



NOTICE OF OPENING OF AN INTERNATIONAL CALL FOR THE SELECTION OF A PhD HOLDER RESEARCHER UNDER DECREE-LAW NO. 57/2016

Internal code: Researcher/COMPETE2030/i3S/1007/2025

A call is opened for the position of a PhD holder, for an unfixed term work contract to carry out research duties within the project “**Gene-based nanoparticles for triple negative breast cancer treatment assessed by a microfluidic-based Technology (NP4CANC3Rs)**”, with reference COMPETE2030-FEDER-00701800, Operation No. 15898, funded by COMPETE2030, under the Call for Applications No. MPr-2023-12.

Scientific Area: Nanomedicine

1. Project summary and work plan

Triple negative breast cancer (TNBC) is a highly aggressive breast cancer subtype known for its resistance to conventional chemotherapy and poor long-term survival rates. The application team has previously demonstrated that antisense oligonucleotides (ASOs) and small interfering RNA (siRNA) targeting the human clusterin gene (CLU) can effectively restore cellular apoptosis and enhance the sensitivity of breast cancer cells to treatment. However, the inherent instability of these molecules poses a significant challenge for clinical translation.

NP4CANC3Rs proposes the HYPOTHESIS that precision therapies using nanoparticles (NPs) provide a powerful avenue for delivering anti-CLU ASOs/siRNA, reactivate cellular apoptosis, increase sensitivity to cytotoxic chemotherapy and curtail the migration and micro metastasis potential in TNBC

The successful candidate will develop research involving: (O1) develop biocompatible engineered NPs as protective carriers for ASOs/siRNAs; (O2) rigorously characterize and functionalize these NPs to ensure efficient cargo delivery to TNBC cell models, and (O3) improve an organ-on-chip system for NP preclinical validation as precision tools to enhance chemotherapy sensitivity and reduce cell migration, while minimizing reliance on experimental animals.

2. Applicable Portuguese legislation

Decree No. 57/2016, of August 29 – Legal Framework for Scientific Employment (RJEC) – in its current version.

Portuguese Labor Code, in its current wording.

3. Jury

Chairman: Pedro L. Granja; Other Members: Rúben Pereira; Bruno Sarmento; Substitute: Marco Araújo.

4. Workplace

i3S - Rua de Alfredo Allen, 208 Porto, research group Biofabrication.



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5. Professional category and monthly remuneration junior Researcher

€ 2.351,53, corresponding to index 33 of the Tabela Remuneratória Única, whose application is intended for PhD holders with reduced post-doctoral experience or without a post-doctoral scientific curriculum.

6. Obligatory requirements for admission

- a) PhD degree in Nanomedicine, Bioengineering, Biomedical Engineering, or related areas;
- b) Highly motivated candidates with experience in cell culture using nanoparticles and evaluation of cell-nanoparticle tracking using molecular biology techniques;
- c) Publication track record in peer-reviewed journals: at least 3 peer-review research manuscript on a top journal in the field of nanomedicine, Biomaterials or related areas;
- d) Proficiency in English (written and spoken);
- e) Extensive hands-on expertise in physical-chemistry analysis of nanoparticles;
- f) Successful Course in laboratory animal science (FELASA C) is mandatory;
- g) Immediate availability to start the contract – to be mentioned in the motivation letter.

7. Evaluation of the applications and publication of the results

The evaluation of the scientific and curricular background of the candidates should focus on the activity of the last five years that the candidate considers most relevant. The five-year period may be extended by the jury, at the candidate's request, when justified by suspension of scientific activity for socially protected reasons, namely for reasons of parental leave, prolonged serious illness, and other situations of unavailability for work that are legally protected.

Weight of the different curricular valuation criteria:

- (a) Detailed CV (70%):
 - List of scientific publications (20%);
 - Experience in cell culture and study of cell-nanoparticle interactions (20%);
 - Participation in scientific projects (5%);
 - Relevant experience in the project area (25%);
- (b) Motivation Letter in English (20%):
 - Interest and motivation for the research project;
 - availability to start duties on 01/09/2025;
- (c) Interview – *facultative* (10%).

If the jury decides to obtain further clarifications and additional information about the curricular elements presented, the 3 best candidates classified on the basis of the curriculum may be called for an interview.

Candidates who submit their application incorrectly or fail to meet the required qualifications for this competition will be excluded from admission.

The jury reserves the right to request any candidate, in case of doubt, to provide supporting documents for their statements.



False statements made by candidates will be sanctioned in accordance with the law.

The jury will draw up minutes of its meetings, which can be consulted at the candidate's request within 10 working days after the selection results are released.

The jury deliberates by means of a reasoned vote according to the evaluation criteria, with no abstentions allowed, and draws up a list of excluded and admitted candidates, ordered by respective classification.

All candidates are notified of the selection results by email. After notification, candidates have 10 working days to comment.

In the 90 days following the deadline for submission of applications, the jury's final decision is communicated to the candidates. Subsequently the institute Director, who is also responsible for the final decision of hiring, will ratify the decision of the jury.

This call is intended exclusively to fill the indicated position on offer and may be canceled before the final ranking list of candidates is ratified by the Director. Accordingly, the position will no longer be available.

8. Submission of applications

- a) Copy of PhD certificate or diploma;
- b) Detailed Curriculum Vitae;
- c) Motivation Letter (English);
- d) Copy of FELASA C certificate.

The submission of applications is digital, in pdf format, from 10/07/2025 to 23/07/2025, in the following link:

<https://dozer.i3s.up.pt/applicationmanagement/#/addapplications/f5d44b903877709b885be9eefb1b855e>

9. Start and duration of the contract

The anticipated start date of the contract is 01/09/2025 and is subject to budget availability. The maximum duration of the contract will be 36 months.

10. Non-discrimination and equal access policy

i3S actively promotes a policy of non-discrimination and equal access. No applicant shall be privileged, benefited, prejudiced, or deprived of any right or exempted from any duty on the basis of ancestry, age, gender, sexual orientation, marital status, family situation, economic situation, education, origin or social condition, genetic heritage, reduced work capacity, disability, chronic illness, nationality, ethnic origin or race, territory of origin, language, religion, political or ideological beliefs, or trade union membership.

Within the framework of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers, i3S adopts the Open, Transparent and



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Merit-based (OTM-R) principles for the recruitment of researchers, with the aim of conducting fair and transparent recruitment processes, bringing equal opportunities to all candidates.

11. Applicants with disabilities

Under the terms of Decree-Law 29/2001, of February 3, the candidate with a disability is given preference in equal ranking, which takes precedence over any other legal preference. Candidates must declare under oath their degree of disability, the type of disability and the means of communication/expression to be used in the selection process, under the terms of the aforementioned decree.



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