

The **EMAT research group at the Faculty of Science (university of Antwerp)** is seeking to fill one **full-time (100%)** vacancy for a **PhD scholarship** in the area of **electron tomography** under the supervision of Prof. Sara Bals.

The vacancy is situated in an H2020 European Marie Skłodowska Curie training network *Multiscale, Multimodal and Multidimensional imaging for Engineering* (MUMMERING). The overarching goal of MUMMERING is to create a research tool that encompasses the wealth of new 3D imaging modalities that are surging forward for applications in materials engineering, and to create a doctoral programme that trains 15 early stage researchers (ESRs) in this tool. MUMMERING will create an open access, open source platform that transparently and efficiently handles the complete workflow from data acquisition, over reconstruction and segmentation to physical modelling, including temporal models, i.e. 3D "movies". The 15 ESRs will be enrolled in an intensive network-wide doctoral training programme that covers all aspects of 3D imaging and will benefit from a varied track of intersectoral secondments that will challenge and broaden their scope and approach to research. In the project, EMAT is responsible for the acquisition of 3D high-resolution electron tomography data and the development of novel reconstruction techniques.

#### **Job description**

- You prepare a doctoral thesis in the field of Physics
- Acquire electron microscopy data using aberration corrected microscopes. The focus will be on HAADF-STEM, STEM-EDX and STEM-EELS
- Use different algorithms and software packages to obtain the 3D structure of the material
- Interpret the reconstructions to solve materials science problems in the field of nanophysics
- You publish scientific articles related to the research project of the assignment.
- You work at the interplay of material sciences and engineering, combining physics, electrochemistry and photochemistry.

#### **Profile and requirements**

- You hold a master degree in physics
- You can submit outstanding academic results.
- You are motivated and accept the challenge to obtain a PhD in sciences
- Your academic qualities comply with the requirements stipulated in the [university's policy](#).
- You are quality-oriented, conscientious, creative and cooperative.
- You satisfy the mobility requirements of Marie Curie fellowships

#### **We offer**

- a doctoral scholarship for a period of **1 year**, renewable for 3 years after positive evaluation;
- the scholarship can start as from January 1<sup>st</sup> 2018;
- a competitive gross monthly grant supplemented with mobility and family allowances.
- a dynamic and stimulating work environment.

Please submit your application (motivation letter, CV, summary of Master thesis, and names of 2 referees) by email at [lucian.covaci@uantwerpen.be](mailto:lucian.covaci@uantwerpen.be). Please mention the keyword "Mummering" in the email subject. The deadline for submissions is Nov. 15 2017.

*The University of Antwerp is a family-friendly organization, with a focus on equal opportunities and diversity. Our HR-policy for researchers was awarded by the European Commission with the quality label 'HR Excellence in research'.*