

**Program**

# Photonic Networks

27<sup>th</sup> VDE ITG Conference on  
Photonic Networks (PN 2026)

May 19 – 20, 2026  
University of Stuttgart,  
Pfaffenwaldring 47, 70569 Stuttgart

[www.vde.com/pn](http://www.vde.com/pn)

## 27<sup>th</sup> VDE ITG conference “Photonic Networks”

The VDE ITG Technical committee KT 3 “Optische Nachrichtentechnik” and VDE ITG Working group KT 3.3 “Photonische Netze” organise the 27<sup>th</sup> VDE ITG conference “Photonic Networks” on May 19<sup>th</sup> – 20<sup>th</sup>, 2026.

### Conference chairs

Prof. Dr.-Ing. Georg Rademacher  
Institute of Electrical and Optical Communications  
University of Stuttgart  
photonic-networks@int.uni-stuttgart.de

Prof. Dr.-Ing. Sebastian Randel  
Institute of Photonics and Quantum Electronics  
Karlsruher Institut für Technologie (KIT)

### Organization

Dr.-Ing. Damian Dudek  
Informationstechnische Gesellschaft (ITG) im VDE e.V.  
Merianstraße 28  
63069 Offenbach am Main, Germany  
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## Technical committee members

- Dr. Rene Bonk, Nokia
- Prof. Volker Jungnickel, Fraunhofer HHI, Berlin
- Prof. Peter Krummrich, TU Dortmund
- Prof. Carmen Mas Machuca, UniBW München
- Prof. Stephan Pachnicke, Uni Kiel
- Dr. Despoina Petousi, ADTRAN
- Prof. Georg Rademacher, Universität Stuttgart
- Prof. Sebastian Randel, KIT, Karlsruhe

19:00 – 22:00 **Get together  
for young researchers**

08:30 – 08:35 **Welcome**  
*Georg Rademacher (Institute of Electrical  
and Optical Communications, University of  
Stuttgart)*

08:35 – 09:15 **Keynote**  
  
**Innovations in high speed optical  
transceivers**  
*Christian Rasmussen (Cisco)*

09:15 – 10:00 **Session 1: High speed optical  
communications**

S1-1 *Invited* **Next-gen DSP for high-speed  
inter-datacenter communications**  
*Pablo Wilke Berenguer (Ciena)*

S1-2 **Equalization-Enhanced Phase Noise  
Blind Compensation by a Filter  
Ensemble**  
*Vladislav Neskorniuk (VPI)*

10:00 – 10:30 **Coffee break**

10:30 – 12:15 **Session 2: Space-Division Multiplexing  
& QKD**

S2-1 *Invited* **Large scale MCF production**  
*Kay Schuster (Heraeus Covantics)*

S2-2 **Spatial Mode Dispersion Impact on  
Non-Data-Aided MIMO Equalization for  
Strongly Coupled SDM Transmission**  
*Pamir Oezsuna (Fraunhofer Heinrich Hertz  
Institute / INT, University of Stuttgart)*

S2-3 **Splice Loss and Core Permutation  
Penalty Study for a Marker-Less  
7-Core MCF**  
*Emil Spöiden (Fraunhofer Heinrich Hertz  
Institute / INT, University of Stuttgart)*

S2-4 **VCSEL arrays for Quantum Key  
Distribution**  
*Michael Zimmer (IHFG, University of Stuttgart)*

S2-5 *Invited* **Chip-Scale Quantum Key Distribution**  
*Peter Gleißner (Keequant)*

12:15 – 14:00 **Lunch break**

14:00 – 15:45 **Session 3: Sensing & Free Space Communications**

- S3-1 *Invited* **Long-Range DAS with Optical Amplification and AI**  
*Philipp Wagenblast (APSensing)*
- S3-2 *Invited* **Fiber Sensing: First Steps from Research to Telecom Applications**  
*Daniel Giemsa (Deutsche Telekom)*
- S3-3 *Invited* **Development activities in optical free-space communications**  
*Christopher Schmidt (DLR)*
- S3-4 **Experimental Characterization of Optical Fiber Bundles for Free-Space Optical Communication in High-Altitude Platforms**  
*Francesco Nardo (Airbus)*
- 16:00 – 18:00 **Posters and beverages**

**P Poster Session**

- P1 **Thermo-optical dynamics of Si<sub>3</sub>N<sub>4</sub> microring resonators in the bistable regime**  
*Simon Abdani (INT, University of Stuttgart)*
- P2 **Standards-Compliant Energy-Aware Optical Transport Control via TAPI Mediation**  
*Aydin Jafari (Fraunhofer Heinrich Hertz Institute)*
- P3 **TopoLib: An Open-Source Python Library for Optical Networks**  
*Christofer Vásquez (University of the Bundeswehr Munich)*
- P4 **ROADM Bypassing Assessment for Optical Network Expansion**  
*Mirko Zitkovich (University of the Bundeswehr Munich)*
- P5 **Terabit Communication with an Integrated Comb Source**  
*Abhinand Venugopalan (THz-Photonics Group)*
- P6 **Gaussian Modeling and Characterization of a sub-THz Cascaded-Lens Antenna**  
*Felix Beuthan (Institute of Photonics and Quantum Electronics (IPQ), KIT)*
- P7 **Real-time FPGA-based Fully Digital Non-Data Aided Clock Recovery for Optical Communication**  
*Filipp Gostner (Institute of Photonics and Quantum Electronics (IPQ), KIT)*
- P8 **Sub-THz Point-to-Multipoint User Tracking**  
*Josefine Seidel (Institute of Photonics and Quantum Electronics (IPQ), KIT)*

