

**ANNOUNCEMENT OF PUBLIC SELECTION FOR N° 1 GRANT FOR RESEARCH**  
**(Italian law 30 December 2010, n.240, art.22)**

**Description**

The Scuola Normale Superiore announces a selection, based on work experience and interview, for n. 1 research contract named “*Nanobiosensors in precision medicine: advanced systems for data visualization*” as part of the research project “*Nanobiosensors in precision medicine*”, acronym NanoPM, within the call “Assegni di ricerca 2021 FSC 2014-2020 della Regione Toscana”.

This research project involves collaboration between two organizations with complementary skills in order to contribute to two of the crucial junctions for the transition from "evidence based medicine" to "precision medicine", with particular attention to diagnostics. Essential elements of this transition are the replacement of standardized therapeutic protocols with personalized treatments, and a definition of these treatments based on the molecular characteristics of both the pathology and the patient. The proponents identify as essential elements of this new medicine (i) omics and advanced-imaging technologies that allow the profiling of pathology and patient, and (ii) ultra-sensitive detection of the molecular signals characteristic of the various pathologies. By combining the expertise on nanotechnology, bioinformatics and data science of the Science Class of the Scuola Normale Superiore, and those on omics sciences, advanced imaging and bioinformatics of the Fondazione Pisana per la Scienza ONLUS, in this project a central element of the transition to "precision medicine" is addressed: make the analysis of the large masses of data produced by the molecular profiling processes of patients and pathologies accessible through the development of advanced visualization systems that allow the use of this data by medical personnel without of specialization in bioinformatics.

More in detail, the following research activities will be carried out in the project: integration of data obtained with various omics technologies; development of a system to analyze and correlate data from molecular analysis using a protocol based on a graphical interface. Molecular information derived from omics analysis will be correlated with that derived from advanced microscopy techniques.

Duration of the contract: 2 years

Annual gross remuneration, inclusive of all taxes: €30,000

Application deadline: the application must be registered online by 23.59 (Italian time) of 6 May 2022.

Applications received and registered online after the deadline, for reasons not attributable to the Scuola, will not be admitted to the selection.

Information about the selection procedure can be found below. Candidates are invited to read the official announcement (*Bando*) and to follow exclusively its detailed instructions should they decide to apply.

**Requisites**

Applications are invited from candidates who meet the following requisites, which are both mandatory:

- a) to have completed a Master's degree in Physics, Biomedical Engineering, Computer Science, Biology, Biotechnologies, Mathematics or Statistics (in accordance with earlier Italian university regulations, or a second-cycle undergraduate degree as per the interdepartmental decree of 9 July 2009). Candidates who have completed the aforementioned degrees abroad may also apply, if said degrees are recognized as equivalent to Italian degrees;
- b) candidates must be under 36 years old on the date of submission of the application.

Knowledge of English language is also required to carry out the research activity.

Additional competence and/or experience relevant to the choice of the researcher: PhD in Chemistry, Physics, Computer Science or Biology.

### **How to apply**

Candidates who wish to participate in the selection process must submit their application using the online procedure (SerSe) available on the Scuola's website at <https://serse.sns.it/en/>.

At first candidates shall register themselves in SerSe and then, once received a confirmation email to the email address indicated by them, they shall select on the homepage the specific call they are interested to. Candidates having already registered themselves in SerSe shall use the same access credentials to enter in the online procedure and submit their application.

For internal users or external users with SPID, it will be possible to log in SerSe with SPID or SNS credentials instead of SerSe credentials.

The email address indicated by candidates during the online registration or application submission is the official means of communication relating to this selection. Any change must be communicated promptly to the email address [job.opportunities@sns.it](mailto:job.opportunities@sns.it).

In order to submit the documents listed below (please see "Documents to be submitted with the application"), candidates shall upload them exclusively as PDF files (only PDF format will be accepted). Only if direct upload is not possible, exceptionally one or more publications can be provided extra online procedure, delivering them by registered mail or courier to the following address: Ufficio Protocollo of the Scuola Normale Superiore, Via del Castelletto, n. 11, 56126 Pisa (Italy).

