



DLR – DAAD Fellowships

Fellowship No. 499

- Research Area :** Energy
- Research Topic:** **Failure mode diagnosis in Electrochemical devices using electrochemical noise**
- DLR Institute:** Institute of Engineering Thermodynamics, DLR Stuttgart
- Position:** Senior Scientist
- Openings:** 1
- Job Specification:** There is an opening for a Senior Scientist fellow with the Department of Electrochemical Energy Technology to develop diagnosis tools based on electrochemical noise. The department has recently shown improvement towards a novel method of failure diagnosis in PEM fuel cells based on electrochemical noise analysis. The proposed method will represent an important advance in the robustness and durability of electrochemical devices. The studies carried out will potentially allow the development of commercial diagnosis devices of fault in electrochemical devices, such as polymer electrolyte fuel cell or electrolyzer, that operate in real-time, with the cell in operation and using lightweight, non-voluminous and inexpensive hardware.
- Required Qualification:** Applicants must be working in higher education or at a research institute. Have solid experience in fault mode diagnosis in PEMFC and PEMWE and deep background in electrochemical noise evaluation in electrochemical processes.
Experience in frequency domain signal analysis using wavelets and short-time Fourier transform.
Familiarity with the use of artificial neural networks for the pattern classification of operational faults.
- Advantageous Skills:** Solid experience in fault mode diagnosis in PEMFC and PEMWE and deep background in electrochemical noise evaluation in electrochemical processes.

Experience in frequency domain signal analysis using wavelets and short-time Fourier transform.
Familiarity with the use of artificial neural networks for the pattern classification of operational faults.

English competence: **Fluency in verbal and written English**

See requirements on www.daad.de/dlr

Earliest Start Date: 01/08/2021
The position is for 2 months

Application Deadline: Until the position is filled

Further Information: <http://www.dlr.de>
<http://www.daad.de/dlr>