

Research, Innovation and Graduate Studies

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Research Fellow/ PhD Positions in Surface Engineering and Corrosion- Group of Prof. Aleksandra Baron-Wiechec (RF-2019001)

Description

The Materials Science and Engineering Program (group of prof. Aleksandra Baron-Wiechec) is looking for Research Fellow (post-doctoral) or PhD candidate to conduct experimental research in a topic centered around corrosion and protection of metals, mass spectrometry, nuclear fusion materials & technology or biomaterials. Contract duration: Post-doc (up to 3 years), PhD (3+1 year).

Corrosion and Surface Engineering is an interdisciplinary subject, which encourages specialists from different academic disciplines to cross their traditional boundaries.

We work in a collaborative international environment.

Project Details

The project "CorMas" requires combining knowledge of corrosion, mass spectrometry, optical spectrometry and work on the boundary between solids, liquids and gases. You will use and develop further Differential Electrochemical Mass Spectrometry (DEMS) system. DEMS contains an electrochemical cell linked with a mass spectrometer via special hydrophobic porous membrane. It allows to detect volatile chemical species generated at the electrodes during electrochemical reaction. The application can be corrosion, fuel cells, Li batteries, reduction processes, gas sensors, etc. It allows close to on-line detection of volatile products shortly after they are produced during electrochemical process.

Duties and Responsibilities include but not limited:

- to set up the DEMS system;
- to propose, plan and conduct experiments in the areas of corrosion, anodizing, gas sensors etc;
- to assist the PI on preparation of research proposals and literature review of research papers/reports;
- to oversee and guide students and visiting researchers attaching to the research lab;
- to work on new projects and initiatives according to instruction by the PI.

Keywords

Mass spectrometry, Corrosion, Electrochemistry, Thermal Desorption Spectrometry (TDS), Plasma Electrolytic Oxidation (PEO), Metallic materials, Surface analysis

Selection Criteria

1. for PhD applicants: Master degree (or equivalent) in Chemical Engineering, Materials Science, Chemistry or Physics (essential)

Position

Research Fellow/PhD

Program

Materials Science and Engineering

Research Area

Surface Engineering and Corrosion

Contacts

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[Web Page Link](#)

Application Deadline

Open till filled

Date Posted

Jan. 10, 2019

2. for Postdoctoral position: PhD degree in Chemical Engineering, Materials Science, Physics or Chemistry (essential)
3. Practical laboratory experience related to areas: knowledge of electrochemical processes related to aqueous corrosion, knowledge on the use of electrochemical methods to characterize corrosion processes, anodizing of metals, practical knowledge of mass spectrometry or vacuum systems, for example ICP-MS, GC-MS, TDS (essential)
4. Interest to work temporarily at large-scale research facilities in China and Europe (essential)
5. Good communication skills, good command of English (essential)
6. Ability to work under your own initiative, independently, as well as in a team environment (essential)
7. Ability to author scientific reports and co-author scientific publications (essential)
8. Familiarity with the operation of advanced microstructural and chemical characterization: SEM, TEM, EBSD, SIMS, AFM and EDX analyses (desirable)
9. practical knowledge of electronics and basic knowledge of one programming language, preferably LabVIEW, but also C++, Visual Basic, Python or Delphi would be considered (desirable)
10. The PhD candidate must fulfill the requirements for admission to the Technion Graduate School and needs to comply with its regulations leading to the PhD/Master degree: <https://graduate.technion.ac.il/en/prospective-students/>

Benefits

For Postdoctoral:

- Salary range: up to \$49,000 / year (depending on qualifications of the candidate)
- Subsidized housing at GTIIT, China
- Health insurance: regular cover for Chinese citizens or private health insurance for foreigners
- Professional conference travel allowance

For PhD:

Please click [here](#) for the details.

Application

For Postdoctoral:

– Send below required documents electronically to: aleksandra.baronw@gtiit.edu.cn

1. Curriculum vitae and personal statements
2. A publication list

3. Three letters of recommendation (one from the mentor for PhD and/or Master's studies)
4. A short research plan outline (up to one page in length)
5. Degree certificates with certified English translation for both the PhD and Master's degrees

For PhD:

Please click [How to Apply](#) to see the required document list.