

**Publish date April 19th 2022**

**Ref. 29/2022**

**Code:**

**Project: TRANSIONICS**

**Area leader: Prof. Joan Ramon Morante**

**Group: Nanoionics and Fuel Cells**

**Group leader: ICREA Prof. Albert Tarancón Rubio**

## **Postdoctoral Researcher Position in Iontronics for Energy and Information Technologies**

The Group Leader of Nanoionics and Fuel Cells is seeking a researcher to work on a Project devoted to the development of breakthrough concepts in Iontronics for Energy and Information Technologies in the frame of the TRANSIONICS project.

**Description:** Nanoionics and Iontronics are emerging disciplines dealing with the ionic transport properties at the nanoscale and the effect of a tuneable arrangement of ions on the electronic properties, respectively. These two disciplines try to understand and exploit the subtle interplay between electrons and ions and its application to innovative solid state-based devices to promote a revolution similar to the one driven by nanoelectronics few decades ago. In particular, since the main conversion and energy storage technologies are based on ionic, electronic or mixed-ionic electronic conductors (MIEC), these new disciplines are called to revolutionize the energy field by giving rise to entirely new and disruptive technologies.

The researcher will be involved in developing new nanomaterials compatible with mainstream miniaturization technologies for a new generation of solid-state iontronics-based devices. The activity will be carried out in the frame of the European Project "TRANSIONICS" This will give the candidate a great opportunity to develop advanced concepts in collaboration with a well-reputed international network of collaborators.

We are interested in a researcher highly motivated to study the development of nanostructures and their applicability in Iontronics applications. She/he will get experience in *hands on* deposition and characterization of thin film oxides, as well as a deep knowledge on advanced in situ/in operando characterization techniques. Among the techniques employed will be Pulsed Laser Deposition, In Situ Ellipsometry, Raman or impedance spectroscopy.

**Requirements:** Ph.D. in Solid State Ionics who is highly motivated to learn, work in a team, high flexibility and initiative and ability to innovate.

Bachelor, master and PhD of Physics / Materials Science/ Chemistry or similar is required. Experience in thin films, advanced structural and electrical characterization and device testing will be positively evaluated. Knowledge on defect chemistry and electrochemical devices is mandatory.

Fluent English is mandatory.



Shaping Energy for a Sustainable Future

**We offer:** 18 months postdoctoral contract. Joining an international team of highly qualified and motivated researchers working in the frontiers of knowledge in science and technology.

**Incorporation:** The candidates should be available before June 2022 (not negotiable).

**Workplace:** Barcelona (IREC facilities)

Applicants should send a detailed CV, a motivation letter and bachelor/master transcript to Albert Tarancón. [atarancon@irec.cat](mailto:atarancon@irec.cat). Please indicate the reference “**Ref. 29/2022 TRANSIONICS**” in your mail.