VPI- Hands-on PIC Design Training at ECIO 2020

(organized by ePIXfab – The European Silicon Photonics Alliance)

When: 22nd June 2020 (1-day prior to ECIO)

Title of your hands-on-training: Simulate and Optimize Your Photonic Integrated Circuits using PDKs

Duration: 4-hours from 1pm to 5pm

When: 22nd June 2020

Where: C2N, 10 Boulevard Thomas Gobert – 91120 Palaiseau France (!!! Please note that this location is different from the ECIO conference location!!!)

Aim of the training:
Learn about photonic circuit simulations starting from basic components and going up to complex PICs consisting of several passive/active (electro)optic elements. Get acquainted with the software tools by working on various application cases, different technology platforms, and layout-ready process design kits.

Target audience:
The training provides the standard knowledge for all researchers that want to design and simulate any photonic integrated circuit. It covers basics as well as more advanced software functionality making it very useful for new employees or graduate students, as well as experienced engineers in companies. Anyone who is active or interested in photonic integration and who needs a better understanding of designing or simulating PICs is welcome!

Description of the training and topics covered:
Attendees will learn by means of demonstrations and hands-on sessions how to seamlessly integrate and automate different steps of a typical design process. Modeling, optimization and layout extraction of basic building blocks and complex hierarchical circuits will be subject of the training.
Application topics include:

- Passive photonic components: waveguides, ring resonators, AWGs
- Active photonic elements: lasers, amplifiers, tunable optoelectronic components
- Heterogeneous PICs combining active and passive photonics
- Hybrid PICs combining different technologies

Program (tentative):
General presentation about modeling of PICs and interface overview
Introduction to passive circuits
Hands-on session on passive circuits
Introduction to active circuits
Hands-on session on active circuits

- Break

Presentation on actives/passive heterogeneous co-simulation
Hands-on on complex PICs simulation

Tutor:

Andrzej Polatynski joined Fraunhofer Heinrich Hertz Institute (HHI) as a student researcher in 2014. He received his Master's degree in Electronic Engineering in the Warsaw University of Technology in Poland in 2015. Since 2016 he is a Photonics Application Engineer in VPIphotonics conducting research on several R&D projects.

Practical Details:
Each participant should have access to the computer.

Logo of the company with short description:

VPIphotonics provides professional photonic design software and services for optical component and sub-system vendors, as well as system and network integrators. VPIphotonics offers flexible software environments supporting requirements in photonic integrated circuits and fiber-based component designs, optical transmission system and network designs, as well as link engineering and network implementation. VPIphotonics off-the-shelf and customized solutions are valued for their powerful and comprehensive simulation capabilities and high degree of flexibility. They are applied in research and development, product design and marketing by hundreds of companies, and for teaching and research at over 160 academic institutions worldwide. www.VPIphotonics.com