



Celebrating 50 Years of Optical
Networking and Communications

Elevate your experience with a Short Course.

Technical Conference: 30 March - 03 April 2025

Exhibition: 01 - 03 April 2025

Short Courses: 30 - 31 March 2025

Moscone Center

San Francisco, California, USA

OFCConference.org



OPTICA



Explore new horizons of your career with OFC Short Courses.

Supplementing your registration with a Short Course is an ideal way for you and your colleagues to delve into the latest products, state-of-the-art technology and crucial insights driving optical communications.

Immerse yourself in one or more of the 48 Short Courses being offered in dynamic half-day lectures or hands-on formats. Renowned industry experts will guide you through diverse subject areas, offering all skill levels – from beginner to advanced – the chance to learn from some of the brightest minds in our field. Benefit from an intimate learning environment with smaller classes, ensuring a more personalized and enriching educational experience.

Discover the perfect course that's right for you.

Short Course Registration

When you register for an OFC Short Course, you will have access to your selected Short Courses and accompanying Short Course notes. Registering for a Short Course also grants you access to the Plenary Session, Workshops and the Exhibition with its expansive show floor programming. The first 5 students to register for select courses will receive up to a 90% discount.

	Before or On 04 March	After 04 March
Half-Day Lecture – Member	USD 292	USD 355
Half-Day Hands-on – Member	USD 355	USD 408
Half-Day Lecture – Non-Member	USD 372	USD 435
Half-Day Hands-on – Non-Member	USD 435	USD 509

*Short Courses are available onsite and in-person only

Schedule

Sunday, 30 March 2025

08:30 - 12:30

SC105 Modulation Formats and Receiver Concepts for Optical Transmission Systems

Instructors

Peter Winzer, *Nubis Communications, USA*

Vivian Chen, *Nokia Bell Labs, USA*

Course Level

Advanced Beginner

Topic Categories

S4

SC203 400, 800Gb/s and Beyond Optical Communications Systems: Design and Design Trade-offs

Instructors

Ezra Ip, *NEC Labs, USA*

Chongjin Xie, *Alibaba Group, USA*

Course Level

Advanced Beginner

Topic Categories

S1, S5

SC395 Modeling and Simulation of Optical Transmitter and Receiver Components for Coherent Communications

Instructors

Harald Rohde, *Nokia, Germany*

Howard Wang, *Nokia, USA*

Course Level

Advanced Beginner to Intermediate

Topic Categories

S4

SC432 Hands-on: Silicon Photonics Components

Instructor

Lukas Chrostowski, *University of British Columbia, Canada*

Course Level

Intermediate

Topic Categories

D2, D3



SC461 High-capacity Data Center Interconnects for Cloud-scale Networking

Instructors

Dirk van den Borne, *Juniper Networks, Germany*

Sander L. Jansen, *ADVA Optical Networking, Germany*

Mark Filer, *Stealth Startup, USA*

Course Level

Beginner

Topic Categories

N1, S1

SC463 Optical Transport SDN: Architectures, Applications, and Actual Implementations

Instructors

Achim Autenrieth, *ADVA Optical Networking SE, Germany*

Jörg-Peter Elbers, *ADVA Optical Networking SE, Germany*

Course Level

Intermediate

Topic Categories

N1, N3

Review the topic categories and course descriptions for a deeper understanding of what each course offers.

OFCConference.org/ShortCourses

Short Course Topic Categories

Devices, Components and Fibers

D1 Advanced Prototyping, Packaging and Integration

D2 Passive Components

D3 Active Components

D4 Fibers and Propagation Physics

D5 Fiber Devices, Fiber Lasers and Amplifiers and Nonlinear Waveguides

Subsystems and Systems

S1 Digital Subsystems and Systems for Data Centers

S2 Optical, Photonic and Microwave Photonic Subsystems

S3 Radio-Over-Fiber, Free-Space Optics and Sensing Systems

S4 Digital and Electronic Subsystems

S5 Digital Transmission Systems

Networks and Services

N1 Advances in System, Network and Service Developments and Field Trials in Commercial Data Centers and Networks

