HELLENIC REPUBLIC
MINISTRY OF DEVELOPMENT
GENERAL SECRETARIAT FOR RESEARCH AND INNOVATION

FORTH
FOUNDATION FOR RESEARCH AND TECHNOLOGY - HELLAS
INSTITUTE OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY

P.N. 0665-P/195039
30 September 2025

**One (1) PhD Student Position**

[Ref # ORZ-0808]

The Biosensors lab (https://www.gizeligroup.eu/), headed by Prof. Electra Gizeli, invites applications from **a PhD student** for one position to work in the newly awarded EU **HORIZON-HLTH-2023-TOOL-05** project entitled "Development of a global diagnostic ecosystem for detecting and monitoring emergency-prone pathogens across species and in a unified way", Acronym: UniHealth (https://unihealth-project.eu/)

**PhD title:** Employing nanotechnology in molecular diagnostics to monitor an enzymatic amplification reaction *via* nanoparticles and perform nucleic acid purification

**About the project:** The project will involve some of the following:

- Design and synthesis of nanomaterials (e.g., metallic NPs, magnetic NPs, QDs)
- Functionalization of nanomaterials with ligands, polymers, nucleic acids, or proteins
- Morphological, structural, and spectroscopic characterization of synthesized nanomaterials
- Integration of nanomaterials into nucleic acid amplification assays (e.g., LAMP) for diagnostic readouts based on fluorescence and/or colorimetry
- Development of molecular assays for the detection of multiple targets simultaneously
- Adaptation of molecular assays for point-of-care (PoC) testing

**Impact:** The PhD project will contribute to the development of next-generation diagnostic technologies with real-world healthcare applications, aiming for cost-effective, rapid, and ultrasensitive detection platforms suitable for PoC testing

**Background:** The work capitalizes on recent advancements in our lab regarding new methodologies and platforms that allow the rapid, reliable and simple detection of pathogens directly in crude samples (saliva, plant tissue, etc.). The final aim is to develop innovative diagnostic solutions for the screening and monitoring of viruses (Corona, Flu and Arbo- viruses, i.e., West Nile, Dengue and Zika) across samples and species aligned with the One-Health concept. Close collaboration with clinical groups for validation with real samples, and partners dedicated to the broad dissemination of the project results will be part of this PhD. The consortium of this EU-funded project includes academic/research, clinical and industrial partners from Europe, Africa and the USA.

**About the lab & new PhD**: The successful applicants will be expected to join in a **multidisciplinary group** consisting of biologists, chemists, engineers, bio-physicists and material scientists and contribute as well in **innovation-driven research** related to the development of PoC methodologies. In addition, she/he will be encouraged to **supervise** undergraduate and/or master students, participate in **technology transfer** events, contribute towards the **broad dissemination of science** and **develop skills** related to presentations, grant-applications and scientific papers writing.

**Required qualifications:**

- BSc in physics, material sciences, chemistry or related fields
- MSc in nanotechnology, surface chemistry/science or other relevant area
- Enrollment in a postgraduate program leading to a doctoral degree at a Greek University
- Oral and written skills in English language

Horizon Europe



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- Strong motivation to work in an interdisciplinary environment, bridging nanotechnology & molecular biology

**Desired qualifications/requirements:**

- Hands-on experience in nanomaterial synthesis/characterization and/or bioanalytical techniques
- Experience with molecular biology methods (nucleic acid amplification)
- Publications in a relevant scientific area
- Ability to start in the next 2 months

| | **Evaluation criteria** | **Maximum score** |
|---|---|---|
| 1. | BSc in physics, material sciences, chemistry or other relevant areas (Score points = grade x 2) | 20 |
| 2. | MSc in nanotechnology, surface chemistry/science or other relevant area (Score points = grade x 2) | 20 |
| 3. | Enrollment in Post-Graduate Program at a Greek University | YES / NO |
| 4. | Hands-on experience in nanomaterial synthesis/characterization and/or bioanalytical techniques (6 months = 10 points, > =12 months = 25 points) | 25 |
| 5. | Experience with molecular biology methods (nucleic acid amplification) (6-12 months = 5 points, 12-24 months = 10 points, 24-36 months = 15 points, >36 months = 20 points) | 20 |
| 6. | Oral and written skills in the English language (B1 = 1 point, B2 = 5 points, C1 = 7.5 points, C2 = 10 points) | 10 |
| 7. | Publications in the relevant areas (1-2 publication = 5 points) | 5 |
| 8. | Ability to start in the next 2 months | YES / NO |
| **Total score** | | **100** |

