Claudio Porzi – List of Publications

Book Chapters

1. Porzi C., Guina M., Calabretta N., Bogoni A., and Potì L., "Applications of saturable absorption based nonlinear vertical-cavity semiconductor devices for all-optical signal processing", in "Semiconductor Technologies", In-Tech Education and Publishing KG, Wien, Austria, ISBN978-953-307-080-3, April 2010 (http://www.intechweb.org/).

2. Berrettini G., Bogoni A., Lazzeri E., Meloni G., Porzi C., and Potì L., "All-optical digital processing through semiconductor optical amplifiers: state of the art and perspectives", in "Semiconductor Technologies", In-Tech Education and Publishing KG, Wien, Austria, ISBN 978-953-307-080-3, April 2010 (http://www.intechweb.org/).

International Journals

Invited Contributions

1. Porzi C., Serafino G., Pinna S., Nguyen A., Contestabile G., Bogoni A., "Review on SOA-MZI-based photonic add/drop and switching operations", Front. Optoelectron. Vol. 6, no. 1, pp. 67-77, 2013

2. Bogoni A., Potì L., Willner A., Ghelfi P., Porzi C., Scaffardi M., Meloni G., Berrettini G., Fresi F., Lazzeri E., Wu X., "Overview on optical logic elementary circuits", IET Circuits, Devices and Systems, vol. 5, no. 2, pp. 76-83, March 2011.

3. Bogoni A., Potì L., Ghelfi P, Scaffardi M., Porzi C., Ponzini F., Meloni G., Berrettini G., Malacarne A., and Prati G., "OTDM-based Optical Communications Networks at 160 Gbit/s and Beyond", Optical Fiber Technology, Materials, Devices and Systems, Academic Press, Vol. 13, N. 1, pp. 1-12, January 2007.

Regular contributions:

4. Porzi C., Kado Y., Shimizu S., Maruta A., Wada N., Bogoni A., and Kitayama K.-I., "Simple Uplink SOA Pattern Effects Compensation for Reach-Extended 10G-EPONs", accepted for publication in the next available issue of Photonics Technology Letters.

5. Porzi C., Chin S., Trita A., Fresi F., Berrettini G., Mezosi G., Ghelfi P., Giuliani G., Potì L., Sorel M., Thévenaz L., and Bogoni A., "Application of Brillouin-Based Continuously Tunable Optical Delay Line to Contention Resolution Between Asynchronous Optical Packets" IEEE/OSA J. Lightw. Technol., vol. 31, no. 17, pp. 2888-2896, Sept. 2013.

6. Porzi C., Bogoni A., and Contestabile G., “Regenerative Wavelength Conversion of DPSK Signals by Means of FWM in an SOA”, IEEE Photon. Technol. Lett., vol. 25 no. 2, pp. 175 – 178, 2013.

7. Presi M., Calabretta N., Porzi C., Corsini R., Contestabile G., and Ciaramella E., “1x8 All-Optical Self-Routing of 40Gb/s DPSK Packets”, IEEE Electron. Lett., vol. 48, no. 3, pp. 169-171, 2012.

8. Porzi C., Bogoni A., Contestabile G., “Regeneration of DPSK Signals in a Saturated SOA”, IEEE Photon. Technol. Lett., vol. 24 no. 18, pp. 1597 – 1599, 2012.

9. Pinna S., Porzi C., Contestabile G., and Bogoni A., “Broadband Operation of High-Speed Selective All-Optical Wavelength Shifter”, IEEE Photon. Technol. Lett., vol. 24 no. 17, pp. 1546 – 1548, 2012.

10. Porzi C., Bogoni A., and Contestabile G., “Regeneration of DPSK Signals in a Saturated SOA”, IEEE Photon. Technol. Lett., vol. 24 no. 18, pp. 1597 – 1599, 2012.

11. Porzi C., Meloni G., Secondini M., Potì L., Contestabile G., Bogoni A., “All-Optical Switching of QPSK Signals for 100 G Coherent Systems”, IEEE/OSA J. Lightw. Technol., vol. 30, no. 18, pp. 3010-3016, 2012.

