

ASSISTANT RESEARCHER VACANCY

Internal reference: **ASSISTANT_RESEARCHER/MOBILISE/INEB/2302/2022**

INEB/i3S opens an international call for recruiting an **Assistant Researcher** to develop research in the field of **biomaterials applied to the development of disease models**, under a work contract with non-fixed term under the Portuguese labor Law, in order to undertake research, supervision and dissemination activities in the scope of the project “Molecular Bioengineering in health ERA chair” funded by the European Union’s Horizon 2020 research and innovation programme under the Grant Agreement no. 951723.

1. Project’s summary and work plan

Many tissues in the body are stratified (e.g., skin, retina, cornea, kidney glomerulus, skeletal muscle) separated by basement membranes (BMs). BMs are specialized extracellular matrices that provide not only tissue separation and barrier functions, but also an instructive substrate for cell signalling and tissue shaping. Different BMs undergo dynamic transformations throughout life (development, ageing and disease) and abnormal changes in the chemical and mechanical properties (crosslinking, thickening) of the BM are implicated in diseases, such as cancer cell invasion of the BM.

The Molecular Biomaterials Group has developed thin, soft membranes formed by interfacial self-assembly between rationally designed peptides and hyaluronic acid. These membranes offer a collection of properties desirable for developing BM equivalents.

The project aims to establish advanced in vitro models with unprecedented biological relevance and functionality to enable the study of diseases with higher specificity and accelerate the development of treatments with improved efficacy.

The work plan includes:

- Establish *in vivo* blood-brain barrier models to verify structural and functional properties under physiological and cancer conditions.
- Integration of biomaterials into microfluidics to establish in vitro models of cancer invasion and blood-brain barrier.
- Co-culture of relevant cells inside microchip devices to recreate tissue architectures.
- Establish organ-on-chip models for high-throughput drug screening and combinatory therapies.
- Coordinate the cell culture work in the Molecular Biomaterials Group.
- Supervise PGT students.
- Establish contacts with stakeholders in organ-on-chip development.
- Participate in the outreach activities organised under the scope of the project.

2. Applicable legislation

- Decree-Law no. 57/2016 of 29 August, amended by Law 57/2017 of 19 July, which approved the doctorate hiring regime destined to stimulate scientific and technological employment for all knowledge areas (RJEC)

- Labour Code, Law no. 7/2009 of 12 February, on its current draft
- Regulatory Decree Nr 11-A / 2017, of 29th December.

3. Tender selection panel

Pursuant to article 13 of RJEC, the selection panel shall be formed by:

- President: Helena Azevedo
- Vowel: Cristina Barrias
- Vowel: Mariana Bexiga
- Substitute: Bruno Sarmento
- Substitute: Cristina Martins

4. Workplace

i3S – Rua de Alfredo Allen, 208, Porto.

5. Salary

The position is equivalent to that of Assistant Professor and carries a **monthly wage of 3230,21 Euros**, in line with national guidelines.

6. Tender admission requirements

Any national, foreign and stateless candidate(s) holding a **doctorate degree in Biomaterials and/or Tissue Engineering**, or related scientific area, **> 5 years of post-doctoral experience**, and a **scientific and professional curriculum whose profile is suited for the research activity to be undertaken** is encouraged to submit their application.

In the event the doctorate degree was awarded by a foreign higher education institution, the degree certificate must comply with the provisions of Decree-Law no. 341/2007 of 12 October, and all formalities established therein must be complied with at the signature of contract.

We are looking for highly motivated applicants who, in addition to the requisite qualifications, possess preferentially the following competences and skills:

- Experience and interest in disease models are essential.
- Established track record in the area of the project, as demonstrated by high quality publications and conference presentations.
- Skilled in advanced molecular biology, protein biochemistry techniques (Western blot, immunohistochemistry, RNA isolation, RT-qPCR) and flow cytometry.
- Skilled in mouse work (in utero cell injection, immunohistochemistry, immunofluorescence).
- Experience in cell isolation and culture techniques: co-cultures, differentiation assays (2D and 3D – spheroid culture).
- Experience in microscopy techniques (including live-imaging and confocal methodologies).
- Good communication and presentation skills, with proven ability to write and prepare research papers and grants.

- A team player with the ability to coordinate research activities of students and technicians.
- Fluent in written and spoken English.

7. Selection criteria

Pursuant to article 5 of RJEC, selection is to be made based on candidate scientific and curricular career evaluation. Scientific and curricular career evaluation focuses on relevance, quality and in line with the current state-of-the-art:

- scientific and technological production in the last five years, deemed most relevant by the candidate.
- research activities, applied or based on practical work, developed in the last five years, deemed most impactful by the candidate.
- knowledge extension and dissemination activities developed in the last five years, namely under the scope of the promotion of culture and scientific practices, deemed most relevant by the candidate.

