Research fellowship

The Research fellowship is expected to begin by February 1st, 2022. The exact initial date could be reasonably delayed if requested by the completion of administrative procedures and/or for the cases mentioned in art. 10 of this call.

The grant is for one year, with a possible extension, depending on the development of the project, the favourable review of the supervisor and on funding availability.

Art. 6 – Host Institution

The host institution of the grant is INAF-Astronomical Observatory of Trieste, and the applicant will be requested to travel abroad, also outside the European Union.

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 Trieste 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.

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

The grant holder must draw up at his/her expenses an insurance policy against accidents at work.

Art. 8 – Selection Committee and selection procedure

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

The Selection Committee is composed of three members from both Italian and foreign research staff, including also University staff, with expertise in the research field of the position offered in this announcement, and will include the principal investigator of the project. According to the law in force, the composition of the Selection Committee should comply, when possible, with gender balance. The president of the Selection Committee is nominated in the appointment decree and is chosen between the Committee members. In the decree the Selection Committee Secretary is also appointed.

The selection is based on qualifications integrated by a possible interview. To be admitted to the interview, candidates must exhibit their identity documents.

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

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.

The ranking scores of qualifications are calculated as follows:

- Seniority on research activities: higher score will be assigned to the shortest period of time (years) elapsed since PhD graduation, or since completion of at least 3 years' experience after graduation: up to maximum of 5 scores (subtracting one score for each additional year).
- CV and technical/scientific activities relevant to the scope of this call: up to a maximum of 40 scores.
- Publications and project documentation relevant to the scope of this call: up to 25 scores.

The following preferential requirements will be evaluated:

- Experience in development and use of climate models;
- Experience in use of the open-source radiative transport code HELIOS;
- Experience in the study of planetary habitability;
- Experience in numerical and statistical methods.

In case of equal scores, the PhD title will be considered as preferred qualification.

The possible interview will be based on the topics listed in the following, which are relevant to the position of the call:

- Climate models
- Radiative transport in planetary atmospheres
- Planetary habitability

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: www.oats.inaf.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 s/he must provide a formal declaration of acceptance of the research grant. The declaration will also state that s/he is not subject to any of the exclusion conditions listed in article 4 of this Call.

If the candidate does not provide the declaration of acceptance within a time limit of 10 days, s/he will lose her/his entitlement to the research fellowship, which 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:

1. will start the research activity at the date due as per the contract at INAF-Osservatorio Astronomico di Trieste, unless prevented by *force majeure* or exceptional circumstances, of which the Director of INAF-OATs must be timely informed;
2. will carry out her/his research activity under the supervision of the project manager, dr. Laura Silva, who will also monitor the fellow's activity progress;
3. is required to issue an activity report every six months. The activity report will be subject to approval from the scientific advisor and will be transmitted to the Director of INAF-OATs. Approval failing, duly reasoned by the scientific advisor, will give INAF-OATs the right to terminate the contract;
4. is required to send a written note in case of withdrawal, with at least 30 days notice, otherwise the INAF-Osservatorio Astronomico di Trieste is entitled to retain or request the reimbursement of the salary amount corresponding to the period of not notified.

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 supervisor, dr. Laura Silva, 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-OATs.

Art. 11 - Proceedings Responsible

In accordance with Art. 8, paragraph 3 of INAF Provisions on the assignment of research grants, dr. Mirella Giacchetti is the responsible of the competition proceedings relevant to this competition announcement (e-mail: [mirella.giacchetti\[at\]inaf.it](mailto:mirella.giacchetti[at]inaf.it)).

Art. 12 – 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.



Trieste, December 15, 2021

Director
Dott. Fabrizio Fiore