



## Optical Networks and Systems Symposium

### Symposium Co-Chairs

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The 2015 IEEE International Conference on Communications (ICC) will be held in London, UK from 8-12 June 2015. Themed "Smart City & Smart World," with its proximity to Tech City, the fastest growing technology cluster in Europe, this flagship conference of the IEEE Communications Society will feature a comprehensive technical program, including twelve Symposia and a number of Tutorials and Workshops. IEEE ICC 2015 will host an exceptional Industry Forum & Exhibition program including business panels and keynote speakers. We invite you to submit your original technical papers, and industry forum, workshop, and tutorial proposals to this event. Accepted and presented papers will be published in the IEEE ICC 2015 Conference Proceedings and submitted for inclusion in IEEE Xplore®/IEEE Digital Library. Full details of submission procedures are available at <http://www.ieee-icc.org/2015>.

### Scope and Topics of Interest

The development and capabilities of optical networks continue to evolve to meet the growing levels of data demand. New solutions are emerging which extend both network capacity and reach, whilst improving network flexibility, operability, energy efficiency and quality, with the overall goal of reducing the cost per bit. Photonic integration is opening new horizons in the development of low cost and high capacity optical network solutions. The Optical Networks and Systems Symposium focuses on new research results in areas covering all aspects of optical networks, systems, and enabling technologies, and we invite original contributions in the following areas:

- Capacity limits in nonlinear optical networks
- Maximising optical network throughput & network capacity
- Next-generation optical networks architectures for core and access networks
- Optical networking for high-performance data server, computer networks and data centers
- Software-defined and adaptive network technologies and architectures
- Flexigrid networks and network virtualisation
- Advances in high-capacity point-to-point transmission systems: maximising capacity & reach through coding, modulation, and signal processing
- Measuring optical transmission capacity
- The future for direct-detection and coherent-detection optical systems
- Regeneration, dispersion and nonlinearity management
- Performance, monitoring, and failure localization
- Visible light communications, free space optics and optical wireless networking
- Space division multiplexing (SDM) technologies and implication for networks
- Integrated photonics for system and network applications
- Energy efficient optical access, metro, and core networks and systems

## Submission Guidelines

Prospective authors are invited to submit original technical papers by the deadline 15 October 2014 for publication in the IEEE ICC 2015 Conference Proceedings. All submissions should be written in English with a maximum paper length of Six (6) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over length page charge if accepted).

**Standard IEEE Transactions templates for Microsoft Word or LaTeX formats found at**  
<http://www.ieee.org/portal/pages/pubs/transactions/stylesheets.html>

**Alternatively you can follow the sample instructions in template.pdf at**  
<http://www.comsoc.org/confs/globecom/2008/downloads/template.pdf>

**Only PDF files will be accepted for the review process and all submissions must be done through EDAS at**  
<https://edas.info/newPaper.php?c=17707>

## Co-Chairs Biographies

**Polina Bayvel** is Professor of Optical Communications & Networks and heads the Optical Networks Group (ONG) which she set up in 1994 at UCL (University College London). The research of the group is focused on the analysis and design of high-capacity adaptive optical network architectures, high-speed optical fibre transmission and the study and mitigation of fibre nonlinearities using a variety of signal processing techniques. She has authored/coauthored more than 360 refereed journal and conference papers, and is a Fellow of the Royal Academy of Engineering (FREng), IEEE and OSA. She is the recipient of the 2002 UK Institute of Physics Paterson Prize and Medal, the Royal Society Wolfson Research Merit Award (2007-12), 2013 IEEE Photonics Society Engineering Achievement Award and the 2014 Royal Society Clifford Paterson Prize Lecture. She was the TPC co-Chair of ECOC'2005 and the Chair of the local organizing committee for ECOC'2013.

Polina Bayvel received the BSc (Eng) and PhD degrees in electronic and electrical engineering from University College London (UCL), London, UK, in 1986 and 1990, respectively. Her Ph.D. research focused on nonlinear fiber optics and their applications. She worked under a Royal Society postdoctoral exchange fellowship in the Fiber Optics Laboratory at the General Physics Institute in Moscow (USSR Academy of Sciences) in 1990. Subsequently, she worked as a Principal Systems Engineer at STC Submarine Systems, Ltd (UK), and Nortel Networks (Harlow, UK, and Ottawa, Canada) on the design and planning of optical fiber transmission networks. In 1993 she was awarded a Royal Society University Research Fellowship, which she held for ten years at UCL's Department of Electronic and Electrical Engineering. She leads the £4.8M UK EPSRC Programme 'UNLOC - Unlocking the capacity of optical communications', in collaboration with Aston University and 13 industrial partners. Her current research is focused on techniques to understand and maximize the capacity of optical systems & networks in the nonlinear regime.

**Luca Valcarenghi** holds a Laurea degree in Electronics Engineering(1997) from the Politecnico di Torino, Italy, a M.S. in Electrical Engineering (1999), and a Ph.D. in Electrical Engineering-Telecommunications (2001) both from the University of Texas at Dallas (UTD). Between January 2002 and August 2002 he was Research Associate of the Optical Networking Advanced Research (OpNeAR) Lab of the University of Texas at Dallas Erik Jonsson School of EE/CS. Since September 2002 he is Assistant Professor at the Scuola Superiore Sant'Anna of University Studies and Doctoral Research of Pisa, Italy.

Dr. Valcarenghi published more than 100 papers in International journals and conference proceedings and actively participated in the TPC of several IEEE conferences, such as Globecom and ICC "Optical Network and System Symposium" and "Next-Generation Networking & Internet Symposium." He has been co-chair of the "Optical Network and System Symposium" at IEEE ICC 2011. Dr. Valcarenghi received a Fulbright Reaserch Scholar Fellowship in 2009 during which he visited, from April 2009 until September 2009, the Photonics and Networking Research Laboratory (PNRL) of Stanford University under the supervision of Prof. Leonid Kazovsky. He also received a FY2012 JSPS "Invitation Fellowship Programs for Research in Japan (Long Term)" during which the conducted research on energy efficient TWDM PON at the Photonic Networks Laboratory of Osaka University under the supervision Prof. Ken-Ichi Kitayama.

His main research interests are optical networks design, analysis, and optimization; artificial intelligence optimization techniques; communication networks reliability; IP over WDM networking; QoS in network infrastructures for grid computing; fixed and mobile network integration; fixed network backhauling for mobile networks; energy efficiency in communications networks.