

POST-DOC POSITION ON MICRO-TRANSFER-PRINTING OF ELECTRONIC CHIPLETS

Ghent University – IMEC, Photonics Research Group
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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. Dense integration of electronics with these circuits becomes of paramount importance as the complexity of the system increases, as well as the bandwidth. 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 electronic chiplets. The approach combines the advantages of flip-chip integration (pre-processing and pre-testing of the devices) and wafer bonding (high throughput integration, low electrical parasitics).

JOB DESCRIPTION:

You will be developing the micro-transfer-printing of electronic chiplets (source wafer preparation, transfer printing, post-printing metallization), first on sample level and later on wafer level. For this you will work together with an electronics chiplet foundry, as well as a commercial end user of the technology. Besides process development you will also be involved in the characterisation of the transfer printed chiplets.

PROFILE:

You have a PhD in electronics or photonics. You have a strong track record in the fabrication and characterization of electronic or photonic ICs and their heterogeneous integration.

You possess strong verbal and written English communication skills allowing you to effectively communicate with industrial partners.

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 position of 2 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 Dec 1 2022 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

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. Dries Van Thourhout and has been active in photonics device research for many years. The other professors in the group are Roel Baets, Peter Bienstman, Wim Bogaerts, Stephane Clemmen, Bart Kuyken, Nicolas Le Thomas, Yanlu Li, Geert Morthier, Gunther Roelkens and Kasper Van Gasse. The main research directions are silicon nanophotonics, heterogeneous integration, optical communication, neuromorphic computing, photonic (bio)sensors and photonic integrated circuits for biomedical applications in the near-infrared and mid-infrared wavelength range.

The Photonics Research Group has been coordinating the network of excellence ePIXnet and is involved in a number of EU-projects, including the H2020 projects ActPhast4R, AQUARIUS, CALADAN, FUN-Comp, Hydroptics, InSiDe, INSPIRE, MedPhab Pilot Line, MIRPHAB Pilot Line, PIX4Life Pilot Line, MORPHIC, NEBULA, Neoteric, TopHit and PhotonHub. The group also host two EOS Research projects, INTERREG projects and several ITNs (MICROCOMB, OMT, WON, Phonsi). Furthermore, the group is partner of the Center for Nano- and Biophotonics of Ghent University and leads ePIXfab, the European Silicon Photonics Alliance.

The group has been awarded five ERC Independent Researcher Starting Grants, one ERC Consolidator Grant and two ERC Advanced Investigator Grants.