

Helmholtz Call for Chinese Applicants Interested in Running for CSC 2021 Fellowship

- Helmholtz Centre:** Forschungszentrum Jülich GmbH – www.fz-juelich.de
- Department/Institute:** Institute of Energy and Climate Research, Helmholtz-Institute Münster:
Ionics in Energy Storage (IEK-12)
https://www.fz-juelich.de/iek/iek-12/EN/Home/home_node.html
- Supervising scientist:** Dr. Nella M. Vargas-Barbosa / Prof. Dr. Martin Winter
- University for registration or for a future degree:** University of Münster
- Research Field:** Electrochemistry, Physical Chemistry
- Position open for:** PhD Student Sandwich PhD Student
- Title of the research:** Light-enhanced ion transport in solid and liquid systems

More description of research topic:

This project focuses on elucidating how the movement of ions can be tuned with the aid of light stimulation. Within this project both solid and liquid systems will be studied under photo-electrochemical conditions. The end goal is to better understand how ions can respond to light excitation and how we can exploit that behavior for applications in fast-charging batteries and supercapacitors. The project will require the design of appropriate photoelectrochemical cells and their characterization using common electroanalytical methods such as: cyclic voltammetry, chopped-light linear sweep voltammetry, electrochemical impedance spectroscopy and intensity-modulated photocurrent spectroscopy, among others. Moreover, the systems studied will also require typical analytics: electron microscopy, energy-dispersive x-ray spectroscopy, x-ray diffraction, chemical analysis, among others.

Specific requirements:

- Masters degree in in Chemistry
- Research experience in electrochemistry
- Knowledge of impedance spectroscopy a plus

Working Place: Münster

Earliest Start: September 2021

Language Requirement: Very good knowledge of English language, written and spoken. German language courses are organised in the context of our in-house training program and are free of charge.

Name and Address of the Supervisor: Helmholtz-Institut Münster, Forschungszentrum Jülich,
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