



PhD/postdoc position on a novel approach to III-V on silicon heterogeneous integration

UGent/imec - Photonics Research Group
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Silicon photonics is emerging as an attractive platform for the integration of optical transceivers. Their small size, low-cost (when produced in volume), low power consumption and the tight integration with electronics are the main drivers for this evolution. However, devices such as lasers are difficult to implement in silicon. Therefore III-V semiconductor structures need to be densely and cost-effectively integrated with the silicon photonic ICs. In this project we will develop a novel integration technology to realize this. The work will culminate in the fabrication of high aggregate bitrate transceivers for telecom and datacom applications.

This vacancy is related to a Horizon 2020 European project with a consortium consisting predominantly of industrial partners. This will give you the unique opportunity to closely work together with industry on the further development of the III-V on silicon photonics platform.

Application:

Apply by filling in the [application form](#).

More information:

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Application deadline: Jan 1, 2015

About Photonics Research Group

The Photonics Research Group (about 70 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, N. Le Thomas, G. Morthier, G. Roelkens and D. Van Thourhout. The main applications under study are silicon nanophotonics, heterogeneous integration, optical interconnect, WDM optical communication, silicon photonics biosensors 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 group is also strongly involved in the development of heterogeneous technologies, whereby the silicon photonics platform is combined with other materials such as III-V semiconductors for efficient sources, nanocrystals and polymers.

The photonics research group has been coordinating the network of excellence ePIXnet and is currently involved in a number of EU-projects, including the FP7 projects ActPhast, PLAT4M, Cando, Pocket and SMARTFIBER. Furthermore, the group is partner in the Center for Nano- and Biophotonics of Ghent University and the group has been awarded with three ERC Starting Independent Researcher Grants and one ERC Advanced Investigator Grant.