

# Summer School

## „AI for Optical Networks & Neuromorphic Photonics for AI Acceleration“

**Achim Autenrieth, ADVA Optical Networking**  
SDN Control and Automation of Open and Disaggregated Optical Networks

**Bert Jan Offrein, IBM Research Zurich**  
Photonic Signal Processing for High Performance and Efficient Neuromorphic Computing

**Camille Delezoide, Nokia Bell Labs France**  
Low-Margin Optical Networks and Beyond

**Fayçal Ait Aoudia, Fayçal Ait Aoudia, Nvidia**  
Deep End-to-End Learning of Communication Systems

**Bernhard Spinnler, Infinera**  
Machine Learning Applications in Optical Networks and Systems

**Mitsumasa Nakajima, NTT Device Technology Lab**  
On-Chip Photonic Reservoir Computing

**Oliver Holschke, Deutsche Telekom Innovation Laboratories**  
Quantum Communications Research at DT

**Yvan Pointurier, Huawei Technologies**  
The Applications of AI for Optical Communication Networks

**Åsa Ribbe, European Patent Office**  
How to Patent AI/ML Inventions in Europe

**Luca Pesando, Telecom Italia – Chairman of ETSI's ISG F5G**  
AI Application in Networks and Standards: a Difficult but Needed Relationship

**Antonio Hurtado, University of Strathclyde**  
Neuromorphic Photonics using Optical Spiking Neurons

**Bhavin J. Shastri, Queen's University**  
Neuromorphic Photonics for AI Acceleration

**Christian Häger, Chalmers University of Technology**  
Model-Based Machine Learning for Physical-Layer Communication over Optical Fiber

**Christoph Lange, Fraunhofer FIT**  
International Data Spaces: Architecture and Use Cases

**Dan Kilper, Trinity College Dublin**  
Performance Monitoring in Open Optical Networks and Data Collection Framework

**Laurent Schmalen, Karlsruhe Institute of Technology (KIT)**  
End-to-end Modelling and Optimization of Optical Communication Systems using Deep Learning

**Marija Furdek, Chalmers University of Technology**  
AI/ML for Security Management in Optical Networks

6-9  
September 2021,  
Berlin

# Summer School

## Program

6-9  
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## Monday

08:00-08:30

Opening Session

08:30-10:30

**Bert Jan Offrein, IBM Research Zurich,**  
Photonic Signal Processing for High Performance  
and Efficient Neuromorphic Computing

10:30-11:00

Coffee Break

11:00-13:00

**Camille Delezoide, Nokia Bell Labs France,**  
Low-Margin Optical Networks and Beyond

13:00-14:00

Lunch Break

14:00-15:00

**Yvan Pointurier, Huawei Technologies,**  
The Applications of AI for Optical Communication  
Networks

15:00-16:00

**Christian Häger, Chalmers University of Technology,**  
Model-Based Machine Learning for  
Physical-Layer Communication over Optical Fiber

## Tuesday

08:30-10:30

**Marija Furdek, Chalmers University of Technology,**  
AI/ML for Security Management in Optical Networks

10:30-11:00

Coffee Break

11:00-12:00

**Luca Pesando, Telecom Italia,** AI Application in Networks  
and Standards: a Difficult but Needed Relationship

12:00-13:00

**Åsa Ribbe and Iveth Lucia Lobato Polo, European Patent  
Office,** How to Patent AI/ML Inventions in Europe

13:00-14:00

Lunch Break

14:00-15:00

**Faycal Ait Aoudia, Nokia Bell Labs France,** Deep End-to-End  
Learning of Communication Systems

15:00-16:00

**Laurent Schmalen, Karlsruhe Institute of Technology (KIT),**  
End-to-end Modelling and Optimization of Optical Com-  
munication Systems using Deep Learning

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## Wednesday

08:30-10:30

**Achim Autenrieth, ADVA Optical Networking,**  
SDN Control and Automation of Open and  
Disaggregated Optical Networks

10:30-11:00

Coffee Break

11:00-12:00

**Bernhard Spinnler, Infinera,** Machine Learning  
Applications in Optical Networks and Systems

12:00-13:00

**Oliver Holschke, Deutsche Telekom Innovation  
Laboratories,** Quantum Communications Research at DT

13:00-14:00

Lunch Break

14:00-16:00

**Christoph Lange, Fraunhofer FIT,**  
International Data Spaces: Architecture and Use Cases

## Thursday

08:30-10:30

**Dan Kilper, Trinity College Dublin,** Performance Monitoring  
in Open Optical Networks and Data Collection Framework

10:30-11:00

Coffee Break

11:00-12:00

**Mitsumasa Nakajima, NTT Device Technology Lab,**  
On-Chip Photonic Reservoir Computing

12:00-13:00

**Antonio Hurtado, University of Strathclyde,**  
Neuromorphic Photonics using Optical Spiking Neurons

13:00-14:00

Lunch Break

14:00-16:00

**Bhavin J. Shastri, Queen's University,**  
Neuromorphic Photonics for AI Acceleration