

Leslie A. Rusch - Publication List

Supervised students in bold, student collaborators underlined

JOURNAL PUBLICATIONS

- J159 **A. Corsi**, J. H. Chang, R. Wang, L. Wang, L. A. Rusch, and S. LaRochelle, "Highly-elliptical-core fiber with stress-induced birefringence for mode multiplexing," *OSA Optics Letters*, 2020.
- J158 **Y. Chen**, Z. Lin, S. Bélanger-de Villers, L. A. Rusch, and W. Shi, "WDM-Compatible Polarization-Diverse OAM Generator and Multiplexer in Silicon Photonics," *IEEE Journal of Selected Topics in Quantum Electronics*, vol. 26, pp. 1-7, 2020.
- J157 J. H. Chang, **A. Corsi**, L. A. Rusch, and S. LaRochelle, "Design Analysis of OAM Fibers using Particle Swarm Optimization Algorithm," *IEEE/OSA Journal of Lightwave Technology*, vol. 38, pp. 846-856, 2020.
- J156 **S. Zhalehpour**, **M. Guo**, J. Lin, Z. Zhang, Y. Qiao, W. Shi, and L. A. Rusch, "System Optimization of an All-Silicon IQ Modulator: Achieving 100-Gbaud Dual-Polarization 32QAM," *IEEE Journal of Lightwave Technology*, vol. 38, pp. 256-264, 2020.
- J155 Z. Lin, L. A. Rusch, **Y. Chen**, and W. Shi, "Optimal ultra-miniature polarimeters in silicon photonic integrated circuits," *APL Photonics*, vol. 4, p. 100806, 2019.
- J154 **M. Lyu**, W. Shi, and L. A. Rusch, "SiP-based SSBI Cancellation for OFDM," *IEEE Photonics Journal*, vol. 11, p. 13 pp., 2019.
- J153 **S. Zhalehpour**, J. Lin, W. Shi, and L. A. Rusch, "Reduced-size lookup tables enabling higher-order QAM with all-silicon IQ modulators," *OSA Optics Express*, vol. 27, pp. 24243-24259, 2019.
- J152 **H. Sepehrian**, J. Lin, L. A. Rusch, and W. Shi, "Silicon Photonic IQ Modulators for 400 Gb/s and beyond," *IEEE/OSA Journal of Lightwave Technology*, vol. 37, pp. 3078-86, 1 July 2019.
- J151 **A. Corsi**, J. H. Chang, L. Rusch, and S. LaRochelle, "Design of Highly Elliptical Core Ten-Mode Fiber for Space Division Multiplexing ...," *IEEE Photonics Journal*, vol. 11, pp. 1-10, April 2019.
- J150 **A. Yekani Khoei** and L. A. Rusch, "Interplay of Bit Rate, Linewidth, and Reach on Optical DMT and PAM with IMDD," *IEEE Transactions on Communications*, vol. 67, pp. 2908-13, April 2019.
- J149 G. Guerra, M. Lonardi, A. Galtarossa, L. Rusch, A. Bononi, and L. Palmieri, "Analysis of modal coupling due to birefringence and ellipticity ...," *Optics Express*, vol. 27, pp. 8308-26, Mar 2019.
- J148 J. Lin, **H. Sepehrian**, L. Rusch, and W. Shi, "Single-carrier 72 GBaud 32QAM and 84 GBaud 16QAM transmission using a SiP IQ ...," *Optics Express*, vol. 27, pp. 5610-19, 18 Feb 2019.
- J147 Z. Lin, L. Rusch, Y. Chen, and W. Shi, "Chip-scale, full-Stokes polarimeter," *Optics Express*, vol. 27, pp. 4867-4877, 18 Feb 2019.
- J146 **A. Yekani Khoei** and L. A. Rusch, "Numerical Study of a Hybrid Optical DMT/DFT-S QAM Modulation," *IEEE IEEE/OSA Journal of Lightwave Technology*, vol. 37, pp. 815-823, 1 Feb 2019.
- J145 **M. Lyu**, Y. Xu, L. A. Rusch, and W. Shi, "Single-Sideband OFDM Transmission via a Silicon Microring IQ Modulator," *IEEE Photonics Technology Letters*, vol. 31, pp. 145-8, 15 January 2019.
- J144 Z. Lin, **Y. Chen**, L. Rusch, and W. Shi, "On-Chip Circular Polarization Splitter Using Silicon Photonic Nanoantenna Array," *ACS Photonics*, vol. 5, pp. 4338-4342, 2018/11/21.

- J143 **H. Sepehrian, A. Yekani Khoei**, W. Shi, & L. Rusch, "Assessing Performance of Silicon Photonic Modulators for Pulse Amplitude Modulation," *IEEE J. of Sel. Topics in Quantum Elec.*, vol. 24, Nov/Dec 2018.
- J142 **S. Zhalehpour**, J. Lin, **H. Sepehrian**, W. Shi, and L. A. Rusch, "Mitigating pattern dependent nonlinearity in SiP IQ-modulators via iterative learning control predistortion," *Optics Express*, vol. 26, pp. 27639-27649, 15 Oct 2018.
- J141 J. Lin, **H. Sepehrian**, Y. Xu, L. A. Rusch, and W. Shi, "Frequency Comb Generation Using a CMOS Compatible SiP DD-MZM for Flexible Networks," *IEEE Photonics Technology Letters*, vol. 30, pp. 1495-1498, 1 September 2018.
- J140 **M. R. Nejad, F. Tavakoli**, L. Wang, X. Guan, S. LaRochelle, and L. A. Rusch, "RoF Data Transmission using Four Linearly Polarized Vector Modes of a Polarization Maintaining Elliptical Ring Core Fiber," *IEEE Journal of Lightwave Technology*, vol. 36, pp. 3794-3801, 1 September 2018.
- J139 W. Shi, Y. Xu, **H. Sepehrian**, S. LaRochelle, and L. A. Rusch, "Silicon photonic modulators for PAM transmissions," *Journal of Optics*, vol. 20, p. 083002, August 2018 (**invited**).
- J138 L. A. Rusch and S. Larochele, "Fiber transmission demonstrations in vector mode space division multiplexing," *Frontiers of Optoelectronics*, 4 June 2018 (**invited**).
- J137 Y. Xu, J. Lin, R. Dubé-Demers, S. LaRochelle, L. Rusch, and W. Shi, "Integrated flexible-grid WDM transmitter using an optical frequency comb in microring modulators," *Optics Letters*, vol. 43, pp. 1554-1557, 1 April 2018.
- J136 **Y. Chen**, L. A. Rusch, and W. Shi, "Integrated Circularly Polarized OAM Generator and Multiplexer for Fiber Transmission," *IEEE Journal of Quantum Electronics*, vol. 54, April 2018.
- J135 **A. Corsi**, L. Wang, L. A. Rusch, and S. LaRochelle, "Mode Loss Measurement in Few-Mode Fibers with a Microwave Interferometric Technique," *IEEE Photonics Technology Letters*, vol. 30, pp. 581-584, 15 March 2018.
- J134 L. A. Rusch, M. M. Rad, K. Allahverdyan, I. Fazal, and E. Bernier, "Carrying data on the orbital angular momentum of light," *IEEE Communications Magazine*, vol. 56, pp. 219 - 224, February 2018.
- J133 **A. Yekani, S. Amiralizadeh**, and L. A. Rusch, "Analytical Study of Optical SSB-DMT with IMDD," *Journal of Lightwave Technology*, vol. 36, pp. 666-674, 1 February 2018.
- J132 **M. R. Nejad**, L. Wang, J. Lin, S. LaRochelle, and L. A. Rusch, "The Impact of Modal Interactions on Receiver Complexity in OAM Fibers," *Journal of Lightwave Technology*, vol. 35, pp. 4692-4699, 1 November 2017.
- J131 J. Lin, L. Wang, **M. Lyu, A. Pai**, X. Zhang, S. LaRochelle, and L. A. Rusch, "Demonstration and Evaluation of an Optimized RFS Comb for Terabit Flexible Optical Networks," *IEEE/OSA Journal of Optical Communications and Networks*, vol. 9, pp. 739-746, September 2017.
- J130 Lixian Wang, **Reza Mirzaei Nejad, Alessandro Corsi**, Jiachuan Lin, Younès Messaddeq, Leslie Rusch, and Sophie LaRochelle, "Linearly polarized vector modes: enabling MIMO-free mode-division multiplexing," *Opt. Express* 25, 11736-11749, 2017.
- J129 **C. Brunet** and L. A. Rusch, "Optical fibers for the transmission of orbital angular momentum modes," *Optical Fiber Technology*, vol. 35, pp. 2-7, February 2017 (**invited**).
- J128 **H. Sepehrian, A. Yekani Khoei**, L. A. Rusch, and W. Shi, "CMOS-Photonics Co-design of an Integrated DAC-less PAM-4 Silicon Photonic Transmitter," *IEEE Transactions on Circuits and Systems*, vol. 63, pp. 2158-2168, Dec 2016.