After the online application has been received and registered, it will not be possible for candidates to change or integrate it with further documents.

### **Since the above mentioned system is temporary not available, the following options of submission are also admitted (applications must be received at Scuola Normale Superiore within the 6<sup>th</sup> May 2022):**

- a) candidates can present the application form and documentation directly, during office hours, to the "Ufficio Protocollo" [Documents Registry Office] of the Scuola Normale, located at Via del Castelletto, n. 11, 56126 Pisa (Italy). For information on the opening hours please contact [protocollo@sns.it](mailto:protocollo@sns.it);
- b) candidates can send the application form and documentation by registered mail or courier to the following address: Scuola Normale - Servizio Archivio, Protocollo e Posta, Via del Castelletto n. 11, 56126 Pisa (Italy). In this case, it is recommendable to write on the envelope "Call n. 247". Please consider that the applications sent by registered mail or courier must arrive at the Ufficio Protocollo (*Documents Registry Office*) of the Scuola Normale by the deadline; applications which will arrive after the deadline will not be considered even though the postmark shows an earlier date;
- c) candidates can send the application form using the electronic mail only if they possess an Italian certified electronic mail address (PEC - Posta Elettronica Certificata). In this case, they should send the application form to the address [protocollo@pec.sns.it](mailto:protocollo@pec.sns.it).

No other delivery method will be accepted.

### **Application deadline: the application must be received by the 6<sup>th</sup> May 2022 at the Scuola Normale Superiore**

#### **Documents to be submitted with the application**

Candidates who wish to participate in the selection process must submit the application using the online procedure (SerSe) or – if they choose the other options of submission – using the "Attachment A1 – Application form". The application needs to be signed by the candidate with original signature, under penalty of exclusion (unless the candidates choose to send the application form using a PEC e-mail address).

Candidates need to submit also the following:

- d) the copy of a valid identification document (mandatory – the document shall not exceed 1 Mb in case of online application);

- e) a curriculum vitae containing a detailed description of the studies, qualifications, publications, patents, scientific/professional/teaching experiences (mandatory);
- f) a training-learning-research project (mandatory – around 3000 characters maximum – please use attachment B), describing the targets and the professional growth path that the applicant proposes to carry out with her/his participation to the research project;
- g) the publications, including also the PhD thesis, and any other document that the candidate believes may be useful to the evaluation of her/his application (it is mandatory to present the publications that the candidate intends to submit to the evaluation of the Committee). In case of online applications (SerSe), the publications shall be attached during the online procedure; in the other cases, the publications must be provided exclusively on a digital storage device (cd, USB flash drive ecc.);
- h) a list of the submitted publications (mandatory).

In case the application is presented directly to the “Ufficio Protocollo” [Documents Registry Office] of the Scuola Normale or sent by registered mail or courier, the the storage device must contain also a scanned copy of the application, of the curriculum vitae, of the training-learning-research project and of the list of publications.

For those unpublished texts accepted for publication, the candidate must include the relative document in its final form and the publisher’s certificate or a detailed substitute statement of affidavit confirming that the relative text has been accepted for publication (please use attachment C).

Administrative information or questions may be addressed to the email address [job.opportunities@sns.it](mailto:job.opportunities@sns.it).

### **Interview**

The interview will be carried out on 11 May 2022, at 3 p.m. (Italian time).

Applicants who live permanently outside Italy or are domiciled abroad for work/study or research, or who are unable to carry out an on-site interview may carry out the interview by videoconference provided that they ask for it in the online application and they have the necessary and appropriate technical means for the online audio/video connection.

Moreover, without prejudice to the above situations, should the current health emergency persist it might be necessary to arrange the interview with all the admitted candidates by videoconference, in accordance with the scheduling and procedures to be defined by the Committee.

The Committee will indicate also the video conferencing software platforms to be used (for instance Skype or Google Meet).

During the interview, applicants must show the identity card or passport that they had enclosed in copy with their application, otherwise they could not take part in it.