12. Porzi C., Contestabile G., and Bogoni A., “All-optical simultaneous drop and wavelength conversion of DPSK data”, Optics Letters, vol. 37, no. 13, pp. 2523-2525, 2012.

13. Nguyen A., Porzi C., Serafino G., Fresi F., Contestabile G., and Bogoni A., “All-Optical Gated Wavelength Converter-Eraser Using a Single SOA-MZI”, IEEE Photon. Technol. Lett., vol. 23, no. 31, 2012.

14. Porzi C., Scaffardi M., Potì L., and Bogoni A., “Optical Digital Signal Processing in a Single SOA without Assist Probe Light”, IEEE J. Of Select. Topics in Quantum Electron., vol. 16, no. 5, pp. 1469 - 1475 September/October 2010.

15. De Valicourt G., Porzi C., Guina M., and Balkan N., “Dilute Nitride Vertical-Cavity Gate for All-optical Logic at 1.3μm”, IET Optoelectronics, vol. 4, no. 5, pp. 201 – 209, October 2010

16. Porzi C., Ma L., Yao M., Potì L., A, Bogoni, “ All-Optical Low-Power2x2 Cross/Bar Switch With a Single Semiconductor Optical Amplifier”, IEEE Photonics Technology Letters, Vol. 22, no. 17, pp. 1327 – 1329, August 2010

17. Fresi F., Porzi C., Guina M., Orsila L., Potì L., and Bogoni A., “Wavelength Transparency of All-Optical Packet Envelope Detection Circuit for RZ-Format Optical Packet Switching Applications”, IEEE Photon. Technol. Lett., vol. 21, no. 20, pp. 1565 – 1567, October 2009.

18. Porzi C., Nguyen A., Potì L., and Bogoni A., “Binary-to-Quaternary ASK Encoding in the Optical Domain With Semiconductor Optical Amplifiers”, IEEE Photon. Technol. Lett., vol. 21, no. 10, pp. 654-656, May 2009.

19. Porzi C., Guina M., Bogoni A., and Potì L., "All-Optical NAND/NOR Logic Gates based on Semiconductor Saturable Absorber Etalons", IEEE J. of Select. Topics in Quantum Electron., vol. 14, no 3, pp. 927-937, May/June 2008.

20. Porzi C., Fresi F., Potì L., Bogoni A., Guina M., Orsila L., Okhotnikov O., and Calbretta N., “All-Optical Packet Envelope Detection using a Slow Semiconductor Saturable Absorber Gate and a Semiconductor Optical Amplifier”, IEEE J. of Select. Topics in Quantum Electron., vol. 14, no 3, pp. 834-840, May/June 2008.

21. Porzi C., Guina M., Orsila L., Bogoni A., and Potì L., “Simultaneous Dual Wavelength Conversion with Multi-Resonant Saturable Absorption Vertical-Cavity Semiconductor Gate,” IEEE Photon. Technol Lett, vol. 20, no 7, pp. 499-501, April 2008.

22. Porzi C., Calbretta N., Guina M., Oleg G. Okhotnikov, Bogoni A., and Potì L., "All-Optical Processing for Pulse Position Coded Header in Packet Switched Optical Networks Using Vertical Cavity Semiconductor Gates", IEEE J. of Select. Topics in Quantum Electron., Vol. 13, N. 5, pp. 1579-1588, September/October 2007.

23. Porzi C., Calbretta N., and Guina M., “All-optical Seed Pulse Extraction for Packets Synchronization Based on Self-induced Effects in a Vertical-Cavity Semiconductor Gate”, IEEE Photon. Technol. Lett., vol. 18, no. 14, pp. 1509 - 1511, July 2006.

24. Bogoni A., Ghelfi P., Scaffardi M., Porzi C., Ponzini F., and Potì L., “Demonstration of feasibility of a complete 160 Gbit/s OTDM system including all-optical 3R”, Optics Communications, Volume 260, Issue 1, p. 136-139, October 2005.

