



Call 12/2019

**Announcement of public selection based on qualifications and interview for no. 2 research grant in the field of “High Performance Computing for Earth Sciences”, by the scientific research section “Centro di Ricerche Sismologiche” – CRS of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS.**

#### **Description of the activity**

The Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS and CINECA drew up an agreement to implement a training program focussed on High Performance Computing (HPC) applications for Earth Sciences, the “HPC Training and Research for Earth Sciences” (HPC-TRES). The program is co-sponsored by the Minister of Education, University and Research (MIUR) under its extraordinary contribute for the Italian participation to activities related to the international infrastructure PRACE – The Partnership for Advanced Computing in Europe.

The major objectives of the program are: capacity building, enhancement of human resources, and advanced training in the fields of Earth System modelling (atmosphere, hydrosphere, lithosphere and biosphere) and numerical models, the latter considered as a strategic cross-cutting element for modelling activities. These objectives will be pursued through the use of national and European HPC infrastructures and services in the framework of PRACE the optimization of algorithms and numerical codes, the optimal management of “Earth Sciences Big Data”, and the graphical visualization techniques for multidisciplinary applications in the Earth Sciences, also in the frame of the “Blue Growth” strategy.

Therefore, HPC-TRES agreement will establish, sponsor and oversee training and research awards (i.e. contributes for training and research activities set up according to current regulations that rule scholarships – to be also used for masters and specialized courses in HPC -, research grants and PhDs) that will support the research lines scientific plan of the HPC-TRES program.

The grants are part of the Training Program HPC-TRES as described in the introduction.

**Position 1:** High Performance Computing for hydrological modelling. The activity is focused to the acquisition of specific competences in the field of High Performance Computing (HPC) applied to oceanographic, hydrologic, climatic and biogeochemistry modelling, preferably in the frame of the research line C7 “Development of a High Performance hydrological model” described in the scientific plan of the HPC-TRES program (please consult the latest version on the HPC-TRES program website: <https://www.inogs.it/en/content/hpc-training-and-research-earth-sciences-hpc-tres>).

**Position 2:** High Performance Computing for Solid Earth modelling. The activity is focused to the acquisition of specific competences in the field of High Performance Computing (HPC) applied to oceanographic and biogeochemistry modelling, preferably in the frame of the research line B10 “Imaging and numerical geophysics” described in the scientific plan of the HPC-TRES program (please consult the latest version on the HPC-TRES program website: <https://www.inogs.it/en/content/hpc-training-and-research-earth-sciences-hpc-tres>).

The candidates will improve the knowledge in parallel programming paradigms, with particular interest to optimization methodologies, scaling, and implementation of numerical codes used in Earth Science applications on HPC facilities of class Tier-1 and Tier-0, also in an exascale perspective.

#### **Art. 1 – Vacancies and general part**

A public selection based on qualifications and interview is open to award no. 2 research grant in the field of “High Performance Computing for Earth Sciences”, by the scientific research section “Oceanografia” – OCE of the Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS – Scientific Disciplinary Sector profilo 1: GEO/12, ICAR/01, ICAR/02; profilo 2: GEO/11.

The grant is awarded with the principal aim of giving young graduates aged 30 or less the possibility to carry out research activities within the fields requested by OGS.

The grant is not compatible with any other types of grants, not fellowships or allowances of like nature.



The grant is not compatible with permanent private or public employ, with the exception of unpaid leave from work.

OGS may not pay any additional payments to grantees.

A copy of this selection notice is available by the OGS Headquarters as well as on the OGS institutional web page at <http://www.ogs.trieste.it/it/job-opportunities>.

All information, news and notices referred to this call may be found at <http://www.ogs.trieste.it/it/job-opportunities>.

#### **Art. 2 – Duration and salary amount**

The grant will have a duration of 12 months and cannot be renewed automatically. On request from the Tutor, the grant renewal may be proposed by the Director of the Section where the grantee is implementing the research activities to the General Director of OGS. The renewal proposal shall be accompanied by a short report written by the grant holder detailing the implemented activities and which should be countersigned by the Tutor.