- J127 **H. Bahrami**, S. A. Mirbozorgi, A. T. Nguyen, B. Gosselin, and L. A. Rusch, "System-Level Design of a Full-Duplex Wireless Transceiver for Brain-Machine Interfaces," *IEEE Transactions on Microwave Theory and Techniques*, vol. 64, pp. 3332-3341, Oct 2016.
- J126 **R. Mirzaei Nejad**, K. Allahverdyan, **S. Amiralizadeh**, **C. Brunet**, S. LaRochelle, and L. A. Rusch, "Mode Division Multiplexing using Orbital Angular Momentum Modes over 1.4 km Ring Core Fiber," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, pp. 4252-4258, 15 September 2016.
- J125 **S. Amiralizadeh**, **A. Yekani**, and L. A. Rusch, "Discrete Multi-Tone Transmission with Optimized QAM Constellations for Short-Reach Optical Communications," *IEEE Journal of Lightwave Technology*, vol. 34, pp. 3515-3522, 1 August 2016.
- J124 **R. Mirzaei Nejad**, L. A. Rusch, and J. A. Salehi, "Two-Stage Code Acquisition in Wireless Optical CDMA Communications Using Optical Orthogonal Codes," *IEEE Transactions on Communications*, vol. 64, pp. 3480-3491.
- J123 **C. Brunet**, P.-A. Bélanger, and L. A. Rusch, "Exact expressions for vector mode cutoff in three-layer step-index fibers," *IEEE Journal of Lightwave Technology*, vol. 34, pp. 3094-3102, 1 Jul 2016.
- J122 **H. Bahrami**, **H. Sepehrian**, C. S. Park, L. A. Rusch, and W. Shi, "Time-Domain Large-Signal Modeling of Traveling-Wave Modulators on SOI," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, pp. 2812-2823, 1 Jun 2016.
- J121 **B. Filion**, J. Lin, A. T. Nguyen, X. Zhang, S. LaRochelle, and L. A. Rusch, "Semiconductor Optical Amplifier Based Wavelength Conversion of Nyquist-16QAM for Flex-grid Optical Networks," *Journal of Lightwave Technology*, vol. 34, pp. 2724-2729, 1 Jun 2016.
- J120 E. Porter, **H. Bahrami**, A. Santorelli, B. Gosselin, L. A. Rusch, and M. Popovich, "A Wearable Microwave Antenna Array for Time-Domain Breast Tumor Screening," *IEEE Transactions on Medical Imaging*, vol. 35, pp. 1501-1509, June 2016.
- J119 S. A. Mirbozorgi, **H. Bahrami**, M. Sawan, L. A. Rusch, and B. Gosselin, "A Single-Chip Full-Duplex High Speed Transceiver for Multi-Site Stimulating and Recording Neural Implants," *IEEE Transactions on Biomedical Circuits and Systems*, vol. 10, pp. 643-653, June 2016.
- J118 **B. Filion**, A. T. Nguyen, L. A. Rusch, and S. LaRochelle, "Postcompensation of Nonlinear Distortions of 64-QAM Signals in a Semiconductor-Based Wavelength Converter," *Journal of Lightwave Technology*, vol. 34, pp. 2127-2138, May 2016.
- J117 L. Wang, P. Vaity, S. Chatigny, Y. Messaddeq, L. A. Rusch, and S. LaRochelle, "Orbital-Angular-Momentum Polarization Mode Dispersion in Optical Fibers," *IEEE/OSA Journal of Lightwave Technology*, vol. 34, pp. 1661-1671, **top scored** 15 April 2016.
- J116 **S. Amiralizadeh**, A. T. Nguyen, C. S. Park, and L. A. Rusch, "Single-Fiber Lightwave Centralized WDM-OFDMA-PON With Colorless Optical Network Units," *IEEE/OSA Journal of Optical Communications and Networking*, vol. 8, pp. 196-205, 1 April 2016.
- J115 **H. Bahrami**, S. A. Mirbozorgi, R. Ameli, L. A. Rusch, and B. Gosselin, "Flexible, Polarization-Diverse UWB Antennas for Implantable Neural Recording Systems," *IEEE Transactions on Biomedical Circuits and Systems*, vol. 10, pp. 38-48, February 2016.
- J114 K. Bédard, A. D. Simard, **B. Filion**, Y. Painchaud, L. A. Rusch, and S. LaRochelle, "Dual phase-shift Bragg grating silicon photonic modulator operating up to 60 Gb/s," *Optics Express*, vol. 24, pp. 2413-2419, 8 February 2016.
- J113 **S. Amiralizadeh**, A. T. Nguyen, and L. A. Rusch, "Modeling and compensation of transmitter nonlinearity in coherent optical OFDM," *Optics Express*, vol. 23, pp. 26192-26207, 5 October 2015.

