CIC energiGUNE
MEMBER OF BASQUE RESEARCH & TECHNOLOGY ALLIANCE

cicenergigune.com
Parque Tecnológico
C/Albert Einstein, 48
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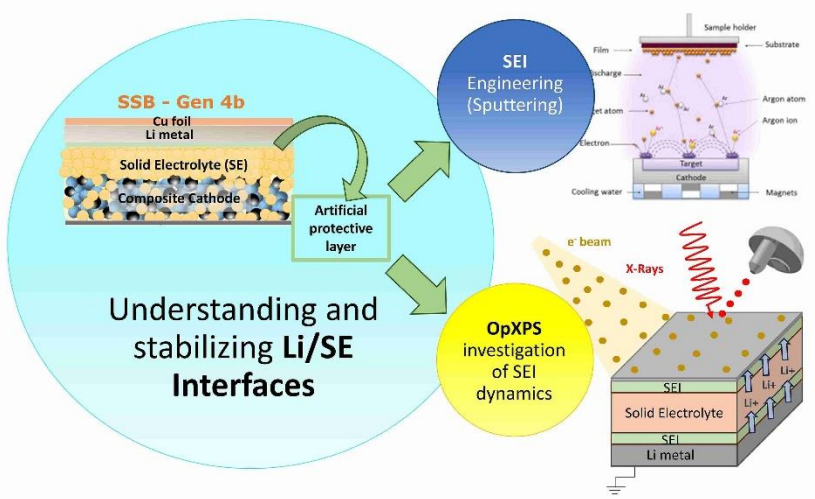
PhD candidate

JOB DESCRIPTION: Operando XPS analysis of engineered SEI for Solid-State Batteries



CIC energiGUNE is recruiting a highly motivated PhD candidate to join our cutting-edge research team. The candidate will focus on **understanding** the reactivity of Li metal with solid electrolytes (SEs) **and engineering the SE/Li interfaces for their integration in the next generation of solid-state batteries**. The solid electrolyte interphase (SEI) formed between metallic Li and the SEs will be studied by **Operando XPS** (OpXPS), while plating Li in-situ in the vacuum analysis chamber. Besides, artificial SEI layers will be fabricated by **magnetron sputtering** and their effectiveness investigated by OpXPS and electrochemical methods. This position offers an exciting opportunity to contribute to pioneering research aimed at improving battery performance and stability through advanced interface engineering, while developing beyond-state-of-the-art techniques to access interfacial phenomena difficult to probe by conventional methods.

Main job functions:

- Optimize and develop new approaches of Operando XPS analysis to study the SEI formation and evolution on solid-state battery interfaces
- Develop and optimize new artificial SEI layer concepts by magnetron sputtering
- Conduct electrochemical tests on cells with bare and engineered interfaces
- Collaborate with a multidisciplinary team to integrate findings into battery design and performance improvement
- Publish research results in high-impact journals and present at international conferences

Area: Electrochemical energy storage (EES)

Group: Ceramic electrolytes and Surface Analysis Unit platform

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CANDIDATE PROFILE:

- Master's degree in Physics, Chemistry, Materials Science, or a related field
- Analytical and problem-solving skills
- Good communication skills and ability to work collaboratively in a team environment
- Good written and oral skills in English
- Background in surface analysis techniques, experience on battery materials and familiarity with physical vapor deposition techniques and UHV instruments will be highly valued

WHAT WE OFFER:

- We are offering a **3-year predoctoral contract** and advantageous professional development opportunities with the possibility of 1 year extension based upon satisfactory job performance, continuing availability of funds, and ongoing operational needs.
- Flexible working hours promoting work-life balance and self organization.
- On-site work model with the option to telework.
- Full access to cutting-edge laboratory facilities and characterization platforms.
- The incorporation to a top research center in Europe that makes high quality research and impactful contributions to the energy and sustainability fields.
- Professional and personal development: opportunity to attend seminars, international conferences, training courses, etc.
- Integrated, enthusiastic, international and multidisciplinary environment.
- A welcome program that offers help with finding accommodation and addresses other aspects to help you integrate into the local environment (such as free language courses, assistance with the administrative procedures, help with schools for children…).

For more information: https://cicenergigune.com/en/work-with-us

TO APPLY:

All applicants are invited to submit their application a detailed curriculum vitae along with a motivation letter at this website: https://cicenergigune.talentclue.com/en/node/110400253/4590

The selection process ends once the candidate is selected.

CIC energiGUNE is committed to affirmative action, equal opportunity, and the diversity of its workforce.

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DESCRIPTION OF THE INSTITUTION:

- WHO ARE WE? https://cicenergigune.com/en/who-are-we
- WHERE ARE WE? https://cicenergigune.com/en/welcome
- OUR FACILITIES: https://cicenergigune.com/en/platforms-facilities

For more details on CIC energiGUNE's research activities please visit our website at http://www.cicenergigune.com.