25. Porzi C., Bogoni A., Potì L., and Contestabile G., "Polarization- and Wavelength-Independent Time-Division Demultiplexing based on Copolarized-Pumps Four Wave Mixing in Semiconductor Optical Amplifiers", IEEE Photon. Technol. Lett., Vol. 17, N. 3, pp. 633-635, March, 2005.

26. Bogoni A., Potì L., Porzi C., Scaffardi M., Ghelfi P., and Ponzini F., "Modelling and Measurement of Noisy SOA Dynamics for Ultra-Fast Applications", IEEE J. of Select. Topics in Quantum Electron., Vol. 10, N. 1, pp. 197-205, Jan.-Feb., 2004.

International Conferences

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Invited Contributions

1. Scaffardi M., Ghelfi P., Porzi C., Meloni G., Berrettini G., Malacarne A., Fresi F., Lazzeri E., Wang J., Wu X., Fazal I., Willner A., Potì L., and Bogoni A.,” Photonic digital processing for

enabling next generation optical networks" in Proc. Photonics in Switching 2009, 15-19 Sept. 2009, Pisa, Italy.

2. Lazzeri E., Fresi F., Malacarne A., Berrettini G., Meloni G., Porzi C., Scaffardi M., Ghelfi P., Bogoni A., and Potì L., "All-optical digital processing through semiconductor optical amplifiers: state of the art and perspectives" in Proc. Photonics in Switching 2008, 4-7 August 2008, Hokkaido University, Sapporo, Japan.

3. Porzi C., "Photonic Digital Processing Techniques for All-Optical Communications", in Proceedings of Short Term Course Workshop on Physics and Technology of All-Optical Communication Components and Devices, 11-16 October, 2007, IIT-Kharagpur (India).

4. Prati G., Potì L., Bogoni A., Ghelfi P., Scaffardi M., Porzi C., and Ponzini F., "Fiber-Optics-Based Techniques for All-Optical Processing beyond 160 Gbit/s", invited paper OECC, Seoul, Korea, 2005

Regular Contributions

5. Porzi C., Serafino G., Bogoni A., and Contestabile G., "All-Optical Regeneration of 40 Gb/s NRZ-DPSK Signals in a Single SOA", OFC 2013, JW2A.55, Anaheim (CA), March 17-21, 2013.

6. Porzi C., Bogoni A., and Contestabile G., "Broadband DPSK Regenerative Wavelength Conversion" Photonic Switching 2102, Fr S16-015, 11-14 Sept. 2012, Ajaccio (Fr.).

7. Pinna S., Porzi C., Contestabile G., and Bogoni A., "Wavelength Characterization of All-Optical Wavelength Shifter", Photonic Switching 2102, Fr S16-016, 11-14 Sept. 2012, Ajaccio (Fr.).

8. Porzi C., Meloni G., Secondini M., Potì L., Contestabile G., and Bogoni A., "All-Optical Switching Device for Dynamic Wavelength Routing of Polarization-Multiplexed QPSK data in 100G Coherent Systems", CLEO 2012, CF2I.3, San Jose, 6-11 May 2012,

9. Nguyen A., Porzi C., Pinna S., Contestabile G., and Bogoni A., "40 Gb/s All-Optical Selective Wavelength Shifter", CLEO 2012, CM2A.2, San Jose, 6-11 May 2012.

10. Bontempi F., Pinna S., Andriolli N., Porzi C., Bogoni A., Leijtens X., Bolk J., and Contestabile G., "Current-Controlled InP Monolithically Integrated DPSK Demodulator", CLEO 2012, CM2A.1, San Jose, 6-11 May 2012.

11. Porzi C., Contestabile G., and Bogoni A., "All-Optical Selective Wavelength Shifter for Phase Signals up to 40 Gb/s in a Single SOA-MZI", OFC 2011, OTh1G.5., Los Angeles, March 4-8, 2012.

12. Porzi C., Meloni G., Secondini M., Potì L., Contestabile G., Bogoni A., "Novel All-optical Switching Device for Dynamic Wavelength Routing in 100G Coherent Systems", OFC 2012, OTh1E.3, Los Angeles, March 4-8, 2012.