- J112 **H. Bahrami**, E. Porter, A. Santorelli, B. Gosselin, M. Popovich, and L. A. Rusch, "Flexible Sixteen Antenna Array for Microwave Breast Cancer Detection," *IEEE Transactions on Biomedical Engineering (TBME)* vol. 62, pp. 2516-2525, October 2015.
- J111 **B. Filion**, A. Nguyen, L. A. Rusch, and S. LaRochelle, "Digital Post-Compensation of Nonlinear Distortions in Wavelength Conversion Based on Four-Wave Mixing in a Semiconductor Optical Amplifier," *IEEE/OSA Journal of Lightwave Technology*, vol. 33, pp. 3254-3264, 1 August 2015.
- J110 **Y. M'Sallem**, C. Park, S. LaRochelle, and L. Rusch, "Multi-Format Wavelength Conversion Using Quantum Dash Mode-Locked Laser Pumps," *Photonics*, vol. 2, p. 527, 14 May 2015.
- J109 **H. Rastegarfar**, L. A. Rusch, and A. Leon-Garcia, "Optical Load Balancing Tradeoffs in Wavelength-Routing Cloud Data Centers," *IEEE Journal of Optical Communications and Networks*, vol. 7, pp. 286-300, April 2015.
- J108 **C. Brunet**, B. Ung, L. Wang, Y. Messaddeq, S. LaRochelle, and L. A. Rusch, "Design of a family of ring-core fibres for OAM transmission studies," *Optics Express*, vol. 23, pp. 10553-10563, 15 April 2015.
- J107 P. Vaity and L. Rusch, "Perfect vortex beam: Fourier transformation of a Bessel beam," *Optics Letters*, vol. 40, pp. 597-600, 15 February 2015.
- J106 **H. Bahrami**, S. A. Mirbozorgi, L. A. Rusch, and B. Gosselin, "Biological Channel Modeling and Implantable UWB Antenna Design for Neural Recording Systems," *IEEE Transactions on Biomedical Engineering (TBME)* vol. 62, pp. 88-98, January 2015.
- J105 **C. Brunet**, B. Ung, P. Belanger, Y. Messaddeq, S. LaRochelle, and L. A. Rusch, "Vector Mode Analysis of Ring-Core Fibers: Design Tools for Spatial Division Multiplexing," *IEEE Journal of Lightwave Technology*, vol. 32, pp. 4046-4057, 1 Dec 2014.
- J104 **H. Rastegarfar**, L. A. Rusch, and A. Leon-Garcia, "WDM Recirculation Buffer-Based Optical Fabric for Scalable Cloud Computing," *IEEE Journal of Lightwave Technology*, vol. 32, pp. 3451-3465, 1 November 2014.
- J103 **C. Brunet**, P. Vaity, Y. Messaddeq, S. LaRochelle, and L. A. Rusch, "Design, fabrication and validation of an OAM fiber supporting 36 states," *Optics Express*, vol. 22, pp. 26117-26127, 20 October 2014.
- J102 **K. Lefebvre**, A. Nguyen, and L. A. Rusch, "Enabling In-band Bidirectional OFDM-Uplink and OOK-Downlink Transmission in Long-reach RSOA-based WDM-PON Systems " *IEEE Journal of Lightwave Technology*, vol. 32, pp. 3854-3860, 15 October 2014.
- J101 **R. Farhodi** and L. A. Rusch, "Experimental verification of multi-level coded modulation for 16-ary constellations," *IEEE Photonics Technology Letters*, vol. 26, pp. 1774-1777, 1 September 2014.
- J100 B. Ung, L. Wang, P. Vaity, C. Jin, L. A. Rusch, Y. Messaddeq, and S. LaRochelle, "Few-mode fiber with inverse-parabolic graded-index profile for transmission of OAM-carrying modes," *Optics Express*, vol. 22, pp. 18044-18055, 28 July 2014.
- J99 L. Wang, P. Vaity, B. Ung, Y. Messaddeq, L. A. Rusch, and S. LaRochelle, "Characterization of OAM fibers using fiber Bragg gratings," *Optics Express*, vol. 22, pp. 15653-15661, 30 June 2014.
- J98 T. Huynh, A. Nguyen, **W. C. Ng**, L. Nguyen, L. Rusch, and L. Barry, "BER Performance of Coherent Optical Communications Systems Employing Monolithic Tunable Lasers With Excess Phase Noise," *J. of Lightwave Tech*, vol. 32, pp. 1973-1980, 2014.
- J97 **R. Farhodi** and L. A. Rusch, "Multi-level coded modulation for 16-ary constellations in presence of phase noise," *J. of Lightwave Tech*, vol. 32, pp. 1159-1167, 15 March 2014.

- J96 **W. C. Ng**, A. Nguyen, S. Ayotte, C. S. Park, and L. A. Rusch, "Impact of Sinusoidal Tones on Parallel Decision-Directed Phase Recovery for 64-QAM," *IEEE Photonics Tech. Letters*, vol. 26, pp. 486-489, 1 March 2014.
- J95 T. N. **Huynh**, S. P. Ó Dúill, L. Nguyen, L. Rusch, and L. Barry, "Simple analytical model for low-frequency frequency-modulation noise of monolithic tunable lasers," *Applied Optics*, vol. 53, pp. 830-835, 10 Feb 2014.
- J94 **W. C. Ng**, A. Nguyen, S. Ayotte, C. Park, and L. Rusch, "Overcoming Phase Sensitivity in Real-Time Parallel DSP for Optical Coherent Communications: ...," *IEEE J. of Lightwave Tech.*, vol. 32, pp. 411-420, 1 Feb 2014.
- J93 **Y. Ben M'Sallem**, C. S. Parkoo, S. LaRochelle, and L. A. Rusch, "Efficient, Widely-Tunable Wavelength Conversion for Packets with In-Band Labels," *IEEE Photonics Tech. Letters*, vol. 25, pp. 2470-2473, December 15, 2013.
- J92 **S. Amiralizadeh**, A. Nguyen, and L. Rusch, "Error Vector Magnitude Based Parameter Estimation for Digital Filter Back-propagation Mitigating," *Optics Express*, vol. 21, 26 Aug 2013.
- J91 **B. Filion**, **W. C. Ng**, A. Nguyen, L. Rusch, and S. LaRochelle, "Wideband wavelength conversion of 16 Gbaud 16-QAM and 5 Gbaud 64-QAM ...," *Optics Express*, vol. 21, 26 August 2013.
- J90 **H. Rastegarfar**, A. Leon-Garcia, S. LaRochelle, and L. Rusch, "Cross-Layer Performance Analysis of Recirculation Buffers for," *J. of Lightwave Tech.*, vol. 31, pp. 432-445, Feb 1, 2013.
- J89 **R. Farhodi**, A. Ghazisaeidi, and L. Rusch, "Performance of Carrier Phase Recovery for Electronically Dispersion Compensated Coherent ...," *Optics Express*, vol. 20, pp. 26568-82, Nov 2012.
- J88 **Y. BenM'Sallem**, A. Shen, F. Lelarge, F. Pommereau, D. Make, S. LaRochelle, and L. Rusch, "Quantum-Dash Mode-Locked Lasers for Tunable Wavelength Conversion on a 100 GHz Frequency Grid," *Journal of Optical Comm. and Networking*, vol. 4, pp. A69-A76, Sep 2012.
- J87 M. **Dastmalchi**, M. Abtahi, D. Lemus, L. Rusch, and S. LaRochelle, "Reconfigurable UWB Waveform Generation with ...," *Optics Engineering*, vol. 51, no. 8, pp. 085002:1-5, 2 Aug 2012.
- J86 **M. Mirshafiei**, S. LaRochelle, and L. Rusch, "Optical UWB waveform generation using a micro-ring resonator," *IEEE Photonics Tech. Letters*, vol. 24, no. 15, pp. 1316-8, 1 Aug 2012.
- J85 **M. Mirshafiei**, M. Abtahi, and L. Rusch, "UWB Pulse Shaping: Bypassing the Inherent Limitations of the Gaussian Monocycle," *IET Communications*, vol. 6, no. 9, pp. 1068-74, 14 Jun 2012.
- J84 M. **Dastmalchi**, S. Doucet, L. Rusch, and S. LaRochelle, "FBG-Based Matched Filters for Optical Processing of RF Signals," *IEEE Photonics Journal*, vol.4, no. 3, pp.832-843, June 2012.
- J83 Q. Xu, **H. Rastegarfar**, **Y. BenM'Sallem**, A. Leon-Garcia, S. LaRochelle, and L. Rusch, "Analysis of Large Scale Multi- ...," *IEEE/OSA J. of Optical Comm. & Net.*, vol. 4, pp. 412-424, May 2012.
- J82 **M. Mirshafiei** and L. Rusch, "Low Complexity Optical distribution of Gb/s BPSK UWB signals," *IEEE Photonics Tech. Letters*, vol. 24, pp. 803-805, 15 May 2012.
- J81 **M. Mirshafiei**, **A. Ghazisaeidi**, D. Lemus, S. LaRochelle, and L. Rusch, "Upconversion of Gain-Switched Laser Pulses for," *IEEE J. of Lightwave Tech.*, vol. 30, pp. 207-214, 15 Jan 2012.
- J80 **A. Ghazisaeidi**, and L. Rusch, "On the Efficiency of Digital Back-Propagation for Mitigating SOA-Induced Nonlinear ...," *IEEE J. of Lightwave Tech.*, vol. 29, pp. 3331-39, 1 Nov 2011.

