

## PhD Researcher - Novel Rechargeable Battery Development

**Location:** Barcelona

**Institution:** [Catalonia Institute for Energy Research](#) (IREC)

**About Us:** [The Nanoions and Fuel Cell group](#) at IREC is a leading research group dedicated to advancing the field of energy storage technologies. We are currently seeking a highly motivated PhD researcher to join our team in the pursuit of groundbreaking advancements in battery technologies. This position offers a unique opportunity to contribute to the development of a novel rechargeable battery, which has the potential to revolutionize energy storage solutions by using advanced concepts of materials nanoengineering.

**Position Overview:** We are looking for a passionate and driven individual to join our research group as a PhD researcher in the field of solid-state rechargeable batteries. As a member of our team, you will be conducting cutting-edge research aimed at developing a lithium-free battery. Your work will involve designing and optimizing materials, exploring novel concepts, and contributing to the development of prototypes. You will join a team of highly qualified and motivated researchers working at the frontiers science and technology. You'll have the opportunity to join a collaborative network alongside top European research groups in your field, with the possibility of being hosted as a visiting student during your PhD.

### Key Responsibilities:

1. Conduct in-depth literature reviews to understand the current state of solid-state battery technology and identify research gaps.
2. Design and synthesize novel materials for use as solid-state ceramic ionic conductors.
3. Utilize cutting-edge fabrication and characterization techniques in the field of functional ceramics.
4. Fabricate and test prototypes of rechargeable battery systems.
5. Analyze and interpret experimental data, and contribute to the publication of research findings.
6. Collaborate with cross-functional teams to integrate your research into practical applications.
7. Stay current with advancements in battery technology and proactively contribute to innovative solutions.

**What we offer:** A 3 years contract. The candidate should be available before February 2024.

### Selection criteria:

- A person who is highly motivated to learn, work in a team, showing high flexibility, initiative and ability to innovate.
- A Master's degree in materials science, chemistry, chemical engineering, or a related field.
- Strong communication and teamwork skills.
- Ability to work independently and collaboratively in a research environment.
- Interest in energy technologies, electrochemistry and batteries.
- Fluent English is mandatory.

Join us in shaping the future of energy storage technology and be a part of a dynamic research team dedicated to innovation and excellence. We look forward to receiving your application and working together to drive the advancement of proton-based rechargeable batteries. Applicants should send a detailed CV, a motivation letter and bachelor/master transcripts to [fbaiutti@irec.cat](mailto:fbaiutti@irec.cat) (Federico Baiutti), [amorata@irec.cat](mailto:amorata@irec.cat) (Alex Morata) and [irecjobs@irec.cat](mailto:irecjobs@irec.cat).