N2 Architectures and Software-Defined Control for Intra-Data Center Networks

N3 Architectures and Software-Defined Control for Metro and Core Networks

N4 Optical Access Networks for Fixed and Mobile Services

N5 Market Watch, Network Operator Summit & Data Center Summit

Schedule

Sunday, 30 March 2025

08:30 - 12:30 (cont'd)

SC469 Hands-on: Laboratory Automation and Control Using Python

Instructors

Jochen Schröder, *Chalmers University of Technology, Sweden*
Binbin Guan, *Microsoft, USA*
Roland Ryf, *Nokia Bell Labs, USA*

Course Level

Beginner

Topic Categories

S5

SC470 Secure Optical Communications

Instructors

Andrew Shields, *Toshiba Research Labs, UK*
Helmut Griebner, *Adva Network Security, Germany*

Course Level

Beginner to Advanced Beginner

Topic Categories

S5

09:00 - 12:00

SC177 High-speed Semiconductor Lasers and Modulators

Instructor

John Bowers, *University of California, Santa Barbara, USA*

Course Level

Intermediate

Topic Categories

D3

SC359 Networking for Data Centers and Machine Learning

Instructors

Hong Liu, *Google, USA*
Ryohei Urata, *Google, USA*

Course Level

Beginner

Topic Categories

D1, N2

SC459 Multimode Photonic Devices, Characterization and Applications

Instructor

Nicolas Fontaine, *Nokia Bell Labs, USA*

Course Level

Advanced Beginner

Topic Categories

D5

13:00 - 16:00

SC408 Space Division Multiplexing for Optical Communication Systems and Networks

Instructor

Roland Ryf, *Nokia Bell Labs, USA*

Course Level

Advanced Beginner

Topic Categories

S4, S5

SC485 Advanced Fiber Access Networks

Instructors

Jun Shan Wey, *Verizon, USA*
Rajesh Yadav, *Verizon, USA*

Course Level

Intermediate

Topic Categories

N4

SC512 Modern Subsea Cable Systems

Instructor

Mei Du, *Tata Communications, USA*

Course Level

Advanced Beginner

Topic Categories

S3

13:00 - 17:00

SC267 Silicon Microphotonics: Technology Elements and the Roadmap to Implementation

Instructor

Lionel Kimerling, *MIT, USA*

Course Level

Beginner

Topic Categories

D2, D3

SC514 FEC Techniques for Optical Communications

Instructor

Georg Böcherer, *Huawei Technologies, Technical University of Munich, Germany*

Course Level

Beginner to Intermediate

Topic Categories

S2

13:30 - 17:30

SC216 An Introduction to Optical Network Design and Planning

Instructor

Thomas Strasser, *Molex, USA*

Course Level

Advanced Beginner

Topic Categories

N1, N3

SC384 Background Concepts of Optical Communication Systems

Instructor

Alan Willner, *University of Southern California, USA*

Course Level

Beginner

Topic Categories

S5

Schedule

Monday, 31 March 2025

08:30 - 12:30

SC160 Microwave Photonics

Instructor

Jose Capmany, *Polytechnic University of Valencia, Spain*

Course Level

Advanced Beginner

Topic Categories

S2

SC369 Hands-on: Test and Measurement for Coherent Optical Transceivers

Instructors

Fabio Pittala, *Keysight, Germany*
Michael Koenigsmann, *Keysight, Germany*

Course Level

Advanced Beginner

Topic Categories

S4

SC393 Digital Signal Processing for Coherent Optical Transceivers

Instructor

Chris Fludger, *Infinera, Germany*

Course Level

Intermediate

Topic Categories

S4

SC443 Optical Amplifiers: From Fundamental Principles to Technology Trends

Instructors

Peter Andrekson, *Chalmers University of Technology, Sweden*
Michael Vasilyev, *University of Texas, Arlington, USA*

Course Level

Beginner and Advanced Beginner

Topic Categories

S2



SC444 Emerging Optical Communication Technologies for F5G Evolution

Instructor

Dr. Xiang Liu, *Huawei Technologies, China*

Course Level

Intermediate

Topic Categories

N4

SC448 Evolving Software-Defined Optical Network: Architecture and Design Principles

