



Associate Professor in materials physics/ transmission electron microscopy

About the position

The Department of Physics at NTNU announces an open permanent/tenured position as Associate Professor in physics within the field of transmission electron microscopy (TEM) towards functional materials, with main responsibility for spectroscopy of functional materials and quantitative analytical techniques to measure functional properties at the sub-nm scale. The associate professor will be based within the TEM group in the Physics Department and collaborating with other research groups working on functional materials at the Faculty (for example the center of excellence [QuSpin](#) and the [FACET](#) group).

The TEM group is a partner in ESTEEM3 (2019-2023, INFRARIA Horizon2020). Ongoing research extends through various fields of condensed matter physics, diffraction physics and materials technology, from cooperation with industry on aluminum alloy development, to semiconductor nanowires, third generation solar cells and novel nanomaterials. The TEM group has a long-term strategic collaboration with SINTEF through the [TEM Gemini Centre](#). The Centre is running the Trondheim node in the national infrastructure [NORTEM](#). Currently, the Department has three TEM instruments including a double-corrected coldFEG JEOL ARM with plans of extending the infrastructure in the coming years.

The department is currently expanding. It has activity in condensed matter physics/material physics, soft/complex physics, biopolymer physics, medical physics, astro-particle physics, statistical physics, optics, atmospheric physics and university didactics. The department recruits the best physics students in Norway. It also offers a large number of courses in physics for other study programs at NTNU.

The position reports to Head of Department.

Work description

The successful candidate is expected to further develop experimental transmission electron microscopy and spectroscopy techniques dedicated to functional materials and candidate materials for spintronic devices in a manner that forms synergetic connections with the current experimental and theoretical activities within the department. He/she will take a leading role in developing this field and setting up a strong research program over the next decades.

The Associate Professor will have a specific responsibility for teaching courses within (experimental) condensed matter physics, but must also be able to teach general courses in physics at bachelor level. Furthermore, the applicant is expected to supervise master students, research fellows and doctoral candidates in his/her discipline and to take part in the departmental administrative work.

The candidate should contribute actively to the further development of national and international collaborations of the TEM group and the department.

The Associate Professor will be responsible together with other academic staff for managing and developing the department and the activities within research, teaching and outreach.

Qualification requirements

Candidates must hold a masters degree and a PhD relevant for research within condensed matter or materials physics. Candidates must also document strong research activities in advanced transmission electron microscopy, in particular with quantitative analytical techniques and materials in areas highlighted above. The field of research must lie within an area with strategic relevance to current activities at the faculty within functional materials. Emphasis in the evaluation will be put on research papers in this field published in the past five years. The evaluation will take into account the loss of publishing productivity for applicants who have had parental leave during the last years.

Pedagogical skills and qualifications will be emphasized in the evaluation. Candidates must have a commitment and a vision for teaching and outreach. This includes development of teaching materials, involvement in course and study programme development and governance, as well as supervision of students at all levels. Accordingly, didactical skills, qualifications and potential will be evaluated based on documented experience in teaching, outreach, course and study programme management, supervision of doctoral and master students and related work.

The candidate must demonstrate the ability to initiate and lead research programs, and show a clear potential for externally funded research and scholarships, both independently and in collaboration with colleagues at the department, the faculty and NTNU through national and European funding sources.

General requirements:

Basic qualifications in the discipline of education are required. Anyone who is appointed without having formal basic qualifications in the discipline of education (formerly referred to as practical qualifications in teaching at university level) and who is unable to document equivalent qualifications is required to complete an approved course within two years of appointment. Uniped at NTNU offers qualifying courses.

Pedagogical skills and qualifications will be emphasized. The evaluation will be based on documented material related to teaching, forms of presentation for the academic works, experience in teaching, supervision of doctoral and master's degree subjects as well as other types of pedagogical background. Applicants with teaching experience at university level will be preferred. Quality and breadth will be evaluated.

Employees who do not have formal qualifications in teaching at university level and who cannot provide documentation of equivalent qualifications must complete [an approved pedagogical development programme](#) within two years of appointment.

The person appointed must comply with the decisions about changes due to developments in the subject area, and the organizational changes that may result from decisions regarding the university's activities.

It is a prerequisite that within three years of appointment new employees who do not speak a Scandinavian language can demonstrate skills in Norwegian or another Scandinavian language equivalent to level three in the [course in Norwegian for speakers of other languages](#) at the Department of Language and Literature at NTNU.