The five-year period mentioned above can be extended by the panel, if requested by the candidate, whenever the suspension of scientific activities is reasoned by socially protected grounds like paternity leave, long-term serious illness, and other legal situations of unavailability to work.

8. Assessment criteria

The assessment of the applicants, in particular their scientific merit and research capacity, shall be based on the following criteria:

- Track record of significant achievements (publications and presentations) in the field of biomaterials, tissue engineering and disease models (25%)
- Demonstrated experience in relevant techniques, such as hydrogels, microfluidics, cell culture and cell assays (20%)
- Experience in supervising PGT students (15%)
- Track-record in securing and managing funding (15%)
- International research experience and networking skills (10%)
- Letter of motivation demonstrating the interest in working in the project and joining the Molecular Biomaterials Group (5%)

Top 3 applicants, with classification >70%, will be invited for an interview (10%) consisting of a 15 min presentation, summarizing previous/recent research work, followed by 15 min Q&A.

9. Assessment of applications

The final classification of the applicants is given based on a scale 0-100.

The selection panel shall deliberate by means of roll-call vote justified under adopted and disclosed selection criteria, with no abstentions allowed.

Minutes of panel meetings shall be executed and shall include a summary of all occurrences of said meeting, as well as of all votes casted by the members and respective reasoning, and shall be provided to candidates whenever required.

After application of the selection criteria, the panel shall prepare a sorted list of approved candidates and respective classification.

Panel's decision shall be validated by the leader of the institution, who is also in charge of deciding about the hiring.

10. Application details (documents, process and deadline)

Applications must be **written in English** and include all supporting documents encompassed by section 7 and 8 for tender admission, namely:

- PhD certificate or diploma copy.
- Curriculum vitae (maximum 10 pages), structured considering the evaluation criteria defined in sections from 6 to 8 and including names and contact details of at least 2 references.
- Letter of motivation (maximum 1 page).
- Other documentation relevant for the scientific evaluation of the candidate.

Candidates must submit their application filing the required information and supporting documentation, in a digital form (PDF format), through the link:

https://dozer.i3s.up.pt/applicationmanagement/#/addapplications/ASSISTANT_RESEARCHERMOBILISEINEB23022022

Applications will be accepted from **23rd February 2022 to 15th April 2022**.

All candidates who submit their applications in an improper way or fail to prove the requirements imposed by this tender are excluded from admission. In case of doubt, the panel is entitled to request any candidate to present further documentation supporting their statements.

False statements provided by the candidates shall be punished by law.

11. Publication of ranked and shortlisted applicants

A list including both admitted and excluded candidates and their classification shall be published in the website of the Institute and candidates shall be notified by email.

After publication of the selection outcome, candidates shall have 10 working days to appeal against the rank order list. Within 90 days following the submission deadline for the applications, the final decision of the jury shall be disclosed on the i3S website, www.i3S.up.pt.

12. Expected starting date and terms for this tender

The expected starting date is 01/07/2022.

This tender is exclusively destined to fill this specify vacancy and can be terminated at any time until approval of final candidate list, expiring with the respective occupation of said vacancy.

13. Non-discrimination and equal access policy

INEB.i3S actively promotes a non-discrimination and equal access policy, wherefore no candidate can be privileged, benefited, impaired or deprived of any rights whatsoever, or be exempt of any duties based on their ancestry, age, sex, sexual preference, marital status, family and economic conditions, instruction, origin or social conditions, genetic heritage, reduced work capacity, disability, chronic illness, nationality, ethnic origin or race, origin territory, language, religion, political or ideological convictions and union membership.

Pursuant to Decree-Law no. 29/2001 of 3 February, disabled candidates shall be preferred in a situation of equal classification, and said preference supersedes any legal preferences. Candidates must declare, on their honour, their respective disability degree, type of disability and communication/expression means to be used during selection period on their application form, under the regulations above.

In the scope of the Commission Recommendation of 11 March 2005 on the European Charter for Researchers and on a Code of Conduct for the Recruitment of Researchers, INEB.i3S follows the principles of Open, Transparent and Merit-Based Recruitment of Researchers (OTM-R), aiming to conduct fair and transparent recruitment processes, bringing equal opportunities for all candidates.

14. Enquiries

For informal enquiries about this position, please contact Dr Helena Azevedo (hazevedo@i3s.up.pt).

15. The panel has approved this announcement in meeting held on 21 February 2022