Even in the case of any possible renewals, the duration of the grant cannot exceed three years.

The salary of the research grant for 6 months, net for charges borne by OGS and including the social security contributions concerning the part borne by the grantee, is equal to € 14.400,00 and shall be paid in monthly instalments.

All expenses connected to travel and living will be reimbursed to the grantee when carrying out research activities out of the OGS headquarters in proportion to the allowance paid to the OGS staff belonging to the III professional level.

Fiscal and social security regulatory provisions in force are applied to all grants.

#### **Art. 3 – Requirements**

The requirements for the admission to the public selection are:

- Age 30 or less;
- Degree obtained in accordance with the current legislation before Ministerial Decree no. 509/99 in scientific disciplines or Master's Degree as per Ministerial Decree no. 270/04 in all assimilated classes pursuant Interministerial Decree dated July 9 2009 and according to the table annexed to the same Decree obtained by Italian Universities or degrees issued by Universities abroad;
- Knowledge of the English language;
- Knowledge of the Italian language (only for foreign applicants).

Candidates who obtained a qualification abroad that has been declared equivalent by the Italian competent educational authorities or validated according to the rules in force (Art. 38 Legislative Decree 165/2001), are admitted to participate in the call.

The candidate without such requisite at the date of the application shall present a detailed documentation concerning his/her education in order to allow the selection board to evaluate the application limited to the present call.

The admission requirements must be fulfilled at the date of this notice of recruitment.

#### **Art. 4 – Application form: terms and conditions**

The application forms for the participation in the call shall be sent in simple paper, according to the form herewith attached (Annex 1), signed by the applicants and sent by one of the following options:



Istituto Nazionale  
di Oceanografia e di Geofisica Sperimentale

- Hand delivery at OGS Località Borgo Grotta Gigante 42/c – 34010 Sgonico (TS), Ufficio Affari Generali e Protocollo Room no. n.34, 1<sup>st</sup> floor, from Monday to Friday from 9.30 am to 12.30 pm.  
Application forms submitted in this way must be handed in at the latest by 12.30 pm on the closing date.  
The postmark date and time will serve as proof as well as the form filled in by the Ufficio Affari Generali e Protocollo of OGS;
- By registered mail with notice of delivery to:  
Istituto Nazionale di Oceanografia e di Geofisica Sperimentale – OGS  
Ufficio Affari Generali e Protocollo (Room no.34, 1<sup>st</sup> floor)  
Località Borgo Grotta Gigante, 42/c  
34010 Sgonico – TS.  
The application form shall be presented at the latest the fifth day following the date of closure of the call.  
The official postmark date will serve as proof;
- By PEC (Electronic Certified Email), in conformity with the current legislation on the matter, to the following PEC address: [ogs@pec.it](mailto:ogs@pec.it).  
The application form must be handed in at the latest by 12.30 pm on the closing date;

Any other way form of sending and submitting applications is excluded.

Only for foreign candidates, the application for joining the public selection, drafted in simple paper, according to the outline attached to this announcement (Annex sub 1), signed by the applicant with a handwritten signature or a qualified electronic signature according to European standards, may also be received in the following way:

d) forwarded by e-mail to the following e-mail address: [protocollo@ogs.trieste.it](mailto:protocollo@ogs.trieste.it).  
The application must be received no later than 12.30 pm of the deadline of this call.

As regards the submission of the applications provided for by points a), b) and c) of this article, applications not signed by the applicants and those submitted after the deadline of this announcement will not be considered as eligible.

Applications submitted by foreign applicants, as detailed in paragraph d) of this article, not signed with a handwritten signature or a qualified electronic signature according to European standards, and those forwarded after the deadline of this announcement will not be considered eligible.

