

## **Professor in Electron Microscopy/Tomography of Biological Systems**

DTU Danchip/Cen, National Center for Electron Nanoscopy and Micro/Nanofabrication invites applications for a position as Professor in electron microscopy of biological systems with emphasis on electron tomography.

DTU Danchip/Cen is a central research infrastructure at Technical University of Denmark with the overall mission of contributing to research, development, innovation, and education within the following scientific areas: Development and application of advanced characterization methods by means of electron microscopy and development and application of advanced micro- and nanofabrication technology.

The professor will be affiliated with the Center for Electron Nanoscopy (DTU Cen) currently employing 17 scientific and 6 technical staff members, which is part of DTU Danchip employing a total of 80 staff members.

### **Responsibilities and tasks**

The new professor will establish an internationally leading research group in application and development of electron beam based characterization methods of soft matter including, but not limited, to the study of single prokaryotic cell by means of electron tomography in line with DTU's research fields.

The professor will work alongside DTU Cen's scientific staff in general and will report to DTU Cen's scientific director to ensure that DTU Cen contributes to DTU's existing research efforts in the biological sciences through national and international collaboration.

This is a permanent appointment with the following primary areas of responsibility:

Extension of DTU Cen's portfolio in areas of biological research that maximizes the use of the existing SEM and TEM based characterization and imaging methods. In particular, we expect activities concerning application and development of advanced cryo and related techniques (e.g. phase plate imaging and electron tomography) for the study of prokaryotic cell biological systems and other 'soft matter'. An important requirement of this position therefore is securing national and international research funding in this area, which should lead to the establishment of an internationally acknowledged research group in this field.

The successful candidate is expected build up courses specialized within soft matter microscopy and related sample preparation in order to enable the life sciences based activities and education at DTU to utilize electron microscopy and electron beam-based characterization of soft matter samples. In addition to dedicated electron microscopy courses, aspects of soft matter electron microscopy should therefore be anchored in the curriculum of the majority of life science based educations at DTU.

The successful candidate is expected to take a lead role in teaching at the BSc, MSc and PhD levels. For international candidates, DTU offers Danish language courses for the purpose of being able to teach in Danish within the first 2-3 years.

Further requirements include:

The development and application of high-end electron tomography focussing on acquisition and reconstruction algorithms.

Dissemination of research by publishing papers in collaboration with scientists at DTU and international collaborators.

Provision of advice and assistance to users of DTU's SEMs and TEMs in conventional and advanced electron microscopy techniques.

Engaging in outreach activities to both experts and non-experts alike to explain the role that electron microscopy can assume in quantitative analysis of biological systems.

PhD supervision and teaching within electron microscopy related applications

In general, the position involves research, publication and scientific dissemination at a particularly high level, as well as external partnership and research management.

The successful candidate will establish an internationally leading electron microscopy research group at DTU Cen/Danchip in close collaboration with other DTU departments such as DTU Compute (image processing and 3D reconstruction), DTU Nanotech (micro- and nanotechnology) and DTU Bioengineering among others.

### **Qualifications**

The candidate should have a very strong background in electron microscopy and electron beam based characterization methods and be proficient in life sciences. Furthermore, experience in teaching at all university levels (classroom and individual supervision) as well as experience as course responsible are required. A good command of English is also required.

Emphasis is placed on the applicant's potential for building up a group and continuing developing electron microscopy and its applications within biological systems. A documented outstanding original scientific production at international level is required.

General qualification requirements are:

- A high level of original scientific production at international level that has contributed to the development of the area in question including identification and cultivation of new fields of research.
- High productivity and profiling.
- Documented initiative and impact vis-à-vis sponsors, recipients and partners.
- Documented appreciable contribution to research programs and PhD supervision

### **Assessment**

In the assessment of the candidates, consideration will be given to

- Experience and quality of teaching and curriculum development
- Research impact and experience, funding track record and research vision
- Societal impact
- Documented innovation activities, including commercialization and collaboration with industry
- International impact and experience
- Leadership and collaboration
- Communication skills

For the specific position consideration will also be given to:

- Relevant scientific background and skills within electron microscopy and tomography of biological systems.
- Skills within leadership of scientific groups.
- Innovative skills and the ability to generate new ideas.

### **We offer**

DTU is a leading technical university globally recognized for the excellence of its research,

education, innovation and scientific advice. We offer a rewarding and challenging job in an international environment. We strive for academic excellence in an environment characterized by collegial respect and academic freedom tempered by responsibility.

### **Salary and terms of employment**

The appointment will be based on the collective agreement with the Confederation of Professional Associations. The allowance will be agreed with the relevant union.

### **Further information**

Further information may be obtained from Head of Department Jörg Hübner, tel.: +45 4525 5762 and Scientific Director Jakob B. Wagner, tel. +45 45 25 64 71

You can read more about Danchip and Center for Electron Nanoscopy on [www.danchip.dtu.dk](http://www.danchip.dtu.dk) and [www.cen.dtu.dk](http://www.cen.dtu.dk)

### **Application procedure:**

Please submit your online application no later than **XXX 2018 (local time)**. Apply online at [www.career.dtu.dk](http://www.career.dtu.dk).

Applications must be submitted as **one PDF file** containing all materials to be given consideration. To apply, please open the link "Apply online", fill out the online application form, and attach **all your materials in English in one PDF file**. The file must include:

- Application (cover letter) addressed to the President
- CV
- A vision for future research
- Views regarding teaching and research based on the "Assessment" bullets
- Documentation of previous teaching and research based on the "Assessment" bullets
- List of publications indicating scientific highlights
- H-index, and ORCID (see e.g. <http://orcid.org/>)
- Diploma (MSc/PhD)

Applications and enclosures received after the deadline will not be considered.

All interested candidates irrespective of age, gender, disability, race, religion or ethnic background are encouraged to apply.