- P9 **High-Symbol-Rate, Nyquist-Limited Signal Generation in Integrated Modulators**  
*Younus Mandalawi (THz Photonics Group, Technische Universität Braunschweig)*
- P10 **Ultra-High Bandwidth, Physical Layer Secured Optical Signal Processing with LowBandwidth Electronics**  
*Janosch Meier (THz-Photonics Group, Technische Universität Braunschweig)*
- P11 **An Optical-Domain Equalization Architecture for Coherent Polarization-Multiplexed Systems**  
*Ziyan Ma (Fraunhofer Heinrich Hertz Institute)*
- P12 **Design and Optimization of a Photonic Integrated Quad-Carrier Source on Thin-Film Lithium Niobate**  
*Fabian Chowanek (Fraunhofer Heinrich Hertz Institute)*
- P13 **Analysis of Local Oscillation Issue in a SiGe Broadband Analog Multiplexer IC**  
*Jonathan Andree (Fraunhofer Heinrich Hertz Institute)*
- P14 **Analogue IF-over-Fiber Link for D Band Integrated Antenna Array Modules**  
*Andreas Maaßen (Fraunhofer Heinrich Hertz Institute)*
- Posters from the BMFTR funded research program: „Hochgeschwindigkeitsnetze für die Hyperkonnektivität“**
- 19:30 **Conference Dinner at Stuttgarter Ratskeller Marktplatz 1, 70173 Stuttgart**

- 09:00 – 10:30 **Session 4: Devices**
- S4-1 *Invited* **Silicon-Organic Hybrid (SOH) Integration and Photonic Multi-Chip Assembly: Concepts and Applications**  
*Christian Koos (KIT)*
- S4-2 *Invited* **Overview of graphene-based photonic devices**  
*Juliana Müller (Black Semi)*
- S4-3 **An Analog Equalizer ASIC for Non-linearity Compensation in IM/DD Links**  
*Jakob Finkbeiner (INT, Universität Stuttgart)*
- S4-4 **On-Chip Ultra-Compact Low-Loss Broadband Inverse-Designed 2x2 Multimode Interference Coupler**  
*Saif Alnairat (Adtran)*
- 10:30 – 11:00 **Coffee break**
- 11:00 – 12:30 **Session 5: THz and Optical Access**
- S5-1 **Impact of Rayleigh backscattering on nextgeneration bidirectional 200 Gbps coherent VHSP**  
*Juan L. Moreno Morrone (Fraunhofer Heinrich Hertz Institute)*
- S5-2 **50GPON protocol-level simulator based on NS-3**  
*Shrinish Donde (Adtran)*
- S5-3 **Neural-Network Based Photonic THz Wireless Transceiver Nonlinearity Mitigation**  
*In-Ho Baek (Fraunhofer Heinrich Hertz Institute)*

- S5-4      **Optic-Electronic-Optic Interferometric Add-Drop Multiplexing: From Multi-Carrier Offset-QAM Simulation to WDM Experimental Validation**  
*Salek Mahmud (KIT)*
- S5-5      **Experimental Characterization of an Active Electronic Broadband Polarization Multiplexer for 100 Gbit/s THz-Wireless Transmission at 300 GHz**  
*Oliver Stiewe (Fraunhofer Heinrich Hertz Institute)*
- S5-6      **Simultaneous MAC Operations in a Single Clock Cycle by Jacobian-time-wave-packets: Solution for 6G**  
*Khaleda Mallick (THz-Photonics Group, Technische Universität Braunschweig)*

**Closing****Conference venue**

University of Stuttgart  
Pfaffenwaldring 47  
70569 Stuttgart

The lecture hall is room 2.314 (Claude Shannon Lecture Hall). It is located in the ETI II building, second floor, Pfaffenwaldring 47, 70569 Stuttgart.

**Directions to University of Stuttgart**By S-Bahn (Suburban train)

Take the S-Bahn (suburban train) from Hauptbahnhof (main train station), Stadtmitte (city center), or Feuersee (city center) on lines S1, S2, or S3 towards Vaihingen, Flughafen (airport), Filderstadt, or Herrenberg and stop at Universität.

Take the Universitätszentrum (University Center) exit. The ETI I building, Pfaffenwaldring 47, is located opposite the S-Bahn exit. Go through the passageway connecting buildings Pfaffenwaldring 47 and 9 (see map). The main entrance to the ETI II building is then on your left. The conference will be held on the 2nd floor of ETI II. Please follow the signs inside the ETI II building.

The S-Bahn runs regularly every 5 to 10 minutes. The journey time from Hauptbahnhof is approximately 10 minutes.

See map on the next page.



### **Conference dinner**

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Joint dinner on May 19<sup>th</sup>, 2026, at 19:30:  
at Stuttgarter Ratskeller  
Marktplatz 1  
70173 Stuttgart

### **Registration**

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Participants are friendly asked to register by **April 29<sup>th</sup>, 2026**.  
Please use the following link: [www.vde.com/pn](http://www.vde.com/pn).

For registrations **later than May 5<sup>th</sup>, 2026** a supplementary fee will be charged.

On-site registration will also be possible.

The registration is performed and organised by  
VDE Konferenz-Service. For any questions please refer to:

VDE Konferenz-Service  
Merianstraße 28  
63069 Offenbach  
Phone: +49 69 6308 275  
Fax: +49 69 6308 144  
[vde-conferences@vde.com](mailto:vde-conferences@vde.com)

### **Registration fee**

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Registration includes complimentary coffee, lunch and  
conference dinner on May 19<sup>th</sup>.



