SCUOLA INTERNAZIONALE SUPERIORE DI STUDI AVANZATI

TRANSLATION OF ANNOUNCEMENT FOR 1 RESEARCH POSITION

Decree n. 163 dated 29/03/2019

Art.1 A public selection, based on qualifications, is hereby announced for 1 research position in the research field detailed in Annex 1. Full details, admission requirements and duration are listed in Annex 1.

Art.2 Eligible candidates must be in possession of a scientific-professional curriculum which enables them to carry out research activity and meet the further requirements specified in Annex 1.

Personnel with permanent positions in Italian universities, public research and experimentation institutions, ENEA, ASI or institutions which award scientific degrees equivalent to PhD, in accordance with art. 74, par. 4 of DPR 382 dated 11.07.80, are excluded from applying.

In accordance with art. 18 of law 240/10 candidates having a family relationship or other degree of kinship up to the 4th degree with the following persons are also excluded from applying:

- SISSA Professors belonging to the Area that requested the position;
- Director of SISSA;
- Secretary General of SISSA;
- Member of the Board of Directors of SISSA (please see Annex A).

The research fellowship is awarded through a private law contract which does not give any right to be employed by universities.

Art.3 The salary of the research fellowship detailed in Annex 1 is gross per year and includes contributions to be paid by the researcher. The fellowship is paid monthly in arrears. The fiscal and social security treatment of the research fellowship is in accordance with art. 4 of Italian law n. 476 dated 13.08.84 and subsequent integrations and modifications, and par. 26 and followings of art. 2, Italian law n. 335 dated 08.08.95 and subsequent integrations and modifications.

The School arranges for insurance coverage for the fellowship holders against accidents in the workplace and for third party liability while carrying out their research work. The insurance premium is deducted from the fellowship.

Art.4 The fellowship cannot be held contemporarily with other fellowships of whatever kind, except those awarded by Italian or foreign institutions with the aim of integrating the research activity of the candidate through a period spent abroad.

Provided that they fulfil their research obligations, the fellowship holders are authorized to carry out professional activity as long as the activity is compatible with the research position, does not represent a conflict of interest and is not prejudicial to the School. Fellowship holders willing to carry out external activity in a continuous way shall present a specific request, which will be evaluated by the relevant Area Council and successively submitted to the Academic Senate of the School for approval.

If compatible with their research duties, and following written approval by the scientist responsible for the research project, fellowship holders can participate in research assignments commissioned to SISSA by third parties (in accordance with art. 66 of the Italian

D.P.R. 382/80) and benefit from the financial proceeds deriving from such activities, in accordance with the current regulations.
Fellowship holders cannot be enrolled in University Degree courses, PhD courses with scholarship or medical school of specialization in Italy or abroad.
Government employees must be given unpaid leave for the period of the fellowship.

Art. 5 The requirements for the admission to the selection procedure shall be carried out by the examining board according to the following table:

Qualification	Evaluation criteria	Score
PhD	Relevance to the project	max 15 marks
University Degree	Type of degree listed in the announcement - according to the degree mark	max 10 marks
Published works and other research products	Relevance to the scientific disciplinary sector of the research project	max 20 marks
Other post-lauream Degrees	Relevance to the scientific disciplinary sector	max 5 marks
Other qualifications	Contracts, scholarships, enrollment in PhD degrees, periods spent abroad, etc., if any	max 10 marks
TOTAL		**60 marks**

A candidate should be declared eligible after receiving an evaluation of minimum 42/60 marks
To assert the equivalence of the qualification possessed to the required, the candidate must refer to the list of equivalences that can be consulted on the MIUR website (http://www.miur.gov.it/web/guest/equipollenze-equiparazioni-and-between-titles-academic-italiani1).
Qualifications obtained abroad and declared equivalent by the Italian authority, according to the current legislation, will be admitted.
In case of foreign degree that has not already been declared equivalent in Italy according to the law (http://www.cimea.it/it/index.aspx) the examining board has the right to admit the candidate after the evaluation of the study plan, in accordance with the thematic of the research fellowship.
The selection procedure is carried out by the examining board by evaluating the research fellowship, taking into account the scientific profile of the candidate as proved by their qualifications and published works.
The qualifications evaluation criteria, which can be specified by the examining board according to internationally recognised parameters, are, with regard to the thematic of the research fellowship, the relevance, the importance and the quality of:
- the proven research activity;
- the academic qualifications (University Degree, PhD, specialization degrees or other certificates of attendance regarding post-degree specialization courses held in Italy or abroad);
- other qualifications.
In case of foreign degree that has not already been declared equivalent in Italy according to the law, the candidate must attach the Italian translation and / or English translation of the study plan.
The scientific qualifications must be relevant to the Area referred to in this announcement or to interdisciplinary subjects relevant to the areas involved.