Under his/her own responsibility, the candidate, must declare the following information:

- Surname and name
- Place and date of birth
- residence
- citizenship
- Not have been convicted or found guilty of any criminal offence, or, if any, what kind of criminal offence the candidate has been found guilty;
- To be in possession of the requested qualifications, with all the details concerning date, place of issue, final mark;
- The candidate's position with reference to the award of other grants;
- To be in possession of further requirements as per art. 3 of this call
- Knowledge of the Italian language (only for foreign candidates)
- The chosen address for the call

The candidate shall attach to the application form the following documents:

- Curriculum vitae (dated and undersigned)



The candidate may also attach all documents and qualifications that he/she deems appropriate to present in his/her own interest.

The candidate shall also attach to the application:

- 1) Self-declaration affidavit in accordance with art. 46 Presidential Decree dated. 28.12.2000, no. 445 (Annex 2), concerning the degree or the PhD obtained;
- 2) Self-declaration affidavit, in accordance with art. 47 Presidential Decree dated 28.12.2000, no. 445 (Annex 3), concerning the curriculum vitae and eventual any other possible documents, titles.

As an alternative to the declaration as per paragraph 1) copy of the degree may be attached to the application form accompanied by the self-declaration affidavit certifying the exact copy of the original in accordance to art. 47 Presidential Decree dated 28.12.2000, no. 445 (Annex 3).

The self-declaration affidavit shall be accompanied by a copy of a valid identity card.

The candidate may attach all documents, qualifications and publications that he/she deems appropriate to present in his/her own interest.

Application forms not accompanied by the self-declaration affidavit as per paragraph 1) or the copy of the degree certificate with the relative self-declaration affidavit will not be taken into consideration; Application forms not accompanied by the declaration as per paragraph 2), filled under the provisions thereof.

Special needs candidates, with reference to their own disability, shall mention their specific request for assistance in the application form.

#### **Art. 5 – Exclusions**

The following reasons constitute ground for ex-officio exclusion:

- Applications not submitted within the fixed deadline referred to in Art. 4;
- Applications sent under conditions other than those referred to in Art. 4;
- Partial or total omission of the information requested as per Art. 4;
- Being in one of the conditions referred to in Art. 1, paragraphs 3 and 4;
- Fail to submit the application form;
- Failure to submit a copy of a valid identification document attached to the application form;
- Failure to comply with any of those requirements as per art. 3;
- Failure to attach the self-declaration affidavit as per art. 4, paragraph 1) as well as the self-declaration affidavit as per art. 4 paragraph 2).

Candidates are admitted to the selection with right to reserve approval. The Director of the Human Resources Department has the faculty to exclude a candidate at any time in case of lack of the above-mentioned requirements by providing a valid justification.

If the motivations that determined the exclusion are verified after the completion of the selection, the Director General, with a valid justification, provides automatic forfeiture of any rights connected to the participation in the selection itself.

Exclusion of candidates shall also be applied in case of failure in presenting inaccurate declarations requested by the application form in accordance with Presidential Decree dated 28.12.2000, no. 445.

#### **Art. 6 – Selection Board: measurable qualifications, interview and ranking list**

The Selection Board is appointed by an official Act of the General Director of INOGS.

The Selection Board preliminary adopt the criteria and the parameters to which it intends to apply, with specific reference to the characteristics of the research project.



#### Evaluating titles

The evaluating titles are:

- degree;
- specialization diplomas and certificate of attendance to post lauream training courses, both in Italy and abroad;
- implementation of research activities by public or private organisations, based on contracts, fellowships or assignments, both in Italy and abroad;
- knowledge and use of programming languages;
- scientific and/or technological activities and publications.

#### Ranking list

The Selection Board makes a shortlist in descending order of the final ranking obtained by the candidates.

The selection is considered as passed if the applicant obtains at least 7/10 or equivalent on the total points decided by the examining board.

The ranking list with the indication of the grant winner or winners will be published by the President of the Selection Board with the same forms of advertising provided in the call.

Such publication constitutes effectively an official notification.

#### **Art. 7 – Ranking list approval and appointment of the grant winner**

The Director of the Human Resources Department, once ascertained the formal validity of the documents transmitted to the Selection Board, approves the ranking list and appoints the grant winner.