- J79 **M. M. Rad**, H. Fathallah, M. Maier, L. Rusch, and M. Urysal, "A Novel Pulse-Positioned Coding Scheme for Fiber Fault ...," *IEEE Communications Letters*, vol. 15, pp. 1007-1009, Sep 2011.
- J78 M. Abtahi and L. Rusch, "RoF Delivery over PONs of Optically Shaped UWB Signals for Gigabit/s Wireless Distribution ...," *IEEE J. Sel. Areas in Comm.*, vol. 29, pp. 1304-10, June 2011.
- J77 **M. Rad**, **J. Penon**, H. Fathallah, S. Larochelle, and L. Rusch, "Probing the Limits of PON Monitoring Using Periodic ...," *IEEE J. of Lightwave Tech.*, vol. 29, pp. 1375-82, 1 May 2011.
- J76 **Y. BenM'Sallem**, Q. Le, L. Bramerie, Q. Nguyen, E. Borgne, P. Besnard, A. Shen, F. Lelarge, S. LaRochelle, L. Rusch, and J. Simon, "Quantum-Dash Mode-locked Laser as Source with 56 Gbit/s DQPSK modulation ...," *IEEE Photonics Technology Letters*, vol. 23, pp. 453-455, April 2011.
- J75 M. Abtahi, A. D. Simard, S. Doucet, S. Larochelle, and L. Rusch, "Characterization of a Linearly-Chirped FBG under Local ...," *IEEE J. of Lightwave Tech.*, vol. 29, pp. 750-5, 1 Mar 2011.
- J74 **M. M. Rad**, K. Fouli, H. Fathallah, L. Rusch, and M. Maier, "Passive Optical Network Monitoring: Challenges and ...," *IEEE Communications Magazine*, vol. 49, pp. S45-S52, Feb 2011.
- J73 **M. M. Rad**, H. Fathallah, S. LaRochelle, and L. Rusch, "Computationally Efficient Monitoring of PON Fiber Link...," *IEEE/OSA J. of Optical Comm. & Networking*, vol. 3, pp. 77-86, Jan 2011.
- J72 **Z. El-Sahn**, **W. Mathlouthi**, H. Fathallah, S. LaRochelle, and L. Rusch, "Dense SS-WDM over Legacy PONs: Smooth ...," *IEEE J. of Lightwave Tech.*, vol. 28, pp. 1485-95, 15 May 2010.
- J71 **M. Rad**, H. Fathallah, and L. Rusch, "Performance Analysis of Fiber Fault PON Monitoring Using Optical Coding: SNR, SNIR and ...," *IEEE Tran. on Comm.*, vol. 58, pp. 1182-92, Apr 2010.
- J70 **M. M. Rad**, H. Fathallah, and L. Rusch, "Fiber Fault PON Monitoring Using Optical Coding: Effects of Customer Geographic ...," *IEEE Trans. on Comm.*, vol. 58, pp. 1172-1181, April 2010.
- J69 **A. Ghazisaeidi**, and L. Rusch, "Capacity of SOA-Assisted SAC-OCDMA," *IEEE Photonics Technology Letters*, vol. 22, pp. 441-443, 1 April 2010.
- J68 **A. Ghazisaeidi**, **F. Vacondio**, A. Bononi, and L. Rusch, "Bit Patterning in SOAs: Statistical Characterization through ...," *IEEE J. of Quantum Elec.*, vol. 46, pp. 570-8, 1 Mar 2010.
- J67 **F. Vacondio**, **A. Ghazisaeidi**, A. Bononi, and L. Rusch, "Low Complexity Compensation of SOA Nonlinearity for Single-Channel...," *IEEE J. of Lightwave Tech.*, vol. 28, pp. 277-288, 1 Feb 2010.
- J66 B. Shastri, **Y. BenM'Sallem**, N. Zicha, L. Rusch, S. LaRochelle, and D. Plant, "An Experimental Study of Burst-Mode ...," *IEEE/OSA J. of Optical Comm. & Networking*, vol. 2, pp. 1-9, Jan 2010.
- J65 **F. Vacondio**, **M. Mirshafiei**, A. Liu, L. Liao, J. Basak, M. Paniccia, and L. Rusch, "A Silicon Modulator Enabling ...," *IEEE J. Sel. Topics in Quantum Elec.*, vol. 16, pp. 141-8, Jan/Feb 2010.
- J64 **A. Ghazisaeidi**, **F. Vacondio**, and L. Rusch, "Filter Design for SOA-assisted SS-WDM Systems Using Parallel Multicanonical ...," *IEEE J. of Lightwave Tech.*, vol. 28, pp. 79-90, 1 Jan 2010.
- J63 M. Abtahi, M. Dastmalchi, S. LaRochelle, and L. Rusch, "Generation of Arbitrary UWB Waveforms by Spectral Pulse ...," *IEEE J. of Lightwave Tech.*, vol. 27, pp. 5276-83, 1 Dec 2009.
- J62 M. Pasandi, **M. Sisto**, Y. Kim, L. Rusch, and S. LaRochelle, "Low-Distortion Optical Null-Steering Beamformer for ...," *IEEE J. of Lightwave Tech.*, vol. 27, pp. 5173-82, 15 Nov 2009.
- J61 **F. Vacondio**, **A. Ghazisaeidi**, A. Bononi, and L. Rusch, "DQPSK: When is a Narrow Filter Receiver Good Enough?," *IEEE J. of Lightwave Tech.*, vol. 27, pp. 5106-5114, 15 Nov 2009.