Art.6 The examining board is nominated with Directorial Decree by the Director of SISSA, according to the proposal of the relevant Area Council. It is composed of a minimum of three members and a maximum of five members of which one shall act as President and one shall act as Secretary. The members of the examining board shall be chosen among the professors and researchers of SISSA, of Universities, of Research institutions or among experts in the subjects referred to in this announcement. A substitute can be nominated for each member.

The examining board evaluates the qualifications according to the criteria previously identified by the table in art. 5.

At the end of the evaluations the examining board will draw up a report, including the evaluation criteria, the total mark obtained by each candidate and a classification list of those considered eligible. The selection procedure and the classification list are approved with Directorial Decree.

The eligible candidate will undertake a research contract with SISSA in accordance with Italian Law n. 240/10, art. 22.

Being in the classification will not give any rights in other selection procedures.

Art.7 **Under penality of exclusion, application** for participation in the competition, along with the relevant qualifications held and the relevant scientific publications, **shall be submitted online through the following online application procedures** https://pica.cineca.it/sissa/ar-fe-mate-10-2019

It is of utmost importance to provide a valid email address in order to enable the registration process on the electronic procedure.

Applicants shall upload all personal and professional data as requested by the application procedure; all documents must be uploaded .pdf. Each applicant can produce a maximum of no. 30 publications and a maximum of no. 30 other titles and qualifications.

All fields in the online application form must be filled out. Under penalty of exclusion, the application must contain:

- the curriculum vitae with the complete list of the scientific and professional activities;
- valid ID of the candidate to be uploaded in electronic format.

Failure to comply with the online application procedure will result in exclusion of the applicant.

Prior to final submission, and within the given deadline for applications submission, the online application procedure allows to modify and save the inserted information in a draft copy.

Confirmation of final submission date will be certified by an automatic notification email.

Submissions after the given deadlines will not be accepted by the system as the online application procedure won't be accessible.

Each application will be given a registration number. For all further communications, the registration number shall be quoted along with the code of the research grant competition.

The online application and submission procedure shall be completed **by 29th April 2019 not later than 13:00 (Rome time).**

The submission of the online application must be completed and finalized:

- **with the digital signature of the candidate**, by means of smart card, USB token or remote digital signature, for digitally signing electronic documents with a software using a PC or a web portal for Remote Signature provided by a Certification Service Provider (CSP). Candidates with a smart card or an USB token for digital signature should check

the compatibility with the Digital Signature system embedded in our server. In case of compatibility, candidates shall sign the application on the server (i.e. ConFirma);

- **holders of server-incompatible Digital Signature and holders of Remote Digital Signature** who can access a web portal for digitally signing electronic documents, shall save the PDF file generated by the system on their PC; the .pdf file shall not be modified in any way, and it shall be digitally signed in CAdES format: the system will generate a file with .p7m extension. The candidate shall upload the .p7m file on the system. No changes are to be made to the file by the candidates before the Digital Signature, on pain of exclusion from the competition;
- **in case the two above-mentioned options do not apply**, candidates shall save the .pdf file generated by the system on their PC. The .pdf file shall not be modified in any way, on pain of exclusion from the competition. The .pdf shall be printed out, signed on the last page, scanned in .pdf format and uploaded on the system.

For any technical problem regarding the application candidate should apply to sissa@cineca.it

The University will verify that all the statements made in the application and accompanying documentation comply with the provisions of Presidential Decree n. 445/2000.

Art.8 After a budget verification has been carried out, the eligible candidate will receive notification of the award of the research fellowship by registered letter.