Instructor

Ramon Casellas, *Ph.D., IEEE SM; OSA M, CTTC, Spain*

Course Level

Advanced Beginner

Topic Categories

N2, N3

Short Course Topic Categories

Devices, Components and Fibers

D1 Advanced Prototyping, Packaging and Integration

D2 Passive Components

D3 Active Components

D4 Fibers and Propagation Physics

D5 Fiber Devices, Fiber Lasers and Amplifiers and Nonlinear Waveguides

Subsystems and Systems

S1 Digital Subsystems and Systems for Data Centers

S2 Optical, Photonic and Microwave Photonic Subsystems

S3 Radio-Over-Fiber, Free-Space Optics and Sensing Systems

S4 Digital and Electronic Subsystems

S5 Digital Transmission Systems

Networks and Services

N1 Advances in System, Network and Service Developments and Field Trials in Commercial Data Centers and Networks

N2 Architectures and Software-Defined Control for Intra-Data Center Networks

N3 Architectures and Software-Defined Control for Metro and Core Networks

N4 Optical Access Networks for Fixed and Mobile Services

N5 Market Watch, Network Operator Summit & Data Center Summit

Schedule

Monday, 31 March 2025

08:30 - 12:30 (cont'd)

SC452 FPGA Prototyping for Optical Subsystems

Instructors

Noriaki Kaneda, *Nokia, USA*
Robert Elschner, *Fraunhofer HHI, Germany*

Course Level

Advanced Beginner

Topic Categories

S4

SC453A Hands-on: Fiber Optic Handling, Measurements and Component Testing

Instructors

Steve Baldo, *Seikoh Giken, USA*
Chris Heisler, *Santec California Corporation, USA*
J erome Allaigne, *Data-Pixel, France*
Julien Maille, *Data-Pixel, France*

Course Level

Beginner

Topic Categories

D4, D5

SC454 Hands-on: Silicon Photonics Design – Circuits

Instructor

Wim Bogaerts, *University of Ghent, Belgium*

Course Level

Beginner

Topic Categories

D2, D3

SC473 Photonic Switching Systems

Instructors

David Neilson, *Nokia Bell Labs, USA*
Benjamin Lee, *NVIDIA, USA*

Course Level

Advanced Beginner

Topic Categories

D2

SC483 Machine Learning in Optical Networks

Instructor

Massimo Tornatore, *Politecnico di Milano, Italy*

Course Level

Beginner

Topic Categories

N3, N4

SC487 Hands-on: Laboratory Automation and Control Using Python (Advanced)

Instructors

Jochen Schr oder, *Chalmers University of Technology, Sweden*
John Dorigi, *Keysight Technologies, Inc., USA*

Course Level

Advanced

Topic Categories

S5

SC513 Data Center Short Links – Link Design, Modeling, Test and Measurements

Instructors

Petar Pepeljugoski, *IBM Research, USA*
Greg D. Le Cheminant, *Keysight Technologies, USA*

Course Level

Advanced Beginner

Topic Categories

S1

SC525 Photonic and Electronic Packaging – Materials, Processes, Equipment and Reliability

Instructor

Peter O'Brien, *Tyndall National Institute, Ireland*

Course Level

Advanced Beginner

Topic Categories

D1

SC527 Optical Satellite Networks

Instructor

Vincent Chan, *MIT, USA*

Course Level

Advanced Beginner

Topic Categories

N1, N3, S5

09:00 - 12:00

SC114 Technologies and Applications for Passive Optical Networks (PONs)

