Postdoctoral Research Fellow in CMOS integrated circuits optical/chemical sensors

About the position
Position as Postdoctoral Research Fellow available at the Nanoelectronics Group, Department of Informatics.

Preferred starting date is between 31 November, 2021 and 31 January, 2022.

The fellowship will be for a period of 3 years, with no compulsory work beyond the project or for a period of 4 years, with 25% compulsory work for the department (such as teaching) contingent on the qualifications of the candidate and the teaching needs of the department.

No one can be appointed for more than one Postdoctoral Research Fellowship at the University of Oslo.

Project description
The position is part of the Norwegian National Research Council project “PhotoSense” that conducts groundbreaking research into the use of artificial membranes with embedded photosensitive proteins for retinal prosthetics. To carefully characterize the performance of these membranes, this postdoc project is to develop a CMOS integrated circuit which is able to sense chemical, electrical and optical signals on its surface with high spatial resolution. Even more specifically, we are looking to implement an array composed of photo diodes, ion sensitive field effect transistors (ISFET) and surface electrodes. To test the light sensitivity and electrochemical properties of the biomolecular membranes under development they are to be placed upon this CMOS sensor and thus be carefully characterized.

For work on that topic that the project shall build upon you can among others refer to these publications of project partners:


The “PhotoSense” project is scheduled to start in July 2021. It is a collaboration between the University of South-Eastern Norway, the University of Oslo, and the University of Connecticut.

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 is to be among Europe’s leading communities for research, education and innovation. 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.

- Applicants must hold a degree equivalent to a Norwegian doctoral degree in microelectronics or similar subjects with experience in analog/mixed-signal ASIC design in CMOS technology. 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.
- Prior experience with (CMOS) sensors, sensor front ends, image sensors, ADC and other relevant areas for the specific project context will be an advantage.
- Fluent oral and written communication skills in English.

We offer
- Salary NOK 526 000 - 608 200 per year 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 transcripts only)
- 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. 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). Applications with documents missing will not be considered further.

Interviews with the best qualified candidates will be arranged.

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

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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
Prof. Philipp Häfliger, phone: +47 228 40118, e-mail: hafliger@ifi.uio.no

For technical questions regarding the recruitment system, please contact HR Adviser Torunn Standal Gutormsen, e-mail: t.s.gutormsen@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 Department of Informatics (IFI) is one of nine departments belonging to the Faculty of Mathematics and Natural Sciences. IFI is Norway’s largest university department for general education and research in Computer Science and related topics.

The Department has more than 1800 students on bachelor level, 600 master students, and over 240 PhDs and postdocs. The overall staff of the Department is close to 370 employees, about 280 of these in full time positions. The full time tenured academic staff is 75, mostly Full/Associate Professors.

Jobnorge-ID: 205259, Søknadsfrist: 15. august 2021