The wrong communication of the contact details, as well as the missed connection at the date and time communicated by the Administration and the missed presentation of the identity card or passport cause the loss of right to participate at the interview and consequentially at the selection.

Scuola Normale is not responsible for any technical problems that may arise during the interview.

In case of problems in registering the online application, for administrative information or questions, candidates can write an email to [job.opportunities@sns.it](mailto:job.opportunities@sns.it).



SCUOLA  
NORMALE  
SUPERIORE

## Application Form – Attachment A1

To the Director of Scuola Normale Superiore

Piazza dei Cavalieri, 7

56126 Pisa

The undersigned \_\_\_\_\_, born on the \_\_\_\_\_ in \_\_\_\_\_, \_\_\_\_\_ citizenship, resident of and domiciled in \_\_\_\_\_, Street \_\_\_\_\_ n. \_\_\_\_\_, telephone number \_\_\_\_\_, mobile number \_\_\_\_\_, Fiscal Code \_\_\_\_\_, e-mail \_\_\_\_\_

### REQUESTS

to participate in the selection for a research grant named “*Nanobiosensors in precision medicine: innovative systems for molecular diagnostics*” as part of the research program “*Nanobiosensors in precision medicine, acronym ‘nanoPM’*”, within the call “*Assegni di ricerca 2021 FSC 2014-2020 della Regione Toscana*”, academic discipline *FIS/03 Material Physics*;

### DECLARES

in order to be admitted to the selection process, according to and by effect of articles 46 and/or 47 of Presidential Decree 445/2000, under his/her responsibility and aware of the legal penalties as indicated in art. 76 of the aforementioned Presidential Decree 445/2000 for false statements and/or the creation and use of false public documents:

- 1) to have \_\_\_\_\_ citizenship<sup>1</sup>;
- 2)  to have a Master’s degree in \_\_\_\_\_ completed at the University of \_\_\_\_\_ on \_\_\_\_\_ final mark \_\_\_\_\_
- 3)  to have a PhD degree in \_\_\_\_\_ completed at the University

of \_\_\_\_\_ on \_\_\_\_\_ final mark \_\_\_\_\_ or

not to have completed any PhD degree;

- 4) not to have any relationships or affinity, up to the fourth degree, with the person who authorized the appointment, the members of the body who decides about the financing of the appointment, the Secretary General and the members of the Federated Executive Council of the Scuola Normale. The applicant also declares not to hold the above-mentioned positions/individual functions (notwithstanding the provisions of the art. 8-bis of the *Regulations for the conferral of research grants*) and not to be a member of the Federated Executive Council of the Scuola Normale, from the moment of authorization of the selection procedure until the signing of the contract of research grant;
- 5)  not to be in any of the situations of incompatibility provided for in paragraphs 1, 3 and 4 art. 4 of the «[Scuola Normale Regulations for the conferral of research grants](#)» or  to be in the following situations of incompatibility provided for in paragraphs 1, 3 and 4 art. 4 of the «[Scuola Normale Regulations for the conferral of research grants](#)»: - \_\_\_\_\_;
- 6)  not to have been convicted or found guilty of criminal offence and not to be involved in criminal proceedings or  to have been convicted or found guilty of criminal offence and to be involved in criminal proceedings;
- 7)  to be or  not to be a public-sector employee;
- 8) to be in the following situation with regards to military service: \_\_\_\_\_;
- 9) to have a (*sufficient/good/excellent*) \_\_\_\_\_ knowledge of the English language;
- 10)  to have (*sufficient/good/excellent*) \_\_\_\_\_ knowledge of Italian language;
- 11)  to have a certified disability pursuant to Law 104/92 and to need additional time and/or the following support means for the public interview: \_\_\_\_\_. To this end, the applicant attaches the relative medical certificate, under penalty of inapplicability of the required benefits.
- 12) that the declarations concerning the activities undertaken, the professional experience and the qualifications listed in the CV and in all documentation attached to the application are to be considered according to and by effect of articles 46 and/or 47 of Presidential Decree 445/2000, aware of the penal consequences, in case of false statements or falseness in acts, indicated in art. 76 of the aforementioned Pres. Decree 445/2000. (*For non-European Union citizens*) The applicant also agrees to present,