Within 30 days from the start of the research activity at SISSA, Italian and EU candidates or non-EU citizens resident in Italy will have to send to the Director of SISSA the following documents:

1) affidavit attesting the birth, citizenship and residence or submit a valid ID; non- EU citizens must produce their passport;

2) affidavit attesting the possession of a University Degree and a PhD;

3) copy of the tax code issued in Italy;

Non-EU citizens authorized to sojourn in Italy owing to the conventions between Italy and their own country have to submit the same above mentioned documents.

Non-EU citizens regularly sojourning in Italy may submit an affidavit according to articles 46 and 47 of the D.P.R. 445/2000 exclusively for personal qualities and events which can be certified and attested by public Italian authorities.

In any different case the details listed in points 1), 2) and 3) of this article must be documented with an affidavit submitted together with the relevant copies within 30 days from the beginning of the research activity at SISSA. Moreover within 60 days from the beginning of their research activity winners have to submit a declaration concerning the information requested in points 1), 2) and 3) issued by the foreign competent authorities with a translation in Italian authenticated by the Italian Consulate abroad. The School reserves the right to verify all affidavits submitted.

The research fellowship may be offered to the next candidate eligible in the classification list, through authorization by the Director, at the express request of the Area Coordinator or the scientist responsible in case of not acceptance of the position, the documents listed above not be submitted in time or the project be terminated before the due date.

The starting date of the fellowship shall be agreed with the Area Coordinator or with the scientist responsible for the research project.

Art.9 The fellowship holders undertake to carry out the research activity as foreseen in the contract and in accordance with the research program of the Area.

The research activity is carried out in the frame of the research project for which the applicant has been selected. Every year the fellowship holders must present a report on the activity carried out in the previous year to the Area Council. In major case of non-compliance the contract can be terminated, by decision of the School Senate and on proposal of the Area Council, heard the counterpart.

The contract is automatically resolved in the following cases:

- lack or unjustified delay in the starting of the research activity;
- unjustified suspension of the activity for more than 15 days;
- breach of the incompatibilities established by the current Rules for the awarding of research fellowship in SISSA;
- negative evaluation of the research activity expressed by the Area Council.

An authorized absence of up to 30 days a year does not require the fellowship to be suspended or the absence to be recuperated at a later date.

At least 30 days' notice must be given by the fellowship holders in case of resignation, in which case no penalty shall be applied by SISSA. Failure to do so shall result in a penalty involving the recovery or the failure to pay the salary for the period of notice not given. The 30 days' notice shall not be applied during the first 30 days of research activity.

SISSA shall reserve the right to terminate the contract if the external funding becomes unavailable. In this case SISSA shall give the fellowship holder at least 60 days' notice. Failure to do so shall result in the payment to the research fellowship holder of an amount equal to the period of notice not given.

Art.10 The total duration of the research fellowship including the renewals must not exceed 6 years with the same researcher. To this end, the time in which the candidate was holder of a research fellowship and enrolled in PhD courses (without scholarship) is not taken into account for a period not exceeding the legal duration of the PhD program.

In accordance with law 240/10 candidates can not be awarded research fellowship or temporary researcher contracts with public, private or telematic universities, nor with other institutions as specified by art. 1 of law 240/10 for a period exceeding 12 years, even if not continuously. To this end the periods of absence due to maternity leave or state of illness are not taken into account.

The renewal of the research fellowship is decided by the School Academic Senate and, as for the financial coverage, by the Board of Directors, on the basis of the evaluation of the research activity carried out by the fellowship holder, the state of the art of the research programme, on request of the scientist responsible in the Area relevant to the research fellowship.

Art.11 All matters regarding data processing and protection are in accordance with Law 196/2003 D.Lgs. 30.06.2003, n. 196 as amended by Legislative Decree 10.08.2018, n. 101 that transposes the Regulation (EU) 2016/679 (c.d. GDPR). All the data provided to this administration will be processed for the sole purposes connected with and instrumental to the selection procedure and the eventual drawing up and management of the contact.

