PROJECT LEADER PHOTONIC SENSOR SYSTEMS

Ghent University – IMEC, Photonics Research Group
Tech Lane Ghent Science Park – Campus A
Technologiepark – Zwijnaarde 15, B-9052 Gent, Belgium

JOB CONTEXT:

Silicon photonics is a rapidly maturing field that holds a large potential for the implementation of a broad variety of miniaturized photonic sensing systems, especially in the field of life science and medicine. In such systems the photonic sensing chip needs to be co-integrated or co-packaged with bio-functional layers, with micro-fluidics, with micro-optics and with micro-electronics to allow for proof-of-concept demonstration for a given application case. The Photonics Research Group of Ghent University – imec is working on a variety of sensing concepts for the detection or monitoring of biological processes and medical conditions as well as the detection of gases. Part of this work is conducted in the context of the European pilot line project PIXAPP (pixapp.eu) on upscaling of advanced packaging for photonic ICs and in the context of an ERC Proof-of-concept project on gas sensing. The group also works in collaboration with clinical teams.
In order to strengthen the team, we are looking for a senior engineer (postdoc level) to lead our projects on the implementation of complete sensing systems based on silicon or silicon nitride photonic ICs and their application-oriented deployment.

JOB DESCRIPTION:

You will be working together with end-user partners and with technology providers to design, implement and test complete sensing systems around a photonic IC. This will encompass the translation of the sensing application into specifications and requirements of the different parts, the optical coupling to the chip, the integration with microfluidics and the interfacing to electronics.

You will have a leading role in such projects and will coordinate the interaction with the different partners.
You will develop a solid understanding of the field of silicon photonics (design, technology, eco-system) so as to be able to define new sensing projects based on photonic ICs. You proactively explore novel opportunities for miniaturized optical sensors.

You will interact with end-users and be able to understand their needs and their language and translate those into miniaturized sensing solutions.

PROFILE

- You have a PhD in sensing technology or applications, or equivalent expertise.
- You have a broad background in optics and photonics. Experience with integrated photonic approaches or optical assembly and packaging methods is a plus.
- You have experience with optical sensing approaches, in particular for life science applications. You have a good basic understanding of electronic instrumentation and of microfluidics. You have programming skills. Knowledge of Python is a plus.

- Preferably you have project management skills.
- You have a strong interest to acquire in-depth knowledge about photonic IC concepts and about silicon photonics in general.
- You possess strong verbal and written English communication skills allowing you to effectively communicate with industrial and academic partners, also those that are not experts in photonics and photonic integrated circuits.

Our offer

In exchange for your talent, passion and expertise, you will get an interesting position in a multicultural and high-tech institute, with challenges for the taking. This is your opportunity to contribute to the technology that will determine the society of tomorrow.

We offer an extendable position of 1 year in the Photonics Research Group, imec's associated lab at Ghent University.

Application

Please submit your expression of interest with resume and motivation letter by no later than 30th of August 2018 by applying online through the following link: http://photonics.intec.ugent.be/contact/vacancies/Application.htm

More information:

Contact Prof. Roel Baets
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About the Photonics Research Group

The Photonics Research Group (about 85 people) is associated with IMEC, and is part of the Department of Information Technology of Ghent University. The group is headed by Prof. R. Baets and has been active in photonics device research for many years. The other professors in the group are P. Bienstman, W. Bogaerts, B. Kuyken, N. Le Thomas, G. Morthier, G. Roelkens and D. Van Thourhout. The main research directions are silicon nanophotonics, heterogeneous integration, optical communication, photonic (bio)sensors and photonic integrated circuits for biomedical applications in the near-infrared and mid-infrared wavelength range. More in particular, the silicon nanophotonics work focuses on the design and fabrication of SOI-based photonic devices using standard lithographic techniques compatible with CMOS-processing.

The Photonics Research Group has been coordinating the network of excellence ePIXnet and is involved in a number of EU-projects, including the FP7 projects ActPhast, PLAT4M, Cando, and Pocket and the H2020 projects MORPIC, TOPHIT, TeraBoard, PIXapp, PIX4Life, MIRPHAB and Phresco. Furthermore, the group is partner of the Center for Nano- and Biophotonics of Ghent University and the group has been awarded four ERC Independent Researcher Starting Grants, one ERC Consolidator Grant and one ERC Advanced Investigator Grant.