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<sup>1</sup> Non-Italians may be employed if their Italian work/stay permits are in order.

upon request of the Administration, originals or adequately certified copies of all diplomas awarded to him/her;

- 13) that the copies of the publications submitted (including the publications not yet printed) conform to the originals and that the copies of the publications not yet printed have been accepted by a publisher, as attested by the publisher's declaration or by the self-certification enclosed;
- 14) to have read the Information concerning the use of personal data in accordance with art. 13 of the Regulation (EU) 2016/679, available on [the website of the Scuola Normale](#), and to be aware that the Scuola Normale will use the personal data contained in the application form and documentation attached in accordance with the Regulation, for the completion of all operations connected to the present selection and contract;
- 15) to have read the selection announcement and to be aware that submission of this application indicates full acceptance of the conditions specified therein;
- 16)  being non-resident in Italy, the applicant requests the use of videoconferencing to carry out the interview required by the call. The applicant also agrees to follow the indications in art. 4 of the call.

The undersigned submits the following attachments:

- the photocopy (non-authenticated) of a valid identification document
- a signed and up-dated curriculum vitae containing a detailed description of the studies, qualifications, publications, patents, scientific/professional/teaching experiences
- a research-learning-education project (Attachment B)
- any publication, document, qualification, that the candidate believes may be useful to the evaluation of her/his application
- a list of the submitted publications.

The undersigned requests that all correspondence relating to the present application to be directed to the email address \_\_\_\_\_. The undersigned undertakes to communicate possible future variations of stated address, and he/she recognizes that the SNS accepts no responsibility for any correspondence not delivered.

Place and date, \_\_\_\_\_

Signature \_\_\_\_\_

**Call Assegni di ricerca 2021 FSC 2014-2020 della Regione Toscana, project “*Nanobiosensors in precision medicine*”, acronym NanoPM**

**Description of the project**

This research project involves collaboration between two organizations with complementary skills in order to contribute to two of the crucial junctions for the transition from "evidence based medicine" to "precision medicine", with particular attention to diagnostics. Essential elements of this transition are the replacement of standardized therapeutic protocols with personalized treatments, and a definition of these treatments based on the molecular characteristics of both the pathology and the patient. The proponents identify as essential elements of this new medicine (i) omics and advanced-imaging technologies that allow the profiling of pathology and patient, and (ii) ultra-sensitive detection of the molecular signals characteristic of the various pathologies. By combining the expertise on nanotechnology, bioinformatics and data science of the Science Class of the Scuola Normale Superiore, and those on omics sciences, advanced imaging and bioinformatics of the Fondazione Pisana per la Scienza ONLUS, in this project a central element of the transition to "precision medicine" is addressed: make the analysis of the large masses of data produced by the molecular profiling processes of patients and pathologies accessible through the development of advanced visualization systems that allow the use of this data by medical personnel without of specialization in bioinformatics.

More in detail, the following research activities will be carried out in the project: integration of data obtained with various omics technologies; development of a system to analyze and correlate data from molecular analysis using a protocol based on a graphical interface. Molecular information derived from omics analysis will be correlated with that derived from advanced microscopy techniques.



Self-declaration affidavit (*Dichiarazione sostitutiva dell'atto di notorietà*)  
(according to art. 47 of D.P.R. n. 445/2000)

The undersigned \_\_\_\_\_  
born in \_\_\_\_\_ on \_\_\_\_\_

Under my own responsibility, fully aware of the penal sanctions in case of false or mendacious statements according to Presidential Decree n. 445 dated 28/12/2000

**DECLARES**

that the scientific publication entitled “ \_\_\_\_\_ ”,  
submitted with my online application, has been accepted by the publisher  
“ \_\_\_\_\_ ” and it will be printed on “ \_\_\_\_\_ ” .

Place and date, \_\_\_\_\_

Full legible signature

\_\_\_\_\_