



## ETN WON Online Course on Silicon Photonics

Organised by the Photonics Research Group at Ghent University

5<sup>th</sup> November 2020, Online via WebEx, 10am CET

### OVERVIEW

#### What is silicon photonics?

- Basic topics covering silicon photonics science and technology
- State-of-the-art in silicon photonics
- Latest technological trends and access routes for silicon photonics

#### What are the new advances made in silicon photonics?

- New methodologies for silicon PIC design
- Developments made in laser integration for silicon PICs
- Integration of electronics with silicon PICs

#### Where silicon photonics can be deployed?

- High-speed optical transceivers
- Microwave photonics, LiDARs, and quantum applications
- Life-science and sensors market

### LECTURES



**PROF. ROEL BAETS**  
Ghent University – imec,  
Belgium



**PROF. ANDREA MELLONI**  
Politecnico di Milano, Italy



**DR. LAURENT VIVIEN**  
C2N, CNRS, Uni. Paris-Sud,  
Uni. Paris Saclay, France



**PROF. GUNTHER ROELKENS**  
Ghent University – imec, Belgium



**PROF. AJEY JACOBS**  
University of Southern  
California



## AGENDA

**09:45 – 10:00** Opening

**10:00 – 11:00** Prof. Roel Baets, Ghent University-imec, Belgium

Title: **Introduction to silicon photonics**

**11:00 – 12:00** Prof. Andrea Melloni, Politecnico di Milano, Italy

Title: **Passive Silicon Photonics: from basics to circuits**

**12:00 – 13.00** Break

**13:00 – 14:00** Dr.Laurent Vivien, C2N, CNRS, Uni. Paris-Sud, Uni. Paris Saclay, France

Title: **High-speed Modulators in Silicon Photonics**

**14:00 – 15:00** Dr.Laurent Vivien, C2N, CNRS, Uni. Paris-Sud, Uni. Paris Saclay, France

Title: **High-speed Detectors in Silicon Photonics**

**15:00 – 15:15** Break

**15:15 – 16:15** Prof. Gunther Roelkens, Ghent University – imec, Belgium

Title: **Transfer printing for silicon photonics**

**16:15 – 17:15** Prof. Ajey Jacobs, University of Southern California

Title: **Monolithic electronic-photonics integration**

**17:15 – 17:30** Closing