Instructor

Yuanqui Luo, *Futurewei, USA*

Course Level

Advanced Beginner

Topic Categories

N4, S4

SC465 Transmission Fiber and Cables

Instructor

John Hedgpeth, *Corning Optical Communications, USA*

Course Level

Advanced Beginner

Topic Categories

D4

Schedule

Monday, 31 March 2025

13:30 - 16:30

SC217 Applications of Radio-Over-Fiber Technologies Including Future 5G Networks

Instructor

Dalma Novak, *Octane Wireless, USA*

Course Level

Advanced Beginner

Topic Categories

S3

SC261 ROADM Technologies and Network Applications

Instructor

Thomas Strasser, *Infinera, USA*

Course Level

Advanced Beginner

Topic Categories

D1, D2, N3

SC433 Introduction to Photodetectors and Optical Receivers

Instructor

Andreas Beling, *University of Virginia, USA*

Course Level

Beginner

Topic Categories

D3

SC447 The Life Cycle of an Optical Network: From Planning to Decommissioning

Instructor

Andrew Lord, *BT Labs, BT, UK*

Course Level

Advanced Beginner and Intermediate

Topic Categories

N1



SC526 Optical Wireless Technologies, Systems and Applications

Instructor

Harald Haas, *University of Strathclyde, Scotland*

Course Level

Advanced Beginner

Topic Categories

N4, S5

SC528 Hands-on: Fiber Optic OFCnet Course: Practical Fiber Optic Network Testing in a Realistic Network Environment

Instructors

Gwenn Amice, *EXFO, USA*
Christine Tremblay, *École de Technologie Supérieure, Canada*

Course Level

View Course Description

Topic Categories

N1, N5

Short Course Topic Categories

Devices, Components and Fibers

- D1 Advanced Prototyping, Packaging and Integration
- D2 Passive Components
- D3 Active Components
- D4 Fibers and Propagation Physics
- D5 Fiber Devices, Fiber Lasers and Amplifiers and Nonlinear Waveguides

Subsystems and Systems

- S1 Digital Subsystems and Systems for Data Centers
- S2 Optical, Photonic and Microwave Photonic Subsystems
- S3 Radio-Over-Fiber, Free-Space Optics and Sensing Systems
- S4 Digital and Electronic Subsystems
- S5 Digital Transmission Systems

Networks and Services

- N1 Advances in System, Network and Service Developments and Field Trials in Commercial Data Centers and Networks
- N2 Architectures and Software-Defined Control for Intra-Data Center Networks
- N3 Architectures and Software-Defined Control for Metro and Core Networks
- N4 Optical Access Networks for Fixed and Mobile Services
- N5 Market Watch, Network Operator Summit & Data Center Summit

Schedule

Monday, 31 March 2025

13:30 - 17:30

SC325 Highly Integrated Monolithic Photonic Integrated Circuits

Instructor
Chris Doerr, *Doerr Consulting, LLC, USA*

Course Level
Advanced Beginner

Topic Categories
D2, D3

SC327 Modeling and Design of Long-Haul Fiber-Optic Communication Systems

Instructor
René-Jean Essiambre, *Nokia Bell Labs, USA*

Course Level
Advanced Beginner

Topic Categories
S5

SC328 Standards for High-Speed Optical Networking

Instructor
Tom Huber, *Nokia, USA*

Course Level
Intermediate

Topic Categories
N1, N3, S1, S4

SC357 Circuits and Equalization Methods for Coherent and Direct Detection Optical Links

Instructors
Alexanders Rylyakov, *Nokia, USA*
Sudip Shekhar, *University of British Columbia, Canada*

Course Level
Advanced Beginner

Topic Categories
D1, D3, S1, S4

SC431 Photonic Technologies in the Data Center

Instructor
Clint Schow, *University of California, USA*

Course Level
Advanced Beginner

Topic Categories
D1, D3

SC451 Optical Fiber Sensors: Principles & Applications

Instructors
Alexis Mendez, *MCH Engineering, LLC, USA*
Andres Chevarria, *Luna, Inc., USA*

Course Level
Advanced Beginner and Intermediate

Topic Categories
D5

SC453B Hands-on: Fiber Optic Handling, Measurements and Component Testing

Instructors
Steve Baldo, *Seikoh Giken, USA*
Chris Heisler, *Santec California Corporation, USA*
Jérôme Allaire, *Data-Pixel, France*
Julien Maille, *Data-Pixel, France*

Course Level
Beginner

Topic Categories
D4, D5

