



Reference: 27/013

Category: R2.1.2

Project: hyPROMISE – Horizon Europe, Clean Hydrogen Partnership

Research group: Nanoionics and Fuel Cells, IREC, Barcelona

Group leader: Prof. Albert Tarancón

Principal investigator: Dr. Federico Baiutti

Publication date:

Application deadline: 31 December 2026

Estimated starting date: February 2027 (flexible)

“R2 – Postdoctoral Position in Proton-Conducting Ceramic Materials, Cells and Stacks”

Position description

The Nanoionics and Fuel Cells group at IREC is seeking a motivated postdoctoral researcher with a strong background in protonics to join hyPROMISE, a Horizon Europe project of the Clean Hydrogen Partnership coordinated by IREC. hyPROMISE brings together nine European research and industrial partners with the aim of moving solid-state proton conducting cells from laboratory-scale devices to robust kW-class stacks.

The successful candidate will be responsible for the core IREC experimental activities of the project, from the design and electrochemical assessment of proton materials, validation of advanced manufacturing routes, to the electrochemical testing of large-area cells and stacks. This three-year position offers the opportunity to work across the full materials-to-stack value chain in close collaboration with leading academic and industrial partners, to contribute to the technical coordination of the project, and to develop an independent research profile in energy conversion technologies.

Research activities:

- Develop and characterise proton-conducting thin films and electrodes for protonic ceramic cells.
- Support the implementation of advanced manufacturing routes in cell architectures.
- Perform the electrochemical testing of large-area cells and of a kW-class stack under reversible and dynamic operation, including durability and post-mortem analysis.
- Contribute to project coordination, supervise students, and disseminate results through publications and international conferences.

Qualifications and experience

Essential:

- A PhD in Materials Science, Chemistry, Physics, Chemical Engineering or a closely related field.
- Demonstrated research experience in protonics and proton-conducting oxides, supported by relevant scientific publications.
- Proven hands-on experience in the electrochemical characterisation of protonic materials
- Ability to plan and conduct independent research, work collaboratively in an international team, and communicate effectively in written and spoken English.

Desirable:

- Experience in the fabrication and electrochemical testing of ceramic proton conducting cells (PCFC/PCEC, symmetric and full cells).
- Experience in large-area cell or stack testing.
- Experience in European collaborative projects, project reporting, mentoring students, or developing measurement and data-analysis tools.

Employment and application

We offer a three-year (36-month) full-time postdoctoral (R2) position in the framework of the hyPROMISE Horizon Europe project, in an international research environment at IREC in Barcelona. Salary and employment conditions will follow IREC's salary policy and the applicable call, depending on the candidate's qualification and professional experience.

Applicants must submit the following documents by email to irecjobs@irec.cat and fbaiutti@irec.cat:

- Curriculum Vitae, including a publication list and relevant research experience.
- Motivation letter outlining research interests and suitability for the position.

Please quote reference **27/013** when applying.