PolyPhotonics Workshop:

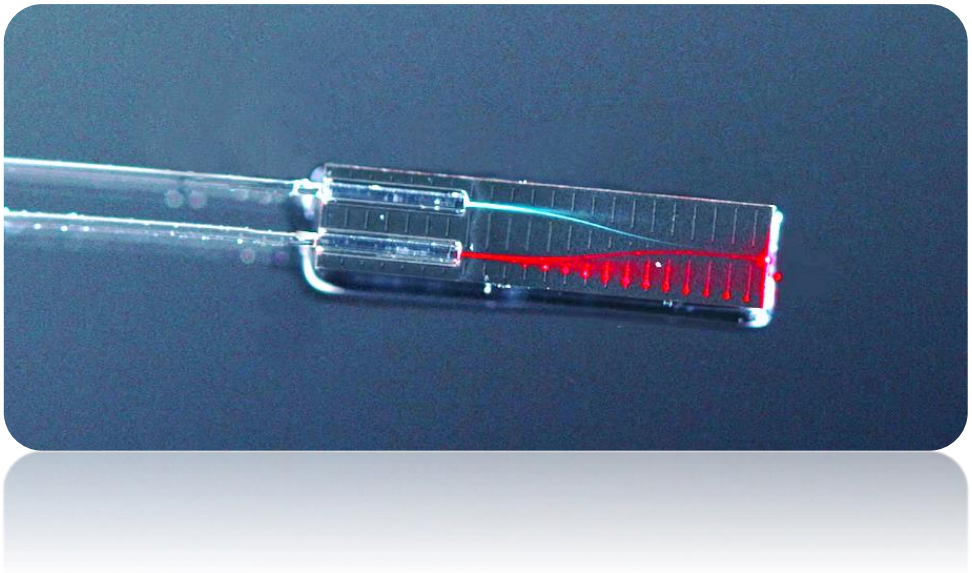
Advances in hybrid PICs based on PolyBoard and SiN for communications, sensing and quantum technologies

October 09th, 2025, 10:00 – 17:30

@Photonics Days Berlin Brandenburg / Berlin Adlershof

Hybrid integration technologies are taking photonic integrated circuits (PICs) to the next level. Platforms such as **"PolyBoard"** and **silicon nitride (SiN)** cover a broad wavelength range from the visible (VIS) to the near-infrared (NIR), enabling applications in **sensing**, **medical technology**, and **quantum in addition to telecommunications**. The approach is further extended by **integrating elements** from **InP**, **GaN**, and **GaAs** platforms.

On **October 9, 2025**, we will showcase the **current status**, **roadmaps**, and **application potential** of our extended hybrid photonic integration platform. The workshop is part of **Photonics Days Berlin Brandenburg** and includes a supporting program and an exhibition with demonstrators.



Info and register: https://photonic-days-berlin.com/

PolyPhotonics Berlin e.V.
Great in Optics – Small in Size

AGENDA:
Advances in Hybrid PICs based on PolyBoard and SiN for Communications, Sensing, and Quantum Technologies

09:30 – 10:00	**Register**
10:00 – 11:00	**Session 1: Introduction**
10:00 – 10:10	**Welcome** *Crispin Zawadzki, Fraunhofer HHI and Arne Schleunitz, micro resist technology GmbH*
10:10 – 10:30	**Photonic Integrated Circuits – Recent Developments** *Prof. Dr. Martin Schell, Fraunhofer HHI*
10:30 – 10:45	**Prospects for cooperation with the Berlin Brandenburg Optics and Photonics Cluster** *Gerrit Rössler Berlin Partner für Wirtschaft und Technologie GmbH*
10:45 – 12:00	**Session 2: PICs for Applications in Sensing**
10:45 – 11:05	**Fiber Sensors** *Florian Azendorf, Adtran Networks SE*
11:05 – 11:25	**(PIC-) lasers for quantum computing and sensing** *Dr. Björn Globisch, TOPTICA eagleyard*
11:25 – 11:45	**Bio Sensors** *Philipp Jungmann, OpTricon GmbH*
11:45 – 12:00	**Application with PICs at Zeiss** *Dr. Stephan Richter, Carl Zeiss AG*
12:00 – 14:00	**Lunch break**
14:00 – 15:00	**Session 3: PICs and Devices for Quantum Communication**
14:00 – 14:15	**Photonic integration for quantum key distribution** *N.N.*
14:15 – 14:30	**Quantum Radiometric Calibration of Photo Diodes at 1550 nm** *Prof. Dr. Roman Schnabel, Institut für Quantenphysik (IQP) & Zentrum für Opt. Quantent. (ZOQ), Universität Hamburg*
14:30 – 14:45	**Squeezed Light for Quantum Sensing** *Dr. Axel Schönbeck, Noisy Labs*
14:45 – 15:00	**Usage of high quantum efficiency detectors for balanced homodyne detection** *Luis Gonzalez, Fraunhofer IOF*
15:00 - 15:15	**Coffee break**
15:15 – 16:15	**Session 4: PolyBoard Integration Platform - Material and Technology**
15:15 – 15:30	**Hybrid Photonics Integration Platform of HHI** *Tianwen Qian, Fraunhofer HHI*
15:30 – 15:45	**Hybrid Polymers for Optical Applications and Beyond** *Maria Russew, micro resist technology GmbH*
15:45 – 16:00	**Photonic Assembly and Packaging** *Milan Milosevic, PHIX*
16:00 – 16:15	**Control electronics for photonic integrated external cavity lasers and large scale PICs for sensing and communications applications** *Panos Groumas, Optagon Photonics*
16:15 – 16:30	**Coffee break**
16:30 – 17:30	**Session 5: Integration platforms SiN / GaN / GaAs**
16:30 – 16:45	**SiN Integration Platform of HHI** *Klara Mihov, Fraunhofer HHI*
16:45 – 17:00	**Prevailing and Novel Application Fields of Group-III-Nitrides Laser Diodes** *Hubert Halbritter, ams OSRAM*
17:00 – 17:15	**GaAs-based Chiplets for PIC Integration via Micro-Transfer Printing** *Dr. Jan-Philipp Koester, Ferdinand-Braun-Institut gGmbH*
17:15 – 17:30	**Efficient Design Techniques for Hybrid PIC Platforms** *Andrzej Polatynski / André Richter, VPIphotonics GmbH, Germany*
17:30	**End of Workshop**

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