POST-DOC POSITION ON MICRO-TRANSFER-PRINTING OF III-V NARROW LINEWIDTH TUNABLE LASERS AND OPTICAL ISOLATORS ON SILICON PHOTONIC ICS

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Job context:

Silicon photonics is a field that is maturing and attracting strong interest from industry and academia to realize miniaturized photonic systems for applications in datacommunication, telecommunication and sensing, as well as in other emerging fields. However, currently the lack of wafer-scale integrated laser source and optical amplifier hampers a take up of the technology in other markets. Several technologies are being developed in the Photonics Research Group to accommodate this such as flip-chip integration, die-to-wafer bonding and hetero-epitaxial growth. In recent years, in the Photonics Research Group, much emphasis is put on the use of a novel integration approach, micro-transfer-printing, to realize the integration of such III-V semiconductor laser sources. The approach combines the advantages of flip-chip integration (pre-processing and pre-testing of the devices) and die-to-wafer bonding (high throughput integration). Several successful proof-of-principle demonstrations have been made using this approach for InP and GaAs based opto-electronic components. With this position we want to demonstrate the integration of InP narrow linewidth tunable lasers and optical isolators on a silicon photonic integrated circuit, in order to realize integrated coherent transceivers.

Job description:

You will develop the micro-transfer printing of InP semiconductor optical amplifiers on full platform silicon photonic integrated circuits, as well as the integration of magneto-optic materials. You will be in charge of the design of the narrow linewidth tunable laser structures and optical isolators, their processing and their characterization. You will be responsible for the design of the coherent transceiver demonstrator and its characterization.

Profile

You have a PhD in integrated optics. You have a strong track record in the design, fabrication and characterization of III-V semiconductor devices and their heterogeneous integration on silicon photonic integrated circuits.

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 a 2.5 year post-doc position 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 Jun 1 2020 by applying online through the following link:
http://photonics.intec.ugent.be/contact/vacancies/Application.htm

For more information, please contact gunther.roelkens@ugent.be