Department of Materials and Environmental Chemistry, Stockholm University

Stockholm, Sweden

**Postdoctoral Fellow in Transmission Electron Microscopy**

Deadline for application: 1 March 2021

**Description**

The aim of this project is to develop and apply emerging methods for high resolution imaging of delicate soft/biomaterials using transmission electron microscopy (TEM). Electron microscopy has evolved into an essential tool in materials and life science characterization. Over the last two decades the development of both aberration-corrected TEM and Cryo-EM has opened up for imaging with sub-Ångström resolution allowing for studies of specimens with atomic resolution and imaging of highly beam sensitive specimens.

Within this project emerging techniques in the aberration-corrected (S)TEM, such as integrated differential phase contrast (iDPC) imaging, 4-dimensional (4D) STEM and scanning electron diffraction, will be explored for the purpose of characterization of electron beam sensitive specimens. The project will mainly focus on studies of biomaterials, such as wood, cellulose and chitin. Other beam sensitive specimens, such as organic and hybrid organic/inorganic porous materials may also be studied.

**Requirements**

Applicants are expected to hold a doctoral degree in Chemistry, Physics, Engineering, Material Science, Biology or similar.

Prior experience in TEM is essential, experience on aberration-corrected (S)TEM is beneficial. Demonstrable familiarity with advanced techniques such as integrated differential phase contrast (iDPC), 4D-STEM, cryo-EM and/or ptychography is advantageous but not necessary. Experience in scientific programming and/or familiarity with soft or electron beam sensitive specimens will be a plus.

**Contact**

Dr. Tom Willhammar, tom.willhammar@mmk.su.se

**More information**

Link to announcement:

<https://www.mmk.su.se/about-us/vacancies/postdoctoral-fellow-in-electron-microscopy-1.539498>