

2010 | OSA Optics & Photonics Congress

CALL for PAPERS

ADVANCED PHOTONICS: OSA OPTICS & PHOTONICS CONGRESS

Access Networks and In-house
Communications (ANIC)

Bragg Gratings, Photosensitivity
and Poling in Glass Waveguides
(BGPP)

Nonlinear Photonics (NP)

Optical Sensors (Sensors)

Signal Processing in Photonic
Communications (SPPCom)

COLLOCATED WITH THE RENEWABLE ENERGY
OPTICS & PHOTONICS CONGRESS

June 21-24, 2010

Karlsruhe-Messe und Kongress
(Conference Center)
KARLSRUHE, GERMANY

SUBMISSION DEADLINE:
JANUARY 20, 2010

12:00 PM NOON EST (17:00 GMT)
Extended through February 9, 2010

12:00 p.m. noon EST (17:00 GMT)
www.osa.org/congresses

OSA®

SIGNAL PROCESSING IN PHOTONIC COMMUNICATIONS (SPPCom)

June 21-24 | 2010

Photonic transmission technology is required in communication networks of all kind – from access to long haul and submarine. Moreover, optical multimode, free-space, polymer and on-chip communication channels are becoming ever-more important in other types of applications, including sensor networks, free space communications, and feeding radio over fiber.

For many advanced applications, simple data communications approaches, such as intensity modulation with direct detection, are no longer adequate given data impairments, increased system capacity, and required spectral efficiency. As an example, more advanced equalizer and forward error correction (FEC) technologies are now penetrating into high-end metro and core networks as well as into lower-end short MMF link equipment. The system gain has been quite dramatic, adding several dBs of performance.

PAPER TOPICS

- Clock and carrier recovery in coherent systems
- Full field detection in direct receivers
- Equalization in direct and coherent (Tx and/or Rx side)
- Advanced modulation formats
- Orthogonal frequency division multiplexing (OFDM)
- Error correction and detection
- Line coding
- Polarization demultiplexing and control
- High speed electronic components (i.e., FPGA, D/A- and A/D-Converters)
- Cost efficiency, power consumption, and complexity
- Channel estimation, distortion identification, performance monitorin

INVITED SPEAKERS (As of November 2009)

Tutorial Speaker

Digital Coherent Transmission Systems, **Reinhold Noé**, Univ. Paderborn, Germany.

DSP Based Enhanced FEC for 100G Optical Transmission, **Kiyoshi Onohara**, Mitsubishi Electric Corp., Japan.

Invited Speakers

DSP in Coherent Receivers for Ultra Long-Haul Applications, **Oriol Bertran Pardo**, Alcatel-Lucent Res. and Innovation, France.

Optical OFDM for Next-Generation PON, **Neda Cvijetic**, NEC Labs America, USA.

Electronic Signal Processing Using Full-Field Detection, **Andrew Ellis**, Tyndall Natl. Inst., Ireland.

Digital Processing in 100Gbit/s+ Systems, **Chris Fludger**, CoreOptics GmbH, Germany.

Signal Processing for 100Gb/s: OFDM vs Single Carrier, **Enrico Forestieri**, Scuola Superiore Sant'Anna, Italy.

High Speed AD and DA Converter Developments, **Bernd Germann**, Fujitsu Microelectronics Europe, UK.

Overview of the Flavors and Application Areas of Optical OFDM, **Sander L. Jansen**, Nokia Siemens Networks GmbH & Co. KG, Germany.

Rate-Adaptive Coding for Optical Fiber Transmission Systems, **Joseph Kahn**, Stanford Univ., USA.

Signal Processing for Polarization Multiplexed Coherent WDM Transmission, **Guifang Li**, Univ. of Central Florida, USA.

Nonlinear Impairments in Coherent Optical OFDM Systems and Their Mitigation, **Moshe Nazarathy**, Dept. of Electrical Engineering, Technion, Israel.

Advances in Linear Digital Processing of Coherent Optical Signals, **Seb Savory**, Univ. College London, UK.

Optical Fiber Transmission Systems Using High-Order Modulation Formats and Digital Signal Processing, **Matthias Seimetz**, FhG HHI, Germany.

Understanding the Impact of Fiber Nonlinearity on Coherent Optical OFDM Transmission, **William Shieh**, Univ. of Melbourne, Australia.

Digital Non-Coherent Receivers for Advanced Modulation Formats, **Yuichi Takushima**, KAIST, Korea.

Title to Be Announced, **Dirk van den Borne**, Eindhoven Univ. of Technology, Netherlands.

Please check the website for updates as speaker names will continue to be added as they are confirmed.

PROGRAM CHAIRS

Werner Rosenkranz, Christian-Albrechts Univ. zu Kiel, Germany

Bernhard Spinnler, Nokia-Siemens-Networks, Germany

Alan Willner, Univ. of Southern California, USA

VISIT WWW.OSA.ORG/SPPCOM FOR MORE INFORMATION AND TO SUBMIT YOUR PAPER.

2010 | OSA Optics & Photonics Congress

ATTEND THE ADVANCED PHOTONICS CONGRESS IN KARLSRUHE, GERMANY, JUNE 21–24, 2010

- Collocated with the **Renewable Energy** OSA Optics & Photonics Congress
- Joint sessions
- Poster sessions
- Joint plenary sessions
- **Celebrating 50 Years of the Laser Special Plenary:**
Featuring Keynote Speaker, Theodor W. Hänsch, Max Planck Inst. for Quantum Optics, Germany, 2005 Nobel Prize Laureate
- Networking, information sharing and discussion

The Advanced Photonics: OSA Optics & Photonics Congress is collocated with the Renewable Energy: OSA Optics & Photonics Congress. Combined the congress features 7 meetings with a broad range of topics including:

- FTTx architectures
- Grating Properties
- Nonlinear Effects in Fibers
- Slow and Fast Light in Sensors
- Solid-State Lighting Systems

Registered attendees of any of the featured meetings will enjoy more opportunities for cross-networking and information sharing. One registration fee will allow access to any session held at both the Advanced Photonics and Renewable Energy congresses.

JOIN OSA TODAY!

By signing up to become an official OSA member, among many other valuable benefits, you'll be able to register for OSA's Fall Congress at the member discount price – that's a \$160 difference! To become an OSA member, visit www.osa.org/membership.

OSA FOUNDATION STUDENT TRAVEL GRANTS

The OSA Foundation is pleased to offer travel grants of up to \$1,000 USD to students from developing countries who are attending Advanced Photonics 2010.

Please visit www.osa.org/aboutosa/grants/foundationgrant/ to find out more information about how to apply for a grant. All applications for Advanced Photonics must be received by April 15, 2010.