- J60 **W. Mathlouthi, F. Vacondio**, and L. Rusch, "High Bit Rate Dense SS-WDM PON Using SOA-based Noise Reduction ...," *IEEE J. of Lightwave Tech.*, vol. 27, pp. 5045-55, 15 Nov 2009.
- J59 **A. Ghazisaeidi, F. Vacondio**, A. Bononi, and L. Rusch, "SOA Intensity Noise Suppression in Spectrum Sliced Systems ...," *IEEE J. of Lightwave Tech.*, vol. 27, pp. 2667-2677, 15 July 2009.
- J58 **P. Seddighian, S. Ayotte**, J. Rosas-Fernández, S. LaRochelle, A. Leon-Garcia, and L. Rusch, "Optical Packet Switching Networks ...," *IEEE J. of Lightwave Tech.*, pp. 2246-2256, 1 Jul 2009.
- J57 **M. M. Rad**, J.-Y. Chouinard, and L. Rusch, "Performance Degradation of a Source Matching in Optical CDMA Due to ...," *IEEE Trans. on Comm.*, vol. 57, no. 6, pp. 1776-1783, June 2009.
- J56 **Penon, J., W. Mathlouthi**, S. LaRochelle, and L. Rusch, "An Innovative Receiver for Incoherent SACOCDMA Enabling SOA-based ...," *IEEE J. of Lightwave Tech.*, vol. 2, no.:2, pp. 108-116, 15 January 2009.
- J55 Fathallah, H., **M. M. Rad**, and L. Rusch, "PON Monitoring: Periodic Encoders with Low Capital and Operational Cost," *IEEE Photonics Tech. Letters*, vol. 20, pp. 2039-2041, December 15, 2008.
- J54 **Rad, M. M.**, H. Fathallah, and L. Rusch, "Fiber Fault Monitoring for Passive Optical Networks Using Hybrid 1D/2D Coding ," *IEEE Photonics Technology Letters*, vol. 20, pp. 2054-2056, December 15, 2008.
- J53 **Mathlouthi, W., F. Vacondio, P. Lemieux**, and L. Rusch, "SOA gain recovery wavelength dependence: Simulation and measurement using a single-...," *Optics Express*, vol. 16, pp. 20656-20665, December 8, 2008.
- J52 BenM'Sallem, Y., **P. Seddighian**, S. LaRochelle, and L. Rusch, "Optical Packet Switching via FWM processing of Time-stacked Weight-2...," *IEEE Photon. Tech. Let.*, vol. 20, pp. 1712-1714, October 15, 2008.
- J51 Abtahi, M., **M. Mirshafiei**, L. Rusch, and S. LaRochelle, "All-Optical 500 Mb/s UWB Transceiver: An Experimental Demonstration," *IEEE J. of Lightwave Tech.*, vol. 26, pp. 2795-2802, August 1, 2008.
- J50 Abtahi, M., **S. Ayotte, J. Penon**, and L. Rusch, "Balanced Detection of Correlated Incoherent Signals: A Statistical ...," *IEEE J. of Lightwave Tech.*, vol. 26, no. 10, pp. 1330-38, May 15, 2008.
- J49 **El-Sahn, Z., B. Shastri**, M. Zeng, N. Kheder, D. Plant, & L. Rusch, "Experimental Demonstration of a SAC-OCDM ...," *IEEE J. of Lightwave Tech.*, vol. 26, no. 10, pp. 1192-1203, May 15, 2008.
- J48 Rosas-Fernández, J., **S. Ayotte**, L. Rusch, S. LaRochelle, "Ultrafast Forwarding Architecture Using a Single ...," *IEEE J. Sel. Topics Quantum Elec.*, vol. 14, no. 3, pp. 868-878, May-Jun 2008.
- J47 Abtahi, M., J. **Magné, M. Mirshafiei**, L. Rusch, and S. LaRochelle, "Generation of Power-Efficient FCC-Compliant ...," *IEEE J. of Lightwave Tech.*, vol. 26, no. 5, pp. 628-635, Mar 2008.
- J46 **Shastri, B., Z. El-Sahn**, M. Zeng, N. Kheder, L. Rusch, and D. Plant, "A Standalone Burst-Mode Receiver with Clock and ...," *IEEE Photonics Tech. Let.*, v. 20, no. 5, pp. 363-365, Mar 1, 2008.
- J45 Abtahi, M., **M. Mirshafiei, J. Magné**, L. Rusch, and S. LaRochelle, "Ultra-Wideband Waveform Generator based on Optical ...," *IEEE Photon. Tech. Let.*, v. 20, no. 2, pp. 135-137, Jan 15, 2008.
- J44 **Ayotte, S.** and L. Rusch, "Increasing the Capacity of SAC-OCDMA: Forward Error Correction or Coherent ...," *IEEE J. of Sel. Topics in Quantum Elec.*, vol. 13, no. 5, pp. 1422-28, Sep/Oct 2007.
- J43 Fathallah, H. and L. Rusch, "Code Division Multiplexing for In-Service Out-of-Band Monitoring of Live FTTH-PONs," *Journal of Optical Networking*, vol. 6, pp. 819-829, July 2007.

- J42 **Seddighian**, P., A. Leon-Garcia, and L. Rusch, "Analysis of Randomized Scheduling Algorithm for a Single-Hop Bufferless ...," *IEEE Comm. Let.*, vol. 11, no. 6, pp. 537-539, June 2007.
- J41 **Penon**, J., **Z. El-Sahn**, L. Rusch, and S. LaRochelle, "Spectral Amplitude Coded OCDMA Optimized for a Realistic ...," *IEEE J. of Lightwave Tech.*, vol. 25, no. 5, pp. 1256-1263, May 2007.
- J40 **Sisto**, M. M., S. LaRochelle, L. Rusch, and P. Giaccari, "Erbium Amplifier Dynamics in Wireless Analog Optical ...," *IEEE Photonics Tech. Let.*, vol. 19, no. 6, pp. 408-410, 15 Mar. 2007.
- J39 **Seddighian**, P., **S. Ayotte**, J. B. Rosas-Fernández, **J. Penon**, S. LaRochelle, and L. Rusch, "Label Stacking Using ...," *IEEE J. of Lightwave Tech.*, vol. 25, no. 2, pp. 463-471, Feb. 2007.
- J38 Abtahi, M., P. **Lemieux**, **W. Mathlouthi**, and L. Rusch, "Suppression of Turbulence Induced Scintillation in Free ...," *IEEE J. of Lightwave Tech.*, vol. 24, no. 12, pp. 4966-73, Dec. 2006.
- J37 **Sisto**, M. M., S. LaRochelle, and L. Rusch, "Gain Optimization by Modulator Bias Control in Radio over Fibre Links," *IEEE J. of Lightwave Tech.*, vol. 24, no. 12, pp. 4974-4982, Dec. 2006.
- J36 **Mathlouthi**, W., P. **Lemieux**, M. Salsi, A. Vannucci, A. Bononi, and L. Rusch, "Fast and Efficient Dynamic WDM ...," *IEEE J. of Lightwave Tech.*, vol. 24, no. 11, pp. 4353-4365, Nov. 2006.
- J35 **Faucher**, J., **S. Ayotte**, **Z. El-Sahn**, M. Y. Mukadam, L. Rusch, and D. V. Plant, "A standalone receiver with MAI, ...," *IEEE Photonics Tech. Let.*, vol. 18, no. 20, pp. 2123-2135, 15 Oct. 2006.
- J34 **Sisto**, M. M., S. LaRochelle, and L. Rusch, "Carrier-to-Noise Optimization by Modulator Bias Control in Radio ...," *IEEE Photonics Tech. Letters*, vol. 18, no. 17, pp. 1840-42, 1 Sep 2006.
- J33 **Ayotte**, S. and L. Rusch, "Performance Enhancement of a 4-user λ -t OCDMA System at 1.25 Gb/s Using Coherent ...," *IEEE Photonics Tech. Letters*, vol. 17, no. 11, pp. 2493-5, Nov. 2005.
- J32. **Faucher**, J., **S. Ayotte**, L. Rusch, S. LaRochelle, and D. V. Plant, "Experimental BER performance of 2D λ -t OCDMA with ...," *Electronics Letters*, vol. 41, no. 12, pp. 713-715, 2005
- J31 Rochette, M., **S. Ayotte**, and L. Rusch, "Analysis of the Spectral Efficiency of Frequency-Encoded OCDMA Systems ...," *IEEE J. of Lightwave Tech*, vol. 23, no. 4, pp. 1610-1619, April 2005.
- J30 Rochette, M. and L. Rusch, "Spectral Efficiency of OCDMA Systems with Coherent Pulsed Sources," *IEEE J. of Lightwave Tech.*, vol. 23, no. 3, pp. 1033-1038, March 2005.
- J29 **Fouli**, K. and Leslie A. Rusch "Equalization Advantages of OFFH-CDMA over WDM in EDFAs," *IEEE Photonics Tech. Let.*, vol. 17, no. 2, pp. 507-509, February 2005.
- J28 **Ayotte**, S., M. Rochette, J. **Magné**, L. Rusch, and S. LaRochelle, "Experimental Verification and Capacity Prediction of FE-OCDMA using...," *IEEE J. of Lightwave Tech*, pp. 724-31, Feb 2005.
- J27 **Menif**, M., **W. Mathlouthi**, P. **Lemieux**, L. Rusch and M. Roy, "Error-free Transmission for Incoherent Broadband ...," *IEEE J. of Lightwave Tech.*, vol. 23, no. 1, pp. 287-294, Jan 2005.
- J26 Li, Q. and L. Rusch, "Multiuser Detection for DS-CDMA UWB in the Home Environment," *IEEE Journal on Selected Areas in Communications*, vol. 20, pp. 1701-1711, Dec 2002.
- J25 **Menif**, M., M. Karásek, and L. Rusch, "Cross-Gain Modulation in Raman Fiber Amplifier: Experimentation & Modeling," *IEEE Photonics Tech. Let.*, vol. 14, no. 9, pp. 1261-3, Sep 2002.
- J24 **Inaty**, E., H. Shalaby, P. Fortier, and L. Rusch, "Multirate Optical Fast Frequency Hopping CDMA System Using Power Control," *IEEE J. of Lightwave Tech.*, vol. 20, no. 2, pp. 166-77, Feb 2002.
- J23 Karásek, M., M. **Menif**, and L. Rusch, "Modeling Gain Dynamics in EDFAs: Space-Resolved Versus Lumped Models," *Fiber and Integrated Optics*, vol. 20, no. 6, pp. 601-5, Nov 2001.

