

The EMAT research group at the Faculty of Science (University of Antwerp) is seeking to fill a full-time (100%)

Postdoctoral position in the area of smart strategies to break the beam damage limits in transmission electron microscopy under the supervision of Prof Sandra Van Aert and Prof Jo Verbeeck.

The main goal of the project is to develop and apply smart strategies, which are dedicated to characterize beam-sensitive nanostructures using quantitative scanning transmission electron microscopy (STEM) imaging. This will allow one to use a minimum electron dose to detect single atoms, to determine their atom types and to precisely measure positions of atoms. In this manner, beam damage will be drastically reduced or will even be ruled out completely. The project will focus on the development of novel theoretical methods to optimize the shape of the incoming electron probe and the probe scanning strategy, to experimentally realize the predicted designs and to apply the methods to challenging and relevant beam-sensitive nanostructures.

Job description

- Depending on your interest, the focus of your project will be on the theoretical prediction of the optimal probe shape and scanning strategy or the experimental realisation using aberration corrected STEM;
- You have the opportunity to supervise student projects;
- You are enthusiastic and greatly interested in electron microscopy and materials science;
- You publish scientific articles related to the research project of the assignment;
- You present your work at national and international workshops and conferences.

Profile and requirements

- You hold a PhD degree with a background in e.g. physics, mathematics, materials science or transmission electron microscopy;
- You are enthusiastic and greatly interested in the quantitative analysis of electron microscopy data;
- You can submit outstanding academic results;
- You are highly motivated, quality-oriented, conscientious, creative and cooperative.

We offer

- An appointment for an initial period of one year which can be prolonged depending on performance;
- an exciting project in which we will aim to go significantly beyond the state-of-the-art;
- a competitive salary;
- enrolment will start as soon as possible;

- a world-class, dynamic and stimulating work environment with state-of-the-art instrumentation and computing facilities (see also <http://emat.uantwerpen.be/>).

How to apply

You can submit your motivation letter, CV, summary of your Master and/or PhD thesis, a list and grades of the courses that you took during your studies, and names of 2 professional referees as one single PDF file uploaded on the Application Submission page at <http://nano.uantwerpen.be/jobs/submision/>

Additional information about the vacancy can be obtained from: Sandra Van Aert, tel. +32 3 265 3252, sandra.vanaert@uantwerpen.be or Jo Verbeeck, tel. +32 3 265 3249, jo.verbeeck@uantwerpen.be