

## **Postdoc (scholarship) in surface chemistry and biocompatibility of AM metal surfaces**

KTH Royal Institute of Technology in Stockholm has grown to become one of Europe's leading technical and engineering universities, as well as a key Centre of intellectual talent and innovation. We are Sweden's largest technical research and learning institution and home to students, researchers, and faculty from around the world. Our research and education cover a wide area including natural sciences and all branches of engineering, as well as architecture, industrial management, urban planning, history, and philosophy.

### **The workplace**

The Division of Surface and Corrosion Science (Prof. Inger Odnevall) is looking for a postdoc interested in surface chemistry and biocompatibility of 3D printed metal alloys for biomedical applications.

### **Project description**

The postdoc scholarship (financed via the Carl Trygger foundation) focuses on exploring mechanistic and applied aspects of how different surface textures and topologies of NiTi biomaterials, fabricated using powder bed fusion (PBF) additive manufacturing (3D printing), impact interfacial and biocompatibility processes taking place on printed NiTi alloys in biologically relevant environments. Using state-of-the-art analytical techniques, the research emphasizes on kinetic effects on the electrochemical biocorrosion performance, surface passivity, surface characteristics, biodissolution of metals, and biofouling behavior under various physiologically relevant in-vitro conditions.

The project is carried out in close collaboration with the Department of Production Engineering at KTH (Assoc. Prof. Sasan Dadbakhsh), performing PBF printing and material optimization. Collaboration on e.g. biofouling aspects will be conducted with researchers within AIMES, the Center for the Advancement of Integrated Medical and Engineering Sciences, an established interdisciplinary research center co-affiliated between Karolinska Institutet (KI) and the KTH Royal Institute of Technology (KTH).

### **Qualifications Requirements**

- Qualified to be employed as a postdoc is a candidate who has a doctoral degree or an equivalent foreign degree in material science, chemistry, or equivalent expertise.
- The candidate must have research expertise and experience in the defined research field, evidenced by scientific publications and prior positions, a proven ability to work in a team with experts in other disciplines. Experience of recruiting research funding is favorable.
- The candidate must have documented competence and experience using surface analytical and chemical techniques, preferably on metals.
- Excellent spoken and written English is a requirement, as are documented skills in writing of advanced publications and making oral presentations.
- The candidate must further have a very good experience of independent laboratory work and abilities to work in a team.
- Great emphasis will be placed on personal skills.

### **Application**

Apply to this scholarship by e-mail to [ingero@kth.se](mailto:ingero@kth.se). You are the main responsible to ensure that your application is complete according to the ad. Your complete application must be received no later than 2025-02-10.

The application must include the following documents:

- Curriculum vitae
- Cover letter (detailing both your previous scientific work experience and your interest in this postdoc scholarship)
- Research statement (max 2 pages)
- Contact information for three references.

*Please observe that you apply for a scholarship, not an employment.*

According to The Protective Security Act (2018-585), the scholarship candidate must undergo and pass security vetting if the position is placed in a security class. Information regarding whether the position is subject to such a classification will be provided during the recruitment process.

**About the position/positions**

Period: 2025-04-01

Extent: Full-time

Number of positions: 1

scholarship: yes

Location: KTH Stockholm, Sweden

*EU Citizens on scholar or private funding need to bring a certificate showing EHIC insurance (a comprehensive medical- and health insurance) from the home country, which must cover during the full stay in Sweden.*

*Without this certificate you may only remain three months in Sweden and will not be able to register as a residence in Sweden.*

*The responsibility for the comprehensive insurance is strictly on the applicant.*

**Contact**

*We firmly decline all contact with staffing and recruitment agencies and job ad salespersons.*