

Job Title: Postdoctoral position in ELECTROCHEMICAL OPERANDO TRANSMISSION ELECTRON MICROSCOPY and ELECTROCHEMICAL OPERANDO SPECTROSCOPIES of functional materials for CO₂ and H₂ technologies

Commitment & contract: The contract will be a post-doc junior type, with the **earliest start date: 1st NOVEMBER 2026**. The activity will last 24 months.

Location: The activity will be carried out @ Center for Sustainable Future Technologies (CSFT) – IIT, Via Livorno 60, 10144, Turin, Italy.

Step into a world of endless possibilities, together let's leave something for the future!

At IIT, we are committed to advancing human-centered Science and Technology to address the most urgent societal challenges of our era. We foster excellence in both fundamental and applied research, spanning fields such as neuroscience and cognition, humanoid technologies and robotics, artificial intelligence, nanotechnology, and material sciences, offering a truly interdisciplinary scientific experience. Our approach integrates cutting-edge tools and technology, empowering researchers to push the limits of knowledge and innovation. With us, your curiosity will know no bounds.

We are dedicated to providing equal employment opportunities and fostering diversity in all its forms, creating an inclusive environment. We value the unique experiences, knowledge, backgrounds, cultures, and perspectives of our people. By embracing diversity, we believe science can achieve its fullest potential.

YOUR TEAM

You will be working in a multicultural and multi-disciplinary group, where materials scientist, physics, chemists, chemists and engineers collaborate, each with their expertise, to carry out a scientific activity with a shared research goal.

The “Advanced characterizations and optimized functional materials for energetic transition” Research line is coordinated by Dr. Angelica Chiodoni (<https://adv-char.iit.it/>), who has extensive experience in materials characterization, technologies for energy transition and advanced characterizations.

We are looking for an highly motivated person to deal with state-of-the-art research on advanced characterizations of functional materials. In particular, the research will be focused on implementing techniques, experimental set-up and protocols for operando and correlative operando electrochemical characterization of functional materials CO₂ and H₂ -related technologies.

In particular, the main focus of the research will be on the operando Electrochemical Liquid Phase Transmission Electron Microscopy (EC-LPTM), that will be complemented with one or more of the spectroscopic operando techniques available in the Center. Collaborative research with colleagues preparing the functional materials for the mentioned applications will be another essential focus.

Your main responsibilities will be:

- Supporting the optimization of experimental protocols for operando EC-LPTM and operando spectroscopy
- Take the responsibility of the operando characterization of the materials selected to advance in the Research line activity

- Supporting optimization protocols to perform correlative operando measurements

Essential requirements

- PhD in Material Science, Electrochemistry, Chemistry or Physics or equivalent degree
- Hands-on experience in electrochemistry
- Hands-on experience in TEM
- Hands-on experience on EC_LPTM
- Hands-on experience with one among XRD, Raman spectroscopy, IR spectroscopy, NAP-XPS, SECM, AFM
- Experience on one of operando XRD, operando Raman operando spectroscopy, IR operando spectroscopy, NAP-XPS will be highly evaluated
- Experience with scanning electron microscopy will be positively evaluated
- Further experimental skills are an advantage
- Good communication skills in English
- Strong problem-solving attitude
- High motivation to learn
- Spirit of innovation and creativity
- Good at time and priority management
- Ability to work in a challenging and international environment
- Ability to work independently and collaboratively in a highly interdisciplinary environment

COMPENSATION PACKAGE

- A yearly gross salary of about 32-33k€, which may include a bonus option depending on your role and contract
- Private health care coverage depending on your role and contract
- Candidates from abroad or Italian citizens who have carried scientific research activity permanently abroad and meet specific requirements, may be entitled to a deduction from taxable income of up to 90% from 6 to 13 years.

Please submit your application using the online form and including a detailed CV, university transcripts, cover letter discussion the motivation for applying, and contact details of 2 references.

Application's deadline: 28th August 2026

To discover more about life at IIT, visit the dedicated section here: <https://www.iit.it/en/work-at-iit>