13. Bontempi F., Pinna S., Andriolli N., Porzi C., Berrettini G., Leijtens X., Bolk J., Bogoni A., and Contestabile G., “All-optical monolithically integrated differential XOR”, OFC 2012, OTh4F.5., Los Angeles, March 4-8, 2012.

14. Presi M., Calabretta N., Porzi C., Corsini R., Contestabile G., and Ciaramella E., “All-Optical Self-Routing of 40 Gb/s DPSK Packets”, in Proceedings of the 2011 IEEE Photonics Conference (formerly known as the 24th Annual Photonics Society Meeting), Arlington, VA, USA, 9 – 13 October 2011.

15. Porzi C., Nguyen A., Serafino G., Fresi F., Contestabile G., and Bogoni A., “All-Optical Selective Wavelength Shifter in a SOA-MZI”, in Proceedings ECOC 2011, Geneva (Swiss), 18-22 Sept. 2011.

16. Porzi C., Chin S., Trita A., Fresi F., Berrettini G., Mezosi G., Ghelfi P., Giuliani G., Potì L., Sorel M., Thévenaz L., Bogoni A., “All-Optical Self-Synchronizing Scheme for Contention Resolution in Asynchronous Optical Packet Switched Networks Using Continuously Tunable Optical Delay Line”, in Proceedings OFC 2011, Los Angeles (USA), 6-10 March 2011

17. Mishra L., Nguyen A., Porzi C., Datta P. K., Bogoni A., and Potì L., “Phase response characterization of semiconductor saturable absorber for applications in nonlinear optical signal processing and phase-modulated signals regeneration”, in Proceedings of SPIE, Optical Components and Materials VIII, Vol. 7934, Feb. 2011.

18. Serafino G., Ghelfi P., Villanueva G. E., Palací J., Pérez-Millán P., Cruz J. L., Porzi C., Bogoni A., “Stable Optically Generated RF Signals from a Fibre Mode-Locked Laser”, in Proc. LEOS 2010, 7 - 11 November 2010, Denver, Colorado, USA

19. Bhargava S., Porzi C., Datta P. K., Bogoni A., Potì L., and Gangopadhyay R., “Optical Bistability in a Nonlinear Resonator With Saturable Losses and Intensity-Dependent Refractive Index”, in Proceeding of ICC 2010 - Optical Networks and Systems Symposium ('ICC'10 ONS'), 23-27 may 2010, Cape Town, South Africa.

20. Porzi C., Ma L., Scaffardi M., Yao M., Potì L., and Bogoni A., “All-optical 2x2 switch by exploiting optical nonlinearities in a single semiconductor optical amplifier” , SPIE Symposium on SPIE OPTO: Optoelectronic Materials, Devices and Applications, USA, paper 7621-11, January 2010, San Francisco (CA).

21. Bhargava S., Porzi C., Datta P. K., Bogoni A., Potì L., and Gangopadhyay R.”, Optical Bistability in a Nonlinear Resonator With Saturble Losses and Intensity-Dependent Refractive Index”, in Proc. CODEC-09, Dec. 14-16, 2009, Kolkata (India).

22. Porzi C., Scaffardi M., Potì L., and Bogoni A., “All-Optical XOR Gate by Means of a Single Semiconductor Optical Amplifier Without Assist Probe Light”, in Proc. LEOS 2009, paper ThB3, 4-8 October 2009, Antalya (Turkey).

23. Bakopoulos P., Zakynthinos P., Kehayas E., Stampoulidis L., Fresi F., Porzi C., Calabretta N., Kouloumentas C., Petrantonakis D., Maziotis A., Stamatiadis C., Apostolopoulos D., Guina M., Klonidis D., Potì L., Tangdiongga E., Poustie A., Maxwell G., Tomkos I., Bogoni A., Dorren H.J.S., and Avramopoulos H., "160 Gb/s All-Optical Contention Resolution with Prioritization using Integrated Photonic Components", in Proc. ECOC 2009, paper 6.3.5., Vienna (Austria), September 2009.