**Contract Duration:** 12 months with the possibility of extension for another two years needs
**Salary:** Depending on National Legislation and experience
**Envisaged starting date:** 1st December 2025
**Application submission**: Interested applicants should submit their application electronically by **October 10 @ 13:00 (Greece time)**

**The application should consist of:**
1. Application Form (see below)
2. CV
3. Brief statement of purpose
4. The names and contact details of two referees
5. Scanned copies of academic titles
6. Scanned copies proving all the qualifications
7. Proof of Enrollment in Post-Graduate Program at a Greek University

**Submission of applications:** orz0808@imbb.forth.gr

**Evaluation procedure**

Applications will be evaluated by a three-member evaluation committee. In case of interview procedure, applicants will be invited to participate in person or teleconference.

In case of titles and qualifications awarded by foreign Higher Education Institutions, the provisions of the Law 55/2023 (article 36) and 4957/2022 (article 304) are implemented.

The results of the selection will be announced on the website of IMBB-FORTH. Applicants have the right to appeal the selection decision, by addressing their written objection to the IMBB secretariat within five days since the results announcement on the web. Objections are submitted in one of the following ways: in person, by an authorized person, by post, by courier. They also have the right to access (a) the files of the applicants as well as (b) the table of applicants' scores (ranking of applicants results). All the above information related to the selection procedure will be available at the secretariat of IMBB-FORTH in line with the Hellenic Data Protection Authority. Access to personal data of co- applicants shall be limited to personal data (and relevant data) and supporting documents which have been the basis of the evaluation of the applicants for the specific post(s). Prior to the announcement of the personal data and/or documents of the co- applicants to the applicant, FORTH will inform the data subjects in an appropriate way.

The selected applicants will be notified personally regarding the success of his/her application and will be requested to submit certified copies of his/her degrees. If the submitted documents do not agree with the original application, the applicant will be dismissed.

Throughout the duration of the project, and if there is a need to replace persons selected in accordance with this Call, the replacement will be carried out by selecting - based on score/point allocation - another candidate(s) from the compiled ranking list.

In the event that for any reason the funding provided for the project is interrupted, FORTH-IMBB reserves the right to interrupt the execution of the contract with a special declaration of interruption and without compensation.

FORTH-IMBB does not undertake any commitment to conclude a contract and is entitled to cancel or repeat the procedure without obligation to pay any compensation, excluding any relevant claim by the candidates.

Participation in this call for expressions of interest implies full acceptance of the terms of this.

**GDPR Disclaimer**

FORTH is compliant with all legal procedures for the processing of personal data as defined by the Regulation EU/2016/679 on the protection of natural persons with regard to the processing of personal data. FORTH processes the personal data and relevant supporting documents that applicants have submitted. Processing of that data is carried out exclusively for the needs and purposes of this specific call. Such data shall not be transmitted to or communicated to any third party unless required by law.

FORTH retains the above data up to the announcement of the final results of the call, unless further process and reservation is required by law or for purposes of exercise, enforcement, prosecution of certain one's legitimate legal rights' as defined in the Regulation EU/2016/679 and/or in national law. Under the Regulation EU/2016/679, applicants have the rights to be informed about their personal data, access to, rectification and erasure, restrictions of process and objection to as provided by applicable regulation and national laws. Applicants have the right to file a complaint to the national Data Protection Authority. For any further information regarding exercise of personal data protection rights, applicants may contact the Data Protection Officer at FORTH at dpo@admin.forth.gr.

Applicants have the right to withdraw their application and consent for the processing of personal data at any time. In this case, FORTH shall destroy such documents and/or supporting documents submitted and shall delete the related personal data.

**APPLICATION FORM**

Name: _____
Surname: _____
Date of birth *(dd/mm/yy)*: _____
Address: _____
Telephone number: _____
Email address: _____

TO

**FOUNDATION OF RESEARCH AND TECHNOLOGY (FORTH)**
**INSTITUTE OF MOLECULAR BIOLOGY AND BIOTECHNOLOGY**

Hereby I submit my application for the position:
In the framework of the project: _____

Position code [Ref #] _____

Submitted with this application:

1. _____
2. _____
3. _____
4. _____
5. _____

I certify that:

A) I accept the terms and conditions of the job announcement
B) I possess all the necessary certificates and documents and I can present them in their original form to the committee without any delay if I am asked to do so
C) I am able to complete the project within the foreseen time -frame
D) all the information given in the framework of this application are accurate and true.

Date: _____

Applicant name

_____
(signature)