

ANNOUNCEMENT OF PUBLIC SELECTION FOR 1 RESEARCH GRANT

(ITALIAN LAW N. 240, ART.22, 30 DECEMBER 2010)

DESCRIPTION

The Scuola Normale Superiore announces a selection, based on work to date and interview, for 1 research contract named “*Computational protein design for theranostic development*”, as part of the research project “THE Tuscany Health Ecosystem”, M4C2, CUP E53C22000800001, founded by MUR within the programme PNRR Ecosistemi dell’Innovazione ex avviso n. 3277 del 30/12/2021.

The research is centered on engineering new biologics with theranostic potentials, such as Designer Receptor Exclusively Activated by Designer Drugs (DREADDs) to study specific biologic pathways in vivo and/or antibodies for modulating targets and processes of biomedical relevance in cancer and neurodegenerative disorders. The design of antibodies able to bind a given target protein structure will represent a priority of the research activity. In the developing of the project, there will be used state-of-art bioinformatics and machine learning techniques for protein and antibody design, such as the Rosetta molecular modeling suite, ProteinMPNN, ProtGPT2, as well as implementing customized pipelines through the usage of cutting-edge deep-learning frameworks, such as protein language models and graph neural networks.

Duration of the contract: 2 years

Annual gross remuneration, inclusive of all taxes: € 30.000,00

Deadline for applications: January, 9th at 04:00 PM (Italian time)

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

REQUISITES

The selection procedure is open to applicants who have completed a Master’s degree (in accordance with earlier Italian university regulations, or a second-cycle undergraduate degree as per the interdepartmental decree of 9 July, 2009) in disciplines related to the following scientific areas: Mathematics and Computer sciences; Physics; Chemistry; Biology; Pharmacological sciences; Medical sciences; Industrial and Information Engineering. Applicants who have completed the aforementioned degrees abroad may also apply, if that degree is recognized as equivalent to the corresponding Italian degree.

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

Additional competence relevant to the choice of the researcher: PhD in Computational Biology, Bioinformatics, Biology, Chemistry, Computational Science, Statistics, Physics, Mathematics (not mandatory).

HOW TO APPLY

Applicants with all the aforementioned requisites who wish to participate in the selection process must submit their application exclusively online, using the online dedicated PICA procedure at the following link: <https://pica.cineca.it/sns>

The PICA app can be accessed via SPID, by choosing the institution “Scuola Normale Superiore” from the page of available federations; alternatively, the procedure will necessarily require an e-mail address in order to register into the system.

Once identified/registered and once procedure relating to this selection has been accessed, they must also upload as attachments, through the online PICA procedure, exclusively in PDF format:

- a) a non-authenticated photocopy of a valid identity document;
- b) an up-dated curriculum vitae containing a detailed description of their educational career and professional experience;
- c) publications, including their PhD thesis, and any other document that they believe may be useful to the assessment of their application. Each publication must occupy a space of not more than 30 megabytes. For those unpublished texts accepted for publication, applicants 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 A);
- d) a list of the submitted publications.

Until the deadline for the submission of applications, the procedure can save any data inserted in draft mode, enabling their modification and/or integration.

By the established deadline, applications for participation in the selection must be filled in definitively in all their parts, signed, on pain of exclusion, in one of the modes indicated by the online procedure, and submitted – together with all the attachments – by means of the same online procedure.

No signature will be required when submitting the application only if the SPID is used to access procedure.

The date of online submission will be certified by the PICA procedure; candidates will be notified of the receipt of their applications and their subsequent registration by means of two separate e-mail messages. Each application will be attributed a separate identification number (application ID) and a registration number, both visible inside the application; the application ID must be used, together with the call code 22-AR-BIO11-FR-41, for any subsequent communications.

Once applications have been submitted online and the confirmation of the online PICA procedure has been received, it will no longer be possible to access them in order to modify them; they may only be withdrawn using the function “ritira/withdraw” on the initial page of the procedure. Candidates can, however, submit a new application. After the deadline for submission, the online procedure will no longer permit access or the online transmission of applications. Please note that the online procedure may undergo temporary suspensions for technical reasons.

No other form of transmission of applications and/or documentation for participation in the selection is allowed other than those indicated above. Solely in the case of proven and certified technical unavailability of the online PICA procedure, the Scuola reserves the right to accept

admission applications and/or supporting documentation submitted in other modes, provided they are transmitted before the call deadline.

[Technical instructions](#) for completing the application form are available on the Scuola's website.

In the online application, applicants may also indicate experts in the field of research, to whom the Scuola Normale Superiore will ask to send a letter of reference to be received within 4 days following the application deadline.

INTERVIEW

The Committee can decide to conduct face-to-face interviews or online interviews with the admitted applicants. In any case, the online interview will be permitted to applicants who live permanently outside Italy or are domiciled abroad for work, study or research and request to conduct an online interview instead of a face-to-face interview. Applicants who are unable to carry out an on-site interview for further different reasons can request an online interview and the Committee will decide whether or not to permit it.

In case of online interview, candidates will have to comply with the [Guidelines](#) on how to conduct online interviews available on the website of the Scuola Normale, under penalty of exclusion.

The interview will focus on the applicants' qualifications, on the scientific topics related to the research to be carried out, on the applicants' proficiency in English and on the following scientific issues: machine learning, protein engineering, structural and evolutionary bioinformatics.

For the interview, applicants must show a valid identification document, otherwise they will not be permitted to take part in it.

Applicants who submit the wrong contact details, miss the connection at the date and time communicated by the Administration or fail to submit an identification document forfeit their right to participate in the interview and consequently in the selection process.

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

CONTACT DETAILS FOR FURTHER INFORMATION

- a) For further administrative information about the application procedure and the relative documentation, or about the selection process itself, please contact the Servizio Personale a contratto (e-mail job.opportunities@sns.it).
- b) For any technical problems, candidates must use exclusively the link "[Per problemi tecnici contatta il supporto](#)" - "For technical problems contact the online help desk" - visualised in the section at the foot of the page of the web site <https://pica.cineca.it/sns/>