



COMPETITION FOR RESEARCH AWARDS

ACRI - YOUNG INVESTIGATOR TRAINING PROGRAM 2018

Functional and Renormalization-Group Methods in Quantum and Statistical Physics

This competition aims to award 13 to 16 individual fellowships, for research visits of at least one month at a network of Italian institutions, to young researchers of any nationality with foreign affiliation.

OVERVIEW

The project *Functional and Renormalization-Group Methods in Quantum and Statistical Physics*, financed by ACRI, has its scientific focus on both formal and applied aspects of functional and renormalizations-group methods in modern field theories. Some topics of interest are related to fundamental particle physics, quantum gravity, cosmology, low-energy strong interactions, quantum and statistical field theories for condensed matter or out of equilibrium phenomena, active matter systems but emphasis is also put on an interdisciplinary and cross fertilising point of view.

The project will take place in a period of at least one month from September 1 to October 20, 2019. During this period, the selected researchers will work in one of the 12 host institutions (as detailed below). The selected winners of the fellowship will be asked to give at least a lecture/seminar on a research topic related to the ones mentioned above, for the local students/young researchers of the host institution, which will be recorded if the winner has agreed to it.

During the project, in the period 16-20 September 2019, a conference will take place in Trento at ECT*. The selected researchers and some members of the 12 host institutions will attend the conference as speakers. Some of the most prominent scholars in the scientific fields involved will be also invited to attend the conference.

Institution	Responsible host
INFN, Trieste	Marco, Fabbrichesi, Dr.
INFN, Bologna	Gian Paolo, Vacca, Dr.
INFN, Cagliari	Francesco, Murgia, Dr.
INFN, Catania	Dario, Zappalà, Dr.
ECT*/FBK	Jochen, Wambach, Prof. Dr.
SISSA	Roberto, Percacci, Prof.
CNR, Trieste	Andrea, Trombettoni, Dr.
INAF, Catania	Alfio Maurizio, Bonanno, Dr.
Dipartimento di Scienze MM.FF.II., Università di Parma	Luca, Griguolo, Prof.
DIFA, Università di Bologna	Paolo, Finelli, Dr.
Dipartimento di Fisica, Università di Pisa	Giovanni, Marozzi, Dr.
Dipartimento di Fisica, Università di Cagliari	Umberto, D'Alesio, Prof.

ELIGIBILITY CONDITIONS

Candidates must meet the following requirements:

- Not have turned 40 years old at the moment of the publication of this call;
- Have completed a Ph.D. (or equivalent qualification) in Theoretical Physics in Italy or abroad, at the moment of the publication of this call; in exceptional cases applications from graduate students in the last year of their Ph.D. studies can be considered.
- Work at recognized institutions outside of Italy (Universities or Research Centers) or have a continuous collaboration with a University or a Research Center abroad (adjunct professor, research contract, research grant, post-doc grant, teaching collaborations with a University, temporary or permanent positions, or equivalent), at the moment of the publication of this call;
- Absence of a criminal record (signed self-declaration required).
- Have a recognized expertise in one of the research areas mentioned in the previous overview;
- Knowledge of one of the following languages: English or Italian.

APPLICATION PROCESS

The application process starts on May 3, 2019. The deadline for submission of applications is May 30, 2019 at 23:59 p.m. (CET).

Applications must be sent through the Application Form at the web page <https://web.infn.it/FRGIM/applications/> by filling all the fields (Full name, E-mail address, Subject, Message) and providing by upload a single PDF file which must contain, in the following order:

- Cover letter, containing a motivation of the interest to participate in this project as a visiting researcher within the network of the host institutions.
- A list of at least three Italian host institutions in order of preference.
- Personal data.
- Scientific CV (including e.g.: academic studies and career, teaching and research activities, fellowships and awards, research grants, supervision of students or fellows, organisation of scientific events, institutional responsibilities, commissions of trust).
- List of Publications.
- A signed declarations of absence of a criminal record.
- An authorisation to the organizing committee to publish the full name of the candidate on the project web site <https://web.infn.it/FRGIM/> in case he/she is among the winners of the selection.
- Statement of agreement/disagreement to record a public lecture on a research topic during the stay in the host institution.

SELECTION PROCESS

The internal selection committee consists of

Gian Paolo Vacca (chair), Roberto Percacci, Alfio Bonanno, Andrea Trombettoni, Luca Zambelli.

Before evaluation the committee will fix the exact evaluation criteria.

The subsequent evaluation of the candidates will be carried on assigning up to 100 points divided in

- 1) up to 50 points for the academic career of the candidate (including international experiences, participation to international conferences, teaching at undergraduate or graduate level, organisation of events, awards, supervision activities, institutional responsibilities, commissions of trust);
- 2) up to 50 points for the scientific research quality, based on the publications of the applicant, their originality and methodological approach and the impact on the scientific community.

Winners will be selected according to the score given by the total sum.

In accordance with the most advanced international standards and respecting equal opportunities, the members of the selecting committee will pay attention to ensure diversity in the group of the selected researchers (yet compatible with their quality). This diversity is to be intended to take into account differences in gender, ethnicity, nationality, (dis-)ability, etc.

Not later than June 9, 2019 (within 10 days after the deadline for presenting the applications) the Committee will publish the result of the selection on the web site and send an e-mail to the winners to communicate the result.

Within 10 days after receiving the communication, the winner must send the required acceptance declaration to the selection Committee, otherwise he/she will lose the fellowship.

REMUNERATION

The gross/net (?) amount of the fellowship is of 3,000.00 Euro for researchers affiliated to EU institutions and 4,000.00 Euro for those affiliated to non-EU institutions.

The 50% of the fellowship will be paid at the arrival at the host institution and the other 50% after the departure, after the presentation of the summary of the activities to ACRI.

OBLIGATIONS OF THE YOUNG RESEARCHERS

The fellowship involves carrying out the activities briefly mentioned below:

- 1) Participation in the research activities of the host institution in collaboration with its members; it is expected that a research project can be developed at the host institution.
- 2) Presentation of at least one public lecture/seminar, on a research topic related to ones described in the overview of the project, for the local students/young researchers of the host institution, which will be recorded if the winner has agreed to it.
- 3) Other activities, which might include for instance: specialized presentations and participations to internal seminars at the host institution, team works on research papers in preparation, collaborations on funding applications for future research projects.
- 4) Participation at the conference *Functional and Renormalization-Group methods - Italian Meeting (FRGIM 2019)* at ECT*, where a presentation with a talk will be requested.
- 5) Preparation of a written report on the activities performed during the research staying.

PERSONAL INFORMATION

According to D.L. 196/03, INFN will commit itself to respect all confidential information provided by the candidate: “all information provided will be handled only for aims connected to the selection and to the stipulation and management of the relationship with INFN”.