Please see the [Regulations concerning appointment and promotion to teaching and research posts](#) for general criteria for the position.

Personal characteristics

- being a team-player
- quality oriented
- taking initiative
- motivate students and co-workers

In the assessment of the best qualified applicant, education, experience and personal suitability will be emphasized, as well as motivation for the position.

We offer

- exciting and stimulating tasks in a strong international academic environment
- an open and [inclusive work environment](#) with dedicated colleagues
- favourable terms in the [Norwegian Public Service Pension Fund](#)
- employee benefits

Salary and conditions

The position as Associate Professor comes with a starting package for new research staff, opportunities for mentoring and is remunerated according to the Norwegian State salary scale. There is a 2% deduction for an obligatory premium to the Norwegian Public Service Pension Fund. Members of the Norwegian Public Service Pension Fund are offered a generous pension for life and access to favorable housing loan and insurance schemes.

It is required that the newly appointed member of staff takes up residence in Trondheim or nearby. Trondheim offers great opportunities for education (including international schools) and possibilities to enjoy nature, culture and family life (<http://trondheim.com/>). Having a population of 200,000, Trondheim is a small city by international standards with low crime rates and little pollution. It also has easy access to a beautiful countryside with mountains and a dramatic coastline as well as good airway connections to major cities in northern Europe. Norway, like other Scandinavian countries, has generous conditions regarding both maternity and paternity leave. Professional subsidized day-care for children is easily available.

•The engagement is to be made in accordance with the regulations in force concerning State Employees and Civil Servants, and the acts relating to Control of the Export of Strategic Goods, Services and Technology. Candidates who by assessment of the application and attachment are seen to conflict with the criterias in the latter law will be prohibited from recruitment to NTNU. After the appointment you must assume that there may be changes in the area of work.

The person appointed must live in a location enabling him/her to be present at and available to the institution.

About the application

The application and description of the academic works to be used as the basis for the assessment must be in English.

The application must include:

- CV including list of publications with bibliographical references, and contact details for three referees
- Testimonials and certificates
- The most relevant publications - published or unpublished - that has relevance to the evaluation of the applicant's qualifications (maximum 10)
- Research plan (maximum 10 pages), divided into
 - A statement of the research interests of the candidate (maximum 5 lines)
 - A statement on long term research goals in a 10-15 year perspective, which includes a discussion on connection to previous work, outlines possible collaborations and include a rough plan on how funding should be achieved for this activity (not more than 2 pages).
 - A 5-year plan outlining actual research to be performed and possible funding schemes for these plans (not more than 7 pages).

- Description of teaching qualifications based on a list of factors (["Documentation of applicant's teaching qualifications in connection with appointment to an academic position at NTNU"](#))
- Other documents which the applicant would like to present
- If relevant, a list of supervised projects with information on funding agency, years of duration and the funds received
- Details of projects for which you have been project manager, with information about funding, duration and size
- Joint works will be considered. If it is difficult to identify your contribution to joint works, you must attach a brief description of your participation.

General information

A good work environment is characterized by diversity. We encourage qualified candidates to apply, regardless of their gender, functional capacity or cultural background. NTNU wishes to increase the proportion of women in its academic positions, and women are therefore encouraged to apply.

Under the Freedom of Information Act (offentleglova), information about the applicant may be made public even if the applicant has requested not to have their name entered on the list of applicants.

General questions about the position can be directed to the Head of Department, Prof. Erik Wahlström, email, Erik.Wahlstrom@ntnu.no. Specific questions about the TEM group to Prof. Ton van Helvoort email a.helvoort@ntnu.no, or Prof. Randi Holmestad, email randi.holmestad@ntnu.no

Submit your application with your CV, diplomas and certificates via jobbno.no. Applicants invited for interview must bring certified copies of certificates and diplomas. Mark the application with reference number: 2019/33.

Deadline for applications: 13.05.2019

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The Norwegian University of Science and Technology (NTNU) creates knowledge for a better world and solutions that can change everyday life.

Department of Physics

Our research and teaching are both experimental and theoretical, covering a wide range of disciplines. Our activities contribute to development of new medical technology and to finding solutions for the next generation's communication technology, energy utilization and development of materials. [The Department of Physics](#) is one of eight departments in the [Faculty of Natural Sciences](#).

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