One (1) post-doctoral researcher position

in INERRANT project

Integrating Novel matERials with scalable processes for safer and recyclAble Li-ioN baTteries

(Topic: HORIZON-CL5-2023-D2-02-02 - New Approaches to Develop Enhanced Safety Materials for Gen 3 Li-Ion Batteries for Mobility Applications (Batt4EU Partnership)

Call: HORIZON-CL5-2023-D2-02, GA 101147457)

Funded under HORIZON-RIA - HORIZON Research and Innovation Actions

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Heraklion 9/9/2025

The Institute of Electronic Structure and Laser of the Foundation for research and Technology Hellas (IESL -FORTH), in the framework of the project INERRANT, (Call: HORIZON-CL5-2023-D2-02, GA 101147457) Funded under HORIZON-RIA - HORIZON Research and Innovation Actions, is seeking to recruit one (1) post-doctoral researcher.

Job Description

The **main aim** of **INERRANT** is to drive genuine advancements for safe-and-sustainable-by-design materials, to ensure the economical and widespread utilization of safer LIBs in modern society. To realize this, INERRANT is formulating a holistic approach to ***enhance safety***, ***boost performance*** and improve ***fast charging***, of Gen 3 LIBs tailored for mobility applications. The pivotal S&T challenges encompass: development of functional materials, design sustainable fabrication and recycling processes and understanding of pertinent interfacial phenomena and degradation mechanisms. Specifically, INERRANT aims to pioneer: **(i)** ***innovative (nano)materials combinations*** for **anodes** and **cathodes**; **(ii)** ***nanofiber-based architectures*** for smart-functioning **separators** able to protect battery flaws; **(iii)** ***stimuli responsive*** **electrolyte formulations** designed for rapid reactions against external disturbances and mitigate degradation processes at the cathode; **(iv)** ***cutting-edge and eco-friendly*** **recycling processes** to improve the purity of recovered materials from end-of-life LIBs.

One of the objectives of the project is **to develop novel electrolyte formulations to enhance battery safety and performance by improving the impact resistance and mitigate degradation of cathode materials.** One of the main directions towards this goal is via the development of safe impact resistant electrolytes that possess a ***discontinuous shear thickening*** behavior at low particle concentration. The mechanical response of Gen 3 LIB electrolytes with various additives, will be explored to achieve optimal shear thickening (ST), maintaining or improving electrical conductivity of the composite electrolyte.

Within this framework the selected candidate will explore the rheological properties of complex composite suspensions and yield stress fluids with varying colloidal shapes (sphere, rods, platelets) and interactions, aiming to design impact resistant electrolytes for Li-ion Batteries. Our research plan will include a combination of state-of-the-art rheometry and imaging/microscopy and/or scattering probes

(such as rheo-confocal microscopy and light scattering under shear). These will enable us to unravel links between rheological properties with microstructure and particle dynamics. Rheological measurements will also be complemented with in-situ conductivity measurements that will allow further fine-tuning structure and mechanical properties in conjunction with electric properties of the electrolyte suspension.

Required qualifications

- PhD in a relevant field of experimental Soft Matter (20%)
- Background in Soft Matter Science and experimental techniques (30%)
- Experience in colloidal suspension rheology and data analysis (30%)
- Proficiency in English and presentation skills (20%)

Location: IESL-FORTH, Heraklion Crete GREECE
Start Date (earliest): November 1, 2025
Project Duration: 12 Months with possibility of extension according to the needs of the project

Application Submission

Interested candidates who meet the aforementioned requirements are kindly asked to submit their applications, no later than **September 20, 2025, 23:59 local Greece time** to the address (hr@iesl.forth.gr), with cc to Prof. George Petekidis (georgp@iesl.forth.gr).

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)
- Detailed curriculum vitae (CV) of the candidate
- Scanned Copies of academic titles

Any application received after the deadline will not be considered for the selection

Contact

For information and questions regarding the application and selection procedure, candidates are asked to contact the secretariat (hr@iesl.forth.gr), tel. +30 2810-391314.
For information and questions about the advertised position and the research activity of the group or the institute, candidates are asked to contact Prof. George Petekidis (georgp@iesl.forth.gr), tel. +30 2810-391490.

Selection Announcement

The result of the selection will be announced on the website of IESL-FORTH.
Candidates have the right to appeal the selection decision, by addressing their written objection to the IESL secretariat within five (5) days since the results announcement on the web. They also have the right to access (a) the files of the candidates as well as (b) the table of candidates' scores (ranking of candidates results). All the above information related to the selection procedure will be available at the secretariat of IESL-FORTH in line with the Hellenic Data Protection Authority.

GDPR

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 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.