- J22 **Menif**, M., L. Rusch, & M. Karásek, "Application of Pre-emphasis to Achieve Flat Output OSNR in Time Varying ...," *IEEE J. of Lightwave Tech.*, vol. 19, no. 10, pp. 1440-1452, Oct 2001.
- J21 Rusch, L. A., "Indoor Wireless Communications: Capacity and Coexistence on the Unlicensed Bands," *Intel Technical Journal*, <http://developer.intel.com/technology/itj/q32001/>, Aug 2001.
- J20 Karásek, M., M. **Menif**, and L. Rusch, "Output Power Excursions in a Cascade of EDFAs Fed by Multichannel Burst-Mode ...," *IEEE J. of Lightwave Tech.*, vol. 19, no. 7, pp. 933-40, Jul 2001.
- J19 **Menif**, M., M. Karásek, K. Fouli, and L. Rusch, "Cross-gain modulation effect on the behaviour of packetized ...," *J. of Optics A: Pure & Applied Optics*, vol. 3, no. 3, pp. 210-7, May 2001.
- J18 Karásek, M., L. Rusch, and M. **Menif**, "Suppression of Output Power and NF Excursions in Cascades of Highly ...," *Fiber and Integrated Optics*, vol. 20, no. 3, pp. 269-77, May 2001.
- J17 **Inaty**, E., P. Fortier, and L. Rusch, "SIR Performance Evaluation of a Multirate OFFH-CDMA System," *IEEE Communications Letters*, vol. 5, no. 5, pp. 224-226, May 2001.
- J16 Karásek, M., A. Bononi, L. Rusch, and M. **Menif**, "Effectiveness of gain control in EDFAs against traffic with ...," *IEE Proceedings on Optoelectronics*, vol. 147, no. 5, pp. 355-62, Oct 2000.
- J15 Tancevski, L. and L. Rusch, "Impact of the Interferometric Noise on the Performance of 2-D Optical CDMA Systems," *IEEE Communications Letters*, vol. 4, no. 8, pp. 264-6, Aug 2000.
- J14 Karásek, M., A. Bononi, L. Rusch, and M. **Menif**, "Gain Stabilization in Gain Clamped EDFA Cascades Fed by WDM ...," *IEEE J. of Lightwave Tech.*, vol. 18, no. 3, pp. 308-13, Mar 2000.
- J13 **Fathallah**, H. & L. Rusch, "Robust Optical FFH-CDMA Communications-Coding in Place of Frequency and Temperature ...," *IEEE J. of Lightwave Tech.*, vol. 17, no. 8, pp. 1284-93, Aug 1999.
- J12 Tancevski, L., A. Bononi and L. Rusch, "Output Power and SNR Swings in Cascades of EDFAs for Circuit- and Packet- ...," *IEEE J. of Lightwave Tech.*, vol. 17, no. 5, pp. 733-42, May 1999.
- J11 **Fathallah**, H., L. Rusch, and S. LaRoche, "Passive Optical Fast Frequency-Hop CDMA Communications System," *IEEE J. of Lightwave Tech.*, vol. 17, no. 3, pp. 397-405, Mar 1999.
- J10 Bononi, A., L. Tancevski, and L. Rusch, "Large Power Swings in Doped-Fiber Amplifiers with Highly Variable Data," *IEEE Photonics Technology Letters*, vol. 11, no. 1, pp. 113-5, Jan 1999.
- J9 Tancevski, L., L. Rusch, and A. Bononi, "Gain control in EDFAs by pump compensation," *IEEE Photonics Technology Letters*, vol. 10, no. 9, pp. 1313-1315, September 1998.
- J8 Bononi, A. and L. Rusch, "Doped-Fiber Amplifier Dynamics: A System Perspective," *IEEE Journal of Lightwave Technology*, vol. 16, no. 5, pp. 945-956, May 1998.
- J7 **Fathallah**, H. and L. Rusch, "A Subspace Approach to Adaptive Narrowband Interference Suppression in DSSS," *IEEE Trans. on Communications*, vol. 45, no. 12, pp. 1575-85, Dec 1997.
- J6 Bononi, A., L. Rusch, and L. Tancevski, "A simple dynamic model of fiber amplifiers and its equivalent electrical circuit," *Electronics Letters*, vol. 33, no. 22, pp. 1887-8, October 1997.
- J5 Ayadi, F. and L. Rusch, "Coherent Optical CDMA with Limited Phase Excursion," *IEEE Communications Letters*, vol. 1, no. 1, pp. 28-30, January 1997.
- J4 Rusch, L. A. and H. V. Poor, "Multiuser Detection Techniques for Narrowband Interference Suppression in Spread Spectrum," *IEEE Transactions on Communications*, vol. 43, no. 2/3/4, pp. 1725-1745, April 1995.

- J3 Rusch, L. A. and H. V. Poor, "Effects of Laser Phase Drift on Coherent Optical CDMA," *IEEE Journal on Selected Areas in Communications*, vol. 13, no. 3, pp. 577-591, April 1995.
- J2 Rusch, L. and H. V. Poor, "Narrowband Interference Suppression in CDMA Spread Spectrum Communications," *IEEE Transactions on Communications*, vol. 42, pp. 1969-1979, Apr, 1994.
- J1 Poor, H. V. and L. Rusch, "Narrowband interference suppression in spread spectrum CDMA," *IEEE Personal Communications Magazine*, vol. 1, pp. 14-27, 1994.

CONF. PUBLICATIONS

- C211 S. R. Konatham, L. R. Cortés, J. H. Chang, L. A. Rusch, S. LaRochelle, and J. Azana, "Downconversion Free Real-time Spectral Analysis of High-Frequency Broadband Waveforms " in *IEEE Conference on Lasers and Electro-Optics (CLEO 2020)*, San Jose, CA, 2020.
- C210 **S. C. Kumari Kalla, R. H. Nejad, S. Zhalehpour**, and L. A. Rusch, "Neural Nets to Approach Optimal Receivers for High Speed Optical Communication," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2020)*, San Jose, CA, p. STh4M.4, 2020.
- C209 **A. Corsi**, J. H. Chang, S. Johnson, **S. Zhalehpour**, L. A. Rusch, and S. LaRochelle, "Two-channel data transmission on a polarization-maintaining highly elliptical core fiber without MIMO," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2020)*, San Jose, CA, p. STh1L.1, 2020.
- C208 X. Guan, R. Dube-Demers, W. Shi, and L. A. Rusch, "5G Service Overlay in WDM Optical Access Network with Colorless Smart Edge Based on SiP MRM " in *IEEE Conference on Lasers and Electro-Optics (CLEO 2020)*, San Jose, CA, p. STu4L.3, 2020.
- C207 **S. Zhalehpour**, M. Guo, J. Lin, Z. Zhang, H. Sepehrian, Y. Qiao, W. Shi, and L. A. Rusch, "All Silicon IQ Modulator with 1Tb/s Line Rate," in *IEEE Optical Fiber Communications Conference (OFC 2020)*, San Diego, p. W3D.6, 2020.
- C206 **M. Banawan**, L. Wang, S. LaRochelle, and L. A. Rusch, "Modeling the Breakdown in Degeneracy for High-Index-Contrast Ring Core Fiber," in *IEEE Optical Fiber Communications Conference (OFC 2020)*, San Diego, p. W1B.2, 2020.
- C205 **M. Lyu**, W. Shi, and L. A. Rusch, "Silicon Photonics to Add 5G RoF Services to PONs Employing Carrier Reuse," in *IEEE Optical Fiber Communications Conference (OFC 2020)*, San Diego, p. T4A.2, 2020.
- C204 S. R. Konatham, L. R. Cortés, J. H. Chang, L. Rusch, S. LaRochelle, and J. Azaña, "Photonic-Enabled Real-Time Frequency-Spectrum Tracking of Broadband Microwave Signals at a Nanosecond Scale," in *IEEE Optical Fiber Communications Conference (OFC 2020)*, San Diego, p. M3H.5, 2020.
- C203 X. Guan, **M. Lyu**, Y. Xu, W. Shi, and L. A. Rusch, "Silicon Photonics for 5G Passive Optical Networks," in *IEEE Information Technology, Electronics and Mobile Communication Conference (IEMCON 2019)*, Vancouver, 17-19 October 2019.
- C202 L. A. Rusch, "Shaping optical fibers to mode division multiplex without MIMO," in *IEEE Photonics Conference (IPC 2019)*, San Antonio, p. MF2.2, October 2019.
- C201 **Y. Chen, Z. Lin**, L. A. Rusch, and W. Shi, "Experimental demonstration of a WDM compatible polarization-diverse OAM generator and multiplexer in silicon photonics," in *IEEE European Conference on Optical Communications (ECOC 2019)*, Dublin, 22-26 September 2019.

