



Post-doctoral fellow: “Hybrid Nanomaterials for Multimodal Imaging”

Ref: 60335

Heraklion 7/9/2021

The Institute of Electronic Structure and Laser (IESL) of the Foundation for Research and Technology - Hellas (FORTH), in the frame of the project “**Functional Nanoclusters for Multimodal Imaging of Atherosclerosis**” (LaMiA), funded under the “*Theodore Papazoglou FORTH Synergy Grants*”, is seeking to recruit one (1) post-doctoral researcher.

Job Description

The successful candidate will devise nanochemistry methods for hybrid nanocrystal cluster structures, where coupled physical responses of plasmonic and superparamagnetic nature will enable novel contrast agents (CAs) for biomedical imaging.

The overall study aims at cardiovascular diseases (CVD), which remain the leading cause of morbidity and mortality worldwide. The high mortality is mainly caused by coronary atherosclerosis and associated stroke. This emphasizes the need to improve early detection. Since this lipid-driven disease, results in atherosclerotic plaques on the artery walls, a major challenge for medical imaging is the development of appropriate CAs, which can resolve vulnerable plaques. As molecular imaging can detect better via coupled magneto-plasmonic properties, nanoclusters with efficient bioconjugation will be developed to target molecular markers resting at early atherosclerotic lesions and thus assist in therapeutic pathways.

The work is part of collaborative research that combines the know-how of three groups within FORTH, working in cross-disciplinary fields ([materials science](#), [bioengineering](#) and [tissue engineering](#)), aiming to develop a fully characterized new multimodal nanoscale particle assembly that will serve as contrast agent. The research effort is organized to facilitate a resource-sharing culture to tackle open questions that will increase sensitivity and specificity in the early detection of atherosclerotic lesions by exploiting photoacoustic (PAI) and magnetic (MRI) resonance imaging techniques.

Location

The [Institute of Electronic Structure and Laser](#) (IESL) at FORTH (Heraklion, Crete) is a major research Institute in GREECE and internationally. IESL is traditionally strong in two main research directions, namely, Lasers & Photonics and Materials & Devices. These interdisciplinary areas possess research infrastructures of international standards, with science and technology goals that cross the borders between physics, chemistry and biology. Training and education through research and the exploitation of technologically mature applications are equally important priorities. FORTH is an Equal Opportunity Employer and has a strong commitment to diversity.

The [Quantum Materials & Magnetism Lab](#) at IESL-FORTH, will be the host for the post-doctoral researcher.

Required qualifications

- PhD degree in Chemistry or Materials Science
- Demonstrated ability in surfactant-assisted nanomaterials growth (e.g. colloidal chemistry)
- Proven experience in analytical experimental techniques (e.g. UV-vis, FT-IR, XRD, TEM)
- Excellent knowledge of the English language
- Greek male candidate must have fulfilled their military obligations

Desired requirements

- Publications in peer-reviewed journals and scientific presentations in conferences
- MSc degree in biochemistry will be an advantage
- Successful candidates must be able to work in an interdisciplinary environment

Selection Process

Applications received before **October 4th, 2021** will receive immediate attention; however, applications will be reviewed thereafter until the position is filled.

Interested candidates who meet the aforementioned requirements are kindly asked to submit their applications to the address (hr@iesl.forth.gr), with cc to the Scientific Coordinator Dr Alexandros Lappas (lappas@iesl.forth.gr).

Videoconference interviews will be offered to shortlisted candidates.

In order to be considered, the application must include:

- Application Form (please download file from the job announcement webpage <https://www.iesl.forth.gr/en/jobs-bids/jobs/job-positions>)
- A cover letter describing your research interests
- CV and publications list
- Two (2) reference letters, e-mailed directly to lappas@iesl.forth.gr and cc to hr@iesl.forth.gr
- Scanned copies of the ready available academic titles
- Proof of English language qualification

Expected Start Date: 1 November 2021

Appointment Duration: 12 months

GDPR

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FORTH processes the personal data and relevant supporting documents that you have submitted to us. 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.

We inform you that under the **Regulation EU/2016/679** you have the rights to be informed about your personal data, access to, rectification and erasure, restrictions of process and objection to as provided by applicable regulation and national laws.

We acknowledge also to you, that you have the right to file a complaint to the national Data Protection Authority. For any further information regarding exercise of your personal data protection rights, you may contact the Data Protection Officer at FORTH at dpo@admin.forth.gr.

You have the right to withdraw your application and consent for the processing of your personal data at any time. We inform you that, in this case, FORTH shall destroy such documents and/or supporting documents submitted and shall delete the related personal data.