Trieste 29/03/2019

ANNEX 1

Mathematics Area

Public selection based on qualifications

Research title: **Advanced Reduced Order Methods for Parametrized Problems in Computational Fluid Dynamics for Cardiovascular Systems Applications**

Fields of the research activity: Mathematical modeling, numerical analysis and simulation for the complex systems in medicine held by PDEs, computational fluid dynamics for optimization and control, data assimilation and uncertainty quantification, scientific computing programming, high performance computing and/or large scale computing competences.

Scientist responsible for the research activity: Rozza Gianluigi
Members of the research group: Prof. Gianluigi Rozza (PI), Dr Francesco Ballarin, Dr Andrea Mola, Dr GiovannI Stabile, Dr Martin Hess, Dr Michele Girfoglio, Dr Efthymios Karatzas, Dr Andrea Lario, Dr Enrique Delgado (assegnisti post-doc), Dott. Nicola Demo (collaboratore alla ricerca), Dott.ssa Zakia Zainib, Dott. Federico Pichi, Dott. Saddam Hijazi, Dott.ssa Monica Nonino, Dott. Matteo Zancanaro, Dott.ssa Maria Strazzullo (Dottorandi/e anno successivi al primo), Dott. Marco Tezzele, Dott.ssa Laura Meneghetti (dottorandi primo anno). Collaborazioni SISSA mathLab: Prof. Antonio de Simone, Dr. Luca Heltai, Dr. Giovanni Noselli, Dr Nicola Giuliani.

Area: 01 - Mathematics and informatics
Public selection sector: NUMERICAL ANALYSIS AND SCIENTIFIC COMPUTING

Additional information (research activity, ssd):
ERC Classification: PE1_17, PE1_18, PE1_20; European Union Funding for Research and Innovation, Program Horizon 2020, European Research Council Executive Agency, established by European Commission, Consolidator Grant: H2020-ERC-Cog-2015-AROMA-CFD (Principal Investigator Prof. Gianluigi Rozza). Two letters of references by PIs are requested. Please send them directly at the address: gianluigi.rozza@sissa.it

Duration of the research fellowship: 12 months
Renewable: yes
Gross remuneration per year: € 25.000,00

Requisites for the admission to the selection procedure:

University degree: Master degree in Mathematical Engineering, Biomedical Engineering, Industrial Engineering (Aerospace, Mechanical, Energy), Physical Engineering, Civil Eng or equiv., Mathematics, Physics
Doctoral degree: Mathematics/Mathematical Engineering/Applied Mathematics/Numerical Analysis/Industrial Engineering, Computational Science and Engineering/BioEngineering

Proven experience in: Mathematical modelling, numerical analysis and simulation for complex systems in biomedicine modelled by PDEs, computational fluid dynamics for optimisation and control, data assimilation and uncertainty quantification, scientific computing programming, high performance computing and/or large scale computing competences.

Additional requirements, competencies and abilities: Good knowledge of high level programming languages, e.g., C/C++/Python; Scientific Computing software libraries, Reduced Order modelling techniques (reduced basis methods, POD), efficient geometrical parametrisation techniques. Special interest in modelling cardiovascular system. Capability in working on development, maintenance and

promotion of ITHACA/RBniCS/multiphenics software library per ROMs, as well as VTK, VMTK, Simvascular or similar.

Two letters of references are requested by PIs. Please send them at the address: gianluigi.rozza@sissa.it (before deadline)

Evaluation criteria: candidate should be declared eligible after receiving an evaluation of minimum 42/60.

PhD: maximum 15 points
University degree: maximum 10 points
Published works and other research products: maximum 20 points
Further post-lauream diplomas: 5 points
Other titles: maximum 10 points

Gross total cost of the research fellowship will be funded by the Project:
R_H2020_CoG_ERC_MATE_Rozza_0314 - H-2020-2015-681447-AROMA-CFD. ERC Consolidator Grant. Titolo: "Advanced Reduced Order Methods with Applications in Computational Fluid Dynamics" - Prof. Rozza
Codifica UGOV del progetto:
R_H2020_CoG_ERC_MATE_Rozza_0314
CUP: G92I15000410006
Attività / Unità lavoro: costi rendicontabili

Position approved by:
Academic Senate of the School dated 19/03/2019
Board of Directors of the School dated 26/03/2019

mca