- C200 S. Lightman, G. Hurvitz, R. Gvishi, L. A. Rusch, and A. Arie, "Miniature 3D printed free-space and fiber-coupled mode sorters for vortex beams " in *International Conference on Orbital Angular Momentum (ICOAM 2019)*, Ottawa, June 17-21, 2019 (**invited**).
- C199 **S. Zhalehpour**, J. Lin, **M. Guo**, **H. Sepehrian**, Z. Zhang, L. A. Rusch, and W. Shi, "All-Silicon IQ Modulator for 100 GBaud 32QAM Transmissions," in *IEEE Optical Fiber Communication Conference (OFC 2019) Postdeadline Papers*, San Diego, California, p. Th4A.5, post-deadline March 2019.
- C198 W. Shi, J. Lin, **H. Sepehrian**, **S. Zhalehpour**, Z. Zhang, and L. A. Rusch, "Silicon Photonic Modulators for High-Capacity Coherent Transmissions," in *IEEE Optical Fiber Communications Conference (OFC 2019)*, San Diego, California, p. Tu2H.1, March 2019 (**invited**).
- C197 **S. Zhalehpour**, J. Lin, **H. Sepehrian**, W. Shi, and L. A. Rusch, "Experimental demonstration of reduced-size LUT predistortion for 256QAM SiP Transmitter," in *IEEE Optical Fiber Communications Conference (OFC 2019)*, San Diego, California, p. Th1D.3, March 2019.
- C196 Y. Xu, **M. Lyu**, L. Rusch, and W. Shi, "Silicon Microring IQ Modulator Enabled Single Sideband OFDM Transmission," in *IEEE Optical Fiber Communications Conference (OFC 2019)*, San Diego, California, p. Th2A.28, March 2019.
- C195 **S. Zhalehpour**, J. Lin, **H. Sepehrian**, W. Shi, and L. A. Rusch, "Countering Pattern Dependent Effects in SiP Modulators with Iterative Learning Control Predistortion for 64QAM " in *IEEE European Conference on Optical Communications (ECOC 2018)*, Rome, p. Th2.20, September 2018.
- C194 **M. Lyu**, W. Shi, and L. A. Rusch, "SiP Alternative to Enhanced KK for OFDM," in *IEEE European Conference on Optical Communications (ECOC 2018)*, Rome, p. We2.30, September 2018.
- C193 **A. Corsi**, J. H. Chang, L. A. Rusch, and S. LaRochelle, "Design of a Ten-Mode Polarization-Maintaining Few-Mode Fiber for MIMO-less Data Transmission " in *IEEE European Conference on Optical Communications (ECOC 2018)*, Rome, p. We2.6, September 2018.
- C192 J. Lin, **H. Sepehrian**, L. A. Rusch, and W. Shi, "Joint Digital and Optical Pre-compensation for 720 Gb/s All-Silicon IQ modulator Single Carrier Transmission " in *IEEE European Conference on Optical Communications (ECOC 2018)*, Rome, September 2018.
- C191 L. A. Rusch, **H. Sepehrian**, J. Lin, and W. Shi, "An ISI Aware Design Process for SiP Modulators," in *Pacific Rim Conference on Lasers and Electro-Optics (CLEO PR 2018)*, Hong Kong, p. W2D.2, 1-4 August 2018 (**invited**).
- C190 S. LaRochelle, **A. Corsi**, J. H. Chang, L. A. Rusch, and Y. Messaddeq, "Polarization maintaining few mode fibers for space division multiplexing," in *Pacific Rim Conference on Lasers and Electro-Optics (CLEO PR 2018)*, Hong Kong, p. F2F.1, 1-4 August 2018 (**invited**).
- C189 L. A. Rusch, "Meeting Capacity Demands through Space Division Multiplexing and New Fibers," in *Rank Prize Optoelectronics Symposium on Challenges to Meeting Demand Capacity on Long-Haul Optical Fibre Links*, Windermere, UK, 18-21 June 2018 (**invited**).
- C188 **A. Yekani**, **M. Banawan**, and L. A. Rusch, "Flexible Modulation and Frequency Allocations for SNR-limited Coherent Systems," in *Canadian Conference on Electrical and Computer Engineering (CCECE 2018)*, Québec City, May 13-16, 2018.
- C187 S. LaRochelle, **A. Corsi**, **R. M. Nejad**, L. Wang, X. Guan, J. H. Chang, J. Lin, and L. A. Rusch, "Optical fiber designs for MIMO-less SDM," in *Conference on Lasers and Electro-Optics (CLEO 2018)*, San Jose, California, p. SW3K.5, 13 May 2018 (**invited**).