24. Porzi C., Scaffardi M., and Bogoni A., "All-Optical 2-Bit Digital-to-Analog Conversion With a Single Semiconductor Optical Amplifier", in Proc. Photonics in Switching 2009, 15-19 Sept. 2009, Pisa, Italy.

25. Malacarne A., Sher S., Montanari G., Sugliani S., Porzi C., Potì L., "Fabrication and modal analysis of ion-implanted LiNbO3 ridge optical waveguide for integrated Erbium-doped amplifiers", in Proc. Photonics in Switching 2009, 15-19 Sept. 2009, Pisa, Italy.

26. Porzi C., Fresi F., Guina M., Ghelfi P., Potì L., and Bogoni A., "Wavelength Transparent and Power Level Tolerant All-Optical Packet Envelope Detection Circuit for Packet Switched Networks Applications", in Proc. CLEO 2009, 2-4 June 2009, Baltimore (USA).

27. Porzi C., Guina M., Bogoni A., and Potì L., "All-Optical Multiple Wavelength Conversion Using ASE Light and a Passive Vertical-Cavity Semiconductor Gate", in Proc. Photonics in Switching 2008, 4-7 August 2008, Hokkaido University, Sapporo, Japan.

28. Bogoni A., Andriolli N., Scaffardi M., Berrettini G., Meloni G., Malacarne A., Porzi C., Castoldi P., and Potì L., "A Synchronous All-optical 160 Gb/s Photonic Interconnection Network", Optical Fiber Communication Conference Technical Digest , Anaheim , USA, pp. JThA56, March 25-29, 2007

29. Porzi C., Guina M., Orsila L., Bogoni A., and Potì L., "Photonic Logic Operations with Nonlinear Semiconductor Etalons Exploiting Saturable Absorption in Multiple Quantum Wells", in Proc. LEOS 2007, Lake Buena Vista, FL, paper ThY 6, October 21 - 25 2007.

30. Porzi C., Guina M., Bogoni A., and Potì L., "All-optical NAND/NOR Logic Gates with Passive Nonlinear Etalon Exploiting Absorption Saturation in Semiconductor MQWs", in Proc. Photonics in Switching 2007, San Francisco, USA, paper WeB2.2, August 19 – 22, 2007.

31. Porzi C., Potì L., Bogoni A., Orsila L., and Guina M., "Double Wavelength Conversion with Multi-Resonant, Saturable Absorber-Based, Vertical-Cavity Semiconductor Gate", in Proc. OECC 2007, pp. 68-69, Yokohama, Japan, July 9-13, 2007.

32. Ghelfi P., Scaffardi M., Porzi C., Potì L., and Bogoni A., "Ultra-stable 12x10 GHz pulsed comb generation based on supercontinuum in a highly nonlinear fibre", in Proc. SPIE Microtechnologies for the New Millennium 2007, Maspalomas, Gran Canaria, Spain, pp. 6593-02, 2–4 May 2007.

33. Bogoni A., Andriolli N., Scaffardi M., Berrettini G., Meloni G., Malacarne A., Porzi C., Castoldi P., and Potì L., "A Synchronous All-optical 160 Gb/s Photonic Interconnection Network", in Proc. OFC 2007, Anaheim, USA, paper JThA56, March 25-29, 2007.

34. Porzi C., Fresi F., Potì L., Bogoni A., Guina M., Orsila L., Oleg G. Okhotnikov, and Calabretta N., "Contention Resolution by means of Packet Envelope Detection Circuit with a Slow Saturable Absorber-based Vertical Cavity Semiconductor Gate", in Proc. LEOS 2006, Montreal, Quebec, Canada, pp. WO4, October 29th-November 2nd, 2006.

35. Porzi C., Potì L., Bogoni A., Guina M., and Calabretta N., "VCSG-based All-Optical Header Extractor for IM/DPSK Optical Packets", in Proc. Photonics in Switching 2006, Herakleion (Crete), Greece, paper O04.2, October 16-18, 2006.

36. Porzi C., Calabretta N., Fresi F., Potì L., Bogoni A., Guina M., and Okhotnikov O. G., "All-Optical Packet Envelope Detector", in Proc. COIN 2006, Hyatt Regency Jeju, Korea, paper TuA1-5, July 9-13, 2006.

