

IFW Dresden e.V. - Solid State and Materials Research



This ESR position is part of the European Training Network "BIOREMIA" dealing with research on novel biofilm-resistant materials for hard tissue implant applications. BIOREMIA offers the possibility to pursue the PhD within the Network at different universities and industrial companies from 10 European countries (Germany, Austria, Italy, Sweden, Greece, UK, Spain, Ireland, France, and Switzerland). Background information on all ESR positions and BIOREMIA Network is available on www.bioremia.eu BIOREMIA ("BIOfilm-RESistant Materials for hard tissue Implant Applications") is funded by the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement no. 861046.

Early-Stage Researcher / PhD position (ESR 9)

The Leibniz Institute for Solid State and Materials Research Dresden, Germany

City: Dresden; Starting Date: 01/06/20; Duration: 36 months; Remuneration: attractive salary plus allowances package according to the Marie Skłodowska-Curie / Innovative Training Networks rules; Closing date: 31/03/20

Task

This project focuses on the fundamental description of mechanisms of metal toxicity and corrosion based on oxidative stress effects for new beta-Ti-alloys and Ti-based metallic glasses as well as the development of bacteria-killing oxide-based surface coatings and the analysis of their impact on those phenomena.

The tasks comprises the preparation of alloy samples by different casting techniques and their microstructural characterization, fundamental electrochemical studies and metal release analyses in simulated body fluids under ROS-forming conditions and accompanying surface analytical characterization. By means of anodization treatments nanoporous /nanotubular oxide coatings will be formed and doped with Cu, Ga or Ag; those coatings will be subjected to surface analytics. In collaboration with BIOREMIA partners in vitro biological studies are planned.

As a result, optimal bacteria-killing oxide-based surface states on new Ti-alloys with high corrosion resistance and limited oxidative stress effects will be identified.

The ESR will travel abroad for research secondments at different institutions of the BIOREMIA Network (e.g. at Univ. degli Studi di Torino- Italy; Univ. Autònoma de Barcelona- Spain; Stryker Trauma GmbH-Germany) and will participate in specialised training meetings and international conferences.

The ESR will enroll in the doctoral student programme at Technical University Dresden.

Qualifications

- Applicants must hold a Master's degree or equivalent Materials Science and Engineering or Chemistry providing access to PhD programs and should have experience with experimental research.
- Applicants must have excellent proficiency in written and spoken English.
- Applicants must have strong motivation and ability to collaborate in an interdisciplinary and international team.

Applicants must at the time of recruitment:

- 1) Be in the first four years (full-time equivalent) of their research careers
- 2) Have not resided in Germany for more than 12 months in the last 3 years

3) Have not been awarded a doctoral degree.

What We Offer

The appointment will be on a temporary basis for a maximum period of 36 months (PhD student, regular full-time employment contract), with an attractive salary plus allowances package according to the Marie Skłodowska-Curie / Innovative Training Networks rules.

Application

Interested candidates should send an application containing the following documents in English (and, when necessary, a certified translation of official documents):

- Motivation Letter (describing research career goals, skills, experience, and highlighting the consistency between the candidate's profile and the chosen ESR position)
- A complete Curriculum Vitae with references to past research and training experiences
- Copies of Bachelor and Master's certificates/diploma & transcripts
- Two Reference Letters
- Publications (if available).

Applications should be sent by e-mail as a single PDF, quoting the project name and the ESR position "BIOREMIA - ESR 9", to:

bewerbung@ifw-dresden.de

Applications can also be submitted via the online Application Form at www.bioremia.eu

- For additional information about this ESR position, please contact the scientist-in-charge / supervisor:

Dr. Annett Gebert a.gebert@ifw-dresden.de

- Some background material about host institution can be found here:

<https://www.ifw-dresden.de/ifw-institutes/ikm/>

<https://www.ifw-dresden.de/about-us/people/dr-annett-gebert/>

and www.bioremia.eu

More information at <https://stellenticket.de/74354/TUB/>

Offer visible until 08/03/20

