



Empa

Materials Science and Technology



Empa - the place where innovation starts

Empa is the research institute for materials science and technology of the ETH Domain and conducts cutting-edge research for the benefit of industry and the well-being of society.

The performance, durability and sustainability of engineering materials, as applied in e.g. medical technologies, microelectronics, sensing devices and large infrastructures, critically depend on the (electro)chemical reactivity and passivation (surface oxide formation) of the metal or alloy surface in its service environment. In the Laboratory of Joining Technologies and Corrosion at Empa in Dübendorf, we aim to investigate and tailor the electrochemical reactivity at surfaces and interfaces to advance the development of sustainable and durable material technologies for the benefit of industry and society alike. We are looking for a highly motivated and enthusiastic

Scientist in the field of "Electrochemistry at metal(oxide)-electrolyte interfaces"

to join our interdisciplinary team. Would you like to contribute to cutting-edge research and innovation and work on collaborative projects with academia and industrial partners? Are you interested to work within a highly motivated and driven team of senior and junior academics, technicians, doctoral and master students? Are you excited to shape and contribute to the development of sustainable and durable material technologies in the fields of **corrosion protection, medical implant technologies, sensing devices and functional alloys**? Your main responsibilities will be

- Advanced characterizations of heterogeneous metallic surfaces in electrolytes using a broad range of electrochemical and surface-analytical techniques. You will have access to our unique research infrastructure, consisting of interconnected facilities for thin film deposition, thermal processing, electrochemical characterization in glove-box, as well as lab-based HAXPES/XPS.
- Investigation of protein-oxide interactions in biomedical applications using in-house developed in-vitro corrosion setups.
- Explore innovative chemical and electrochemical surface treatments.
- Support in R&D projects with industries related to the aforementioned fields.

The candidate should have a PhD degree in Inorganic, Physical Chemistry, Electrochemistry or Materials Science. We expect a strong research record on electrochemical and surface-analytical characterization of metal(oxide)-electrolyte interfaces and a good scientific knowledge on biocorrosion and/or biological interactions with materials. Prior experience and well-developed experimental skills in analytical chemistry and electrochemical methods, as well as handling of biological samples, is also required. Excellent communication skills and the ability to work in highly-interdisciplinary research teams is required as well as excellent knowledge of English (oral and written); knowledge of German and French would be an advantage.

We offer a highly interdisciplinary and dynamic research environment with state-of-the-art laboratory equipment, an international network and contacts to academic and industrial partners, provide the opportunity and responsibility to develop the field within an attractive, performance-oriented employment environment. The position (100%) will be initially limited to two years with the prospect to become permanent afterwards.

For further information about the position please contact Dr Patrik Schmutz patrik.schmutz@empa.ch and visit our websites www.empa.ch/web/s202 and [Empa-Video](#)

We look forward to receiving your online application including a letter of motivation, CV, diplomas with transcripts and contact details of two until three referees. Please upload the requested documents through our webpage. Applications via email will not be considered.

Empa, Cristina Marinoni, Human Resources, Ueberlandstrasse 129, 8600 Dübendorf, Switzerland.

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