The ranking lists shall remain valid for 18 months after the date of approval.

In case of formal renunciation of the grant winner, or if the grant winner does not accept the grant within the prescribed period according to Art. 8 of the present call, the grant shall be awarded to the next eligible candidate in the ranking list.

The grants available following renunciation or resolution of the grant winner may be awarded to the candidates indicated in the ranking list within the limits of its duration.

#### **Art. 8 – Awarding of the grant**

After budget and provisions verification, the OGS General Director, bestows the grant to the grant winner.

The grant winner will be duly notified of the result and shall send an official declaration of acceptance of the grant within 15 days after acknowledgement of receipt of the above-mentioned notice.

Once obtained the declaration of acceptance from the winner candidate, a contract between the General Director of OGS and the grant winner is prepared and signed, a document which defines the terms and the research activities object of the collaboration.

#### **Art. 9 – Implementation of the research activities**

The activities of the grant holder are carried out in complete autonomy and with no scheduled working time, within the specific research programme and according to the guidance provided by the scientific tutor.

The grant holder activities do not entail any sort of subordinate employment.

The grant does not entail any social security treatment for the purpose of the evaluation of legal and economic responsibilities.

#### **Art. 10 – Obligations of the grantee**

The grant holder must carry out the commitments foreseen by the research programme prepared by the scientific tutor and under his supervision.



At the end of the grant the grant holder shall submit to OGS a final research report that includes the obtained results.

All technical, scientific and administrative data and information gathered by the grant holder during the implementation of the activity shall be considered confidential and therefore the use such information for purposes different that those for which the grant has been awarded.

Concerning the protection of the intellectual property of the results or products obtained on the performance of the activity of the grant please refer to OGS regulations on patents and protection of intellectual property.

#### **Art. 11 – Evaluation of the activity of the grantee**

On completion of the research activities carried out by the grantee, he/she shall send to the Director General a brief summary of the implemented activities which shall be countersigned by both the tutor and the Director of the Section.

On completion of the research activities and upon formal request of the same grantee, the implemented activities may be submitted to a duly designated Selection Board for evaluation.

#### **Art. 12 – Personal data management**

In accordance with current legislation, personal data provided by candidates in the application form will be settled by the Head of Human Resources Office of OGS and processed for the only purpose of the assignment of the grant and the ensuing relevant procedures.

#### **Art. 13 – Final proceedings**

For matters not covered by this notice selection please refer to Grant and Research Fellowship rules of OGS.

This call for individual grant will be posted on the OGS website and on the European Commission Internet portal-Euraxess.

In accordance to the Law dated 7/08/1990 no. 241 art. 5 the Responsible of the Proceedings is the Director of the Human Resources Department.



Application form

To: Istituto Nazionale di Oceanografia  
e di Geofisica Sperimentale – OGS  
Località Borgo Grotta Gigante, 42/c  
34010 Sgonico – TS

Call \_\_\_\_\_/2019 – \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

The undersigned (name) \_\_\_\_\_ (surname)  
\_\_\_\_\_ born \_\_\_\_\_ (Province \_\_\_\_\_) on \_\_\_\_\_  
and resident in \_\_\_\_\_ address \_\_\_\_\_ n.  
\_\_\_\_\_

requests to participate in the selection of the call in object.

For this purpose the applicant declares under his/her own responsibility:

- citizenship \_\_\_\_\_
- not have been convicted or found guilty of any criminal offence (please specify, if any)  
\_\_\_\_\_  
\_\_\_\_\_
- to hold a degree (please cross the type of degree you hold)
  - preceding university's reform pursuant Ministerial Decree no. 509/99
  - master's degree pursuant Ministerial Decree no. 509/99
  - master's degree pursuant Ministerial Decree no. D.M. 270/04
- in \_\_\_\_\_ obtained on date  
\_\_\_\_\_ from the University of \_\_\_\_\_
- with the score of \_\_\_\_\_ / \_\_\_\_\_

