



Announcement n. 20543

FELLOWSHIPS IN SCIENTIFIC COMPUTING

The 2018/2019 INFN Fellowship Program offers 6 (six) positions for research and development activities on scientific computing mainly devoted to promote innovative solutions for LHC experiments and to face big data processing for particle physics with future technologies.

Applicants must have a master's degree in Computing, Physics and Engineering or equivalent qualification, obtained not later than eight years before the application deadline (i.e. on or after **January 14th, 2011**), with at least 24 months of proven activities in the field of scientific computing after the master's degree award.

The time limit indicated above may be extended in case of:

- Maternity (18 months for each child born before or after the master's degree award, up to a maximum of 4.5 years);
- Paternity (effective time of leave taken for each child born before or after the master's degree award, up to a maximum of 4.5 years);
- National Service (effective time of leave taken after the master's degree award);
- Long-term illness, i.e. over 90 days, (effective time of leave taken for each incident occurred after the master's degree award).

In any case, the total elapsed time since the award of the master's degree should not be longer than twelve years and six months. The reasons for an extension of the time limit must be duly documented only in case of a successful application. Failure in providing the appropriate documentation will result in the ineligibility for the appointment.

The annual gross salary is € 40.000,00. Each fellowship is initially granted for one year and may be extended to a second year. Travel tickets to and from INFN sites will be reimbursed at the beginning and at the end of the fellowship; also lunch tickets will be provided for working days.

Applications, in electronic form, and reference letters must be sent to INFN not later than **January 14th, 2019** (11:59 a.m. CET) through the website <https://reclutamento.infn.it/ReclutamentoOnline/>

The applications must include the research topic(s) of interest, the preferred INFN site(s) – two at the most, chosen among those listed in Annex 1 – and:

- a statement of research interests (a summary of research accomplishments and future direction and potential of the work of the candidate at the selected INFN sites);
- a curriculum vitae;
- a publication list, with a selection of the 10 most significant publications;
- the names and e-mail address of three referees who must upload their reference letter not later than **January 14th, 2019** (11:59 a.m. CET)

Candidates will be excluded from participation in this call if they submit their application later than the deadline indicated.

Incomplete applications (lack of information or missing files) will not be considered.

At the end of the selection process, the results of the selection will be published at INFN website (Job Opportunities – Details of the announcement), the candidates will be informed by e-mail about the result of their application. Successful candidates will then receive an official communication from the INFN administration offices. The appointed fellows should start their fellowships not later than September 1st 2019; special requests to defer the starting date can be considered.

ISTITUTO NAZIONALE DI FISICA NUCLEARE
II PRESIDENTE

SF/VC/ADV

(Prof. Fernando Ferroni)¹

28/11/2018

¹ Documento informatico firmato digitalmente ai sensi della legge 241/90 art. 15 c 2, del testo unico D.P.R. 28 dicembre 2000, n. 445, del D.Lgs. 7 marzo 2005, n. 82, e norme collegate, il quale sostituisce il testo cartaceo e la firma autografa
Direzione Gestione e Finanza

ANNEX I

INFN SITES

INFN Laboratories:

Laboratori Nazionali di Frascati (Roma), Laboratori Nazionali del Gran Sasso (L'Aquila), Laboratori Nazionali di Legnaro (Padova), Laboratori Nazionali del Sud (Catania);

INFN CNAF (Bologna)

INFN Sections in the Universities of:

Bari, Bologna, Cagliari, Catania, Ferrara, Firenze, Genova, Lecce, Milano, Milano Bicocca, Napoli, Padova, Pavia, Perugia, Pisa, Roma La Sapienza, Roma Tor Vergata, Roma Tre, Torino, Trieste, TIFPA (Trento Institute for Fundamental Physics and Applications).

RESEARCH PROGRAMS

The research programs of the candidates must be focused on the topics listed below:

- Innovative Workflow and Data Management solutions for Large Scale science: large datasets, large workloads, heterogeneous platforms
- Innovative Workflow and Data Management solutions for trigger-less data acquisition
- High performance data analysis and algorithms: trigger and reconstruction algorithms, use of hardware accelerators and modern architectures
- Porting and optimization of scientific applications on multi-GPU parallel machines
- Machine Learning, deep learning and predictive analysis for data analysis and detector characterization in scientific experiments
- Investigation and study of quantum computing techniques for application in experimental and/or theoretical particle physics