37. Porzi C., Potì L., Bogoni A., Guina M., and Okhotnikov O. G., "Characterization and Operation of Vertical Cavity Semiconductor Switch All-Optical Broadband Wavelength Converter", in Proc. SPIE Integrated Optics, Silicon Photonics, and Photonic Integrated Circuits 2006, Strasbourg, France, paper 6183-36, 3–7 April, 2006.

38. Malacarne A., Porzi C., Zhang J., Potì L., and Bogoni A., "Widely Tunable Single- and Multiple-Pulse Er-doped Passive Mode-Locked Fiber Laser Exploiting two Semiconductor Saturable Absorber Mirrors", in Proc. SPIE Integrated Optics, Silicon Photonics, and Photonic Integrated Circuits 2006, Strasbourg, France, paper 6190-29, 3–7 April, 2006.

39. Calabretta N., Porzi C., and Guina M., "All-optical Signal Processing Based on Self-Induced Effects in a Vertical Cavity Semiconductor Switch", in Proc. OFC 2006, paper OTh6, Anaheim, USA, March 2006.

40. Porzi C., Potì L., Bogoni A., Guina M., and Okhotnikov O. G., "All-Optical Wavelength Conversion in a Vertical Cavity Semiconductor Switch", in Proc. SPIE Optical Components and Materials III 2006, San Jose, California, paper 6116-25, January, 2006.

41. Guina M. D., Isomaki A., Okhotnikov O. G., Porzi C., Arstila K., "Design and performance of an impedance-detuned high contrast vertical cavity semiconductor switch", in Proc. CLEO/Europe-EQEC 2005, CI2-3-THU, June 12-17, 2005.

42. Porzi C., Isomaki A., Guina M., and Okhotnikov O. G., "Impedance-Detuned High-Contrast Vertical Cavity Semiconductor Switch", in Proc. OFC 2005, Anaheim, CA, paper OThM5, March 6-11, 2005.

43. Porzi C., Potì L., and Bogoni A., “Novel Time Domain Add/Drop Multiplexer Based On Double-Pumped Four-Wave-Mixing and Cross-Phase-Modulation Induced Spectral Shift in a Semiconductor Optical Amplifier”, in Proc OFC 2005, Anaheim, CA, pp. OThN1, March 6-11, 2005.

44. Porzi C., Bogoni A., Potì L., and Contestabile G., “Wide-Band Polarization-Independent Optical Time Demultiplexer based on Double-Pumped FWM in SOA”, in Proc. CLEO 2004, San Francisco, CA, paper CTuW4, February 23-27, 2004.

45. Ghelfi P., Bogoni A., Scaffardi M., Ponzini F., Porzi C., and Potì L., “Performance Computation of a 160 Gbit/s NOLM-Based 3-Stage All-optical Regenerator”, in Proc. CLEO 2004, San Francisco, CA, paper CThEE, February 23-27, 2004.

46. Ghelfi P., Bogoni A., Scaffardi M., Ponzini F., Porzi C., and Potì L., “320 Gbit/s all-optical regeneration for OTDM signals”, in Proc. ECOC 2004, Stockholm, Sweden, paper We4.P090, September 5-9, 2004.

47. Bogoni A., Ghelfi P., Scaffardi M., Porzi C., Ponzini F., and Potì L., “Full 160 Gbit/s Single-Channel OTDM System Experiment Including All-Optical Transmitter, 3R, and Receiver”, in Proc. ECOC 2004, Stockholm, Sweden, paper We1.5, September 5-9, 2004.

48. Porzi C., Potì L., and Bogoni A., "Tunable Dual-Wavelength Mode-Locked Optical Source", in Proc. LEOS 2003, Tucson, Arizona, paper WA6, October, 2003.

49. Porzi C., Ghelfi P., Ponzini F., Bogoni A., and Potì L., "Ultra-Fast Clock Recovery by All-Optical PLL", in Proc. LEOS 2003, Tucson, Arizona, paper TuY4, October, 2003.