**if the qualification is obtained abroad**

- to have already obtained the recognition of the equivalence as per Art. 38 of the Legislative Decree dated March 30 2001, n. 165, in view of the documents annexed to the application  
*namely*
- to have already applied for the recognition of the equivalence as per Art. 38 of the Legislative Decree dated March 30 2001, n. 165, in view of the documents annexed to the application  
*namely*
- to present the following detailed documentation of the attended training in order to allow the selection board to assess the recognition of equivalence only for the purposes of the applicant's participation in the mentioned call for applicants



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- to have knowledge of the Italian language (only for foreign candidates)
- to hold the following titles that may be evaluated:

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Here attached papers no. \_\_\_\_\_, of which:

- no. \_\_\_\_\_ printed, collaborative papers no. \_\_\_\_\_ ;
- no. \_\_\_\_\_ typescripts, collaborative papers no. \_\_\_\_\_ .

To be attached to this form

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to wish to receive all communication referring to this call to the following address:

(street) \_\_\_\_\_

(town) \_\_\_\_\_

(ZIP code) \_\_\_\_\_

Telephone \_\_\_\_\_

e-mail \_\_\_\_\_

Date \_\_\_\_\_

Signature

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**Istituto Nazionale  
di Oceanografia e di Geofisica Sperimentale**

The undersigned \_\_\_\_\_  
For participating in this call \_\_\_\_\_ requests to carry out the interview via videoconference through  
the following videoconference account \_\_\_\_\_

Signature

\_\_\_\_\_

The undersigned \_\_\_\_\_  
For participating in this call \_\_\_\_\_ request to take the exam in one of the following languages

- Italian
- English

Signature

\_\_\_\_\_



SELF DECLARATION AFFIDAVIT

(art. 46 Presidential Decree 28.12.2000 no. 445)

The undersigned (name) \_\_\_\_\_ (surname) \_\_\_\_\_  
born in \_\_\_\_\_ (province \_\_\_\_\_) on \_\_\_\_\_  
and resident in \_\_\_\_\_ address \_\_\_\_\_ no.  
\_\_\_\_\_

aware that false declarations are punishable by law (art. 76 Presidential Decree 28.12.2000 no. 445)

DECLARES

- to hold a degree (please cross the type of degree you hold)
  - preceding university's reform pursuant Ministerial Decree no. 509/99
  - master's degree pursuant Ministerial Decree no. 509/99
  - master's degree pursuant Ministerial Decree no. D.M. 270/04

in \_\_\_\_\_ obtained on date  
\_\_\_\_\_

from the University of \_\_\_\_\_

- with the score of \_\_\_\_\_ / \_\_\_\_\_

The undersigned also declares that he/she has been informed that, in accordance with current legislation, personal data will be treated, by computer tools also, exclusively within the object for which the declaration has been drawn up.

Date \_\_\_\_\_

Signature

\_\_\_\_\_



SELF DECLARATION AFFIDAVIT

(art. 47 Presidential Decree 28.12.2000 no. 445)

The undersigned (name) \_\_\_\_\_ (surname) \_\_\_\_\_  
born in \_\_\_\_\_ (province \_\_\_\_\_) on \_\_\_\_\_  
and resident in \_\_\_\_\_ address \_\_\_\_\_ no. \_\_\_\_\_  
aware that false declarations are punishable by law (art. 76 Presidential Decree 28.12.2000 no. 445)

DECLARES

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ (1)

Purely by way of example here below a list of options that may be used in the self declaration affidavit

- the copy of the degree certificate attached to the application form of no. \_\_\_\_\_ pages is a true copy of the original
- the copy of the following title or document or publication

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

of no. \_\_\_\_\_ pages is a true copy of the original.

The undersigned also declares that he/she has been informed that, in accordance with current legislation, personal data will be treated, by computer tools also, exclusively within the object for which the declaration has been drawn up

Date \_\_\_\_\_

Signature

\_\_\_\_\_

(1) The declarant shall send attached to the declaration a photostatic copy of a valid identification document.