Postdoctoral Research Fellow in Experimental Semiconductor Physics

Job description

A four year position as Postdoctoral Research fellow in Experimental Semiconductor Physics is available at the Department of Physics. No one can be appointed for more than one Postdoctoral Research Fellowship at the University of Oslo. Starting date: Ideally 01.08.2020, and not later than 01.10.2020.

The position is attached to the Semiconductor Physics section of the Department of Physics. The successful candidate is expected to take an active role in teaching at the Department, with an average teaching load of 25% over the four years.

More about the position

The research topic will primarily involve studying the electronic structure of thin film oxide semiconductors, and the formation of electronic interface states when such oxides are grown on top of wide bandgap substrates. In particular, we wish to focus on the growth of various phases of gallium oxide, but other oxides will also be considered.

The Semiconductor Physics section has recently installed a multi-chamber growth “cluster tool” for carrying out these kinds of investigations. Within the cluster tool, a new Specs ARPES/XPS system is included, thereby allowing the in-situ growth and characterization of materials without exposure to atmosphere. It is anticipated that the successful candidate will take a central role in using this system, and to contribute especially to developing the ARPES competence of the users.

It is also anticipated that the successful applicant will take responsibility for complementary measurements outside of UiO: Specifically, carrying out measurements in the spin-ARPES “NanoEsca” instrument in Trondheim, and PEEM measurements at various international synchrotron facilities. Experience with spin-resolved photoemission, PEEM, ARPES and synchrotron-based photoemission techniques is therefore advantageous, as is a good track record with preparing synchrotron proposals.

Information about the research at The Department of Physics is found on

http://www.mn.uio.no/fysikk/english/research/groups/

Postdoctoral fellows who are appointed for a period of four years are expected to acquire basic pedagogical competency in the course of their fellowship period within the duty component of 25 %.

The main purpose of a postdoctoral fellowship is to provide the candidates with enhanced skills to pursue a scientific top position within or beyond academia. To promote a strategic career path, all postdoctoral research fellows are required to submit a professional development plan no later than one month after commencement of the postdoctoral period.

Qualification requirements

The Faculty of Mathematics and Natural Sciences has a strategic ambition of being a leading research faculty. Candidates for these fellowships will be selected in accordance with this, and expected to be in the upper segment of their class with respect to academic credentials.

- A PhD degree in Physics or a closely related subject. Doctoral dissertation must be submitted for evaluation by the closing date. Only applicants with an approved doctoral thesis and public defence are eligible for appointment.
- Strong documented research competence within the field of experimental physics and material physics or semiconductor physics.
- Significant experience with the relevant experimental techniques: i.e. oxide growth, XPS, UPS, IPES, PEEM, work function mapping, spin-ARPES and NEXAFS.
- Significant experience with the relevant data analysis methods.
- Good organizational and collaborative skills.
- Good language skills, in particular a good command of both written and spoken English.

The following qualifications will be prioritized in the assessment:

- Strong academic qualifications and record of international peer-reviewed publications.
- Documented research competence and interests relevant for this project.
- Ability to collaborate across established academic disciplines and build national and international networks.
- Experience with leading projects and/or research groups
- Experience with attracting external research funding.
- Pedagogical experience with teaching on master and/or bachelor levels and the ability to supervise and inspire students.
- Experience with communicating university level research to a wider (non-scientific) audience.
Knowledge of Norwegian or another Scandinavian language

We offer

- Salary NOK 523 200 - 605 500 per annum depending on qualifications in position as Postdoctoral Research Fellowship (position code 1352)
- Attractive welfare benefits and a generous pension agreement
- Professionally stimulating working environment
- Vibrant international academic environment
- Postdoctoral development programmes
- Oslo’s family-friendly surroundings with their rich opportunities for culture and outdoor activities

How to apply

The application must include:

- Cover letter (statement of motivation, summarizing scientific work and research interest)
- CV (summarizing education, positions, pedagogical experience, administrative experience and other qualifying activity)
- Copies of educational certificates, academic transcript of records and letters of recommendation
- A complete list of publications and up to 5 academic works that the applicant wishes to be considered by the evaluation committee
- Names and contact details of 2-3 references (name, relation to candidate, e-mail and telephone number)

The application with attachments must be delivered in our electronic recruiting system, please follow the link “apply for this job”. Foreign applicants are advised to attach an explanation of their University's grading system. Please note that all documents should be in English or a Scandinavian language.

Interviews with the best qualified candidates will be arranged.

It is expected that the successful candidate will be able to complete the project in the course of the period of employment.

Formal regulations

Please see the guidelines and regulations for appointments to Postdoctoral fellowships at the University of Oslo.

No one can be appointed for more than one Postdoctoral Fellow period at the University of Oslo.

According to the Norwegian Freedom of Information Act (Offentleglova) information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results etc.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds.

Contact information

For further information please contact:

Professor Justin Wells, quantum.wells@gmail.com
Professor Lasse Vines, lasse.vines@fys.uio.no

For technical questions regarding the application system, please contact HR Adviser Elin Thoresen, +47 22 85 71 96, e-mail: elin.thoresen@mn.uio.no

About the University of Oslo

The University of Oslo is Norway’s oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

The research at the Department of Physics covers a broad range of subfields within physics and technology: From space research to medical physics. A good proportion of the research is interdisciplinary, and conducted in close cooperation with collaborators in Norway and abroad. Education and teaching are other essential activities.

We offer a broad range of courses, and the Department is involved in several study programmes at bachelor’s and master’s level. Some of the best lecturers in Norway are amongst our employees, and we are proud of our prizewinning teaching and learning environment. The Department has 200 employees, of which 50 are permanent scientific positions. On a yearly basis 20 students complete their Ph.D. and 50 finish their M.Sc. degree.

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