- C186 Y. Xu, M. Lyu, J. Lin, L. Rusch, and W. Shi, "Generation of Optical Single Sideband OFDM Using a Silicon Microring IQ modulator," in *Conference on Lasers and Electro-Optics (CLEO 2018)*, San Jose, California, p. JW2A.43, 13 May 2018.
- C185 J. Lin, Y. Xu, **H. Sepehrian**, L. Rusch, and W. Shi, "Nyquist-WDM Super-Channel Using an On-Chip Frequency Comb enabled by a Silicon Dual-drive MZM," in *Conference on Lasers and Electro-Optics (CLEO 2018)*, San Jose, California, p. JTu2A.55, 13 May 2018.
- C184 **H. Sepehrian**, **A. Yekani Khoei**, L. A. Rusch, and W. Shi, "Bandwidth-Aware Figure of Merit for Silicon-Photonic Depletion Mode Modulators " in *IEEE/OSA Optical Fiber Communications Conference (OFC 2018)*, San Diego, p. Tu2E.2 March 2018.
- C183 J. Lin, **H. Sepehrian**, L. A. Rusch, and W. Shi, "CMOS-Compatible Silicon Photonic IQ Modulator for 84 Gbaud 16QAM and 70 Gbaud 32QAM " in *IEEE/OSA Optical Fiber Communications Conference (OFC 2018)*, San Diego, p. Tu2E.4, March 2018.
- C182 X. Guan, Y. Xu, J. Lin, **M. Lyu**, R. Dube-Demers, S. LaRochelle, W. Shi, and L. A. Rusch, "Enabling 5G Services in PON with a Novel Smart Edge Based on SiP MRM," in *IEEE/OSA Optical Fiber Communications Conference (OFC 2018)*, San Diego, p. Th3G.3, March 2018.
- C181 **R. Mirzaei Nejad**, **F. Tavakoli**, L. Wang, X. Guan, S. LaRochelle, and L. A. Rusch, "Four-Channel RoF Transmission over Polarization Maintaining Elliptical Ring Core Fiber " in *IEEE/OSA Optical Fiber Communications Conference (OFC 2018)*, San Diego, p. M4J.6, March 2018.
- C180 Y. Xu, J. Lin, R. Dube-Demers, S. LaRochelle, W. Shi, and L. A. Rusch, "A single-laser flexible-grid WDM silicon photonic transmitter using microring modulators," in *IEEE/OSA Optical Fiber Communications Conference (OFC 2018)*, San Diego, p. W1I.3 March 2018.
- C179 **S. Zhalehpour**, J. Lin, and L. A. Rusch, "SiP IQ modulator Linearization by memory polynomial pre-distortion model," in *2017 IEEE Photonics Conference (IPC)*, pp. 317-318, 1-5 Oct. 2017.
- C178 **M. Lyu** and L. A. Rusch, "Silicon photonics enabled SSBI cancellation," in *2017 IEEE Photonics Conference (IPC)*, pp. 315-316, 1-5 Oct. 2017.
- C177 **M. Lyu**, X. Guan, Z. Cao, W. Shi, and L. A. Rusch, "Experimental examination of ssbi suppression using SiP microring resonators," in *2017 International Topical Meeting on Microwave Photonics (MWP)*, p. WEP.6, 23-26 Oct. 2017.
- C176 L. A. Rusch, "Virtualizing Cloud RAN by piggybacking on WDM-PON channels," in *2017 International Topical Meeting on Microwave Photonics (MWP)*, Beijing, p. We2.2, 23-26 Oct. 2017 (**invited**).
- C175 J. Lin, **H. Sepehrian**, L. A. Rusch, and W. Shi, "Flexible on-chip frequency comb generation using a SOI dual-drive MZM," in *2017 IEEE Optical Interconnects Conference (OI)*, pp. 27-28, June 2017.
- C174 L. Wang, **M. R. Nejad**, **A. Corsi**, J. Lin, Y. Messaddeq, L. A. Rusch, and S. LaRochelle, "MIMO-Free Transmission over Six Vector Modes in a Polarization Maintaining Elliptical Ring Core Fiber," in *IEEE/OSA Optical Fiber Communications Conference (OFC 2017)*, Los Angeles, p. Tu2J.2, March 2017.
- C173 **A. Yekani Khoei** and L. A. Rusch, "Interplay of Bit Rate, Linewidth, and Reach on DMT vs. PAM Performance," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2017)*, San Jose, California, p. SF1L.6, May 2017.
- C172 L. Wang, J. Lin, L. A. Rusch, and S. LaRochelle, "Low-noise Optical Multi-Carrier Generation using Brillouin Amplification in a Frequency-Shifted Recirculating Loop," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2017)*, San Jose, California, p. JW2A.67, May 2017.

- C171 **R. Mirzaei Nejad**, L. Wang, J. Lin, S. LaRochelle, and L. A. Rusch, "Parasitic Effect of TE and TM modes in OAM-MDM Transmission Systems," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2017)*, San Jose, California, p. SW4I.2, May 2017.
- C170 J. Lin, **H. Sepehrian**, W. Shi, and L. A. Rusch, "Phase Drift in Depletion-Mode Silicon Photonics Modulators," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2017)*, San Jose, California, p. STu1M.3, May 2017.
- C169 J. Zhu, X. Wang, S. Yan, Y. Ou, Z. Hu, Y. Messaddeq, S. LaRochelle, L. A. Rusch, D. Simeonidou, and S. Yu, "3.36-Tbit/s OAM and Wavelength Multiplexed Transmission over an Inverse-Parabolic Graded Index Fiber," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2017)*, San Jose, California, p. SW4I.3, May 2017 (**invited**).
- C168 M. Lonardi, G. Fuerra, L. Marcon, **M. R. Nejad**, M. Santagiustina, A. Galtarossa, L. A. Rusch, A. Bononi, and L. Palmieri, "Mode Coupling Analysis of Hollow Ring-Core Fibers for OAM Transmission," in *IEEE European Conference on Optical Communications (ECOC 2017)*, Gothenburg, September 2017.
- C167 **A. Yekani Khoei**, **S. Amiralizadeh**, and L. A. Rusch, "Theoretical Analysis of Chromatic Dispersion, Phase Noise, and SSBI in Direct-Detection Single-Side-Band Optical OFDM Transmission," in *IEEE Photonics Conference (IPC 2016)*, Hawaii, October 2016.
- C166 **M. Lyu**, **S. Amiralizadeh**, and L. A. Rusch, "Constellation-Induced SNR Gain in Short-Reach Optical OFDM " in *IEEE Photonics Conference (IPC 2016)*, Hawaii, October 2016.
- C165 **R. Mirzaei Nejad**, K. Allahverdyan, C. Brunet, S. LaRochelle, and L. A. Rusch, "Experimental Study of Receiver Complexity in OAM-MDM Transmission Systems " in *IEEE Photonics Conference (IPC 2016)*, Hawaii, October 2016.
- C164 M. Rezaei, **H. Bahrami**, A. Mirbozorgi, L. A. Rusch, and B. Gosselin, "A short-impulse UWB BPSK transmitter for large-scale neural recording implants," in *Engineering in Medicine and Biology Society (EMBC 2016)*, pp. 6315-6318, Aug. 2016 (**invited**).
- C163 **Y. Chen**, L. A. Rusch, and W. Shi, "Design of an Integrated Circular-Polarized OAM Generator/Multiplexer," in *IEEE Photonics Society Summer Topicals*, Newport Beach, USA, p. We1.3, July 2016.
- C162 L. Wang, **A. Corsi**, L. A. Rusch, and S. LaRochelle, "Investigation of Orbital Angular Momentum Mode Purity in Air-Core Optical Fibers," in *IEEE Photonics Society Summer Topicals*, Newport Beach, USA, p. We1.3, July 2016.
- C161 **R. Mirsaei Nejad**, K. Allahverdyan, P. Vaity, **S. Amiralizadeh**, **C. Brunet**, Y. Messaddeq, S. LaRochelle, and L. A. Rusch, "Orbital Angular Momentum Mode Division Multiplexing over 1.4 km RCF Fiber," in *Conference on Lasers and Electro-Optics (CLEO)*, San Jose, p. SW4F.3, June 2016.
- C160 **A. Yekani Khoei**, **S. Amiralizadeh**, and L. A. Rusch, "Comparison of 100 Gb/s O-band PAM-4 vs. C-band DMT for Different Laser Linewidths and Fiber Lengths," in *IEEE Conference on Lasers and Electro-Optics (CLEO 2016)*, San Jose, CA, p. SF2F.8, June 2016.
- C159 Z. Xiaoguang, L. Jiachuan, and L. A. Rusch, "High quality optical comb and optical comb based terabit optical transmission system," in *Photonics North (PN 2016)*, pp. 1-1, May 2016.
- C158 **A. Yekani Khoei** and L. A. Rusch, "PAM vs. DMT: a performance comparison of modulation formats for IMDD," in *Photonics North Quebec*, May 2016 (**invited**).

- C157 H. **Sepehrian**, L. A. Rusch, and W. Shi, "Multi-Stage 20 Gbaud/s Driver in 130 nm CMOS for Segmented Mach-Zehnder Optical Modulators," in *IEEE International Symposium on Circuits and Systems (ISCAS 2016)*, Montreal, pp. 1-4, May 2016.
- C156 K. Bedard, A. D. Simard, **B. Filion**, Y. Painchaud, L. A. Rusch, and S. LaRochelle, "Transmission of 50 Gb/s with a Dual Phase-Shift Bragg Grating Silicon Photonic Modulator," in *IEEE Optical Fiber Communications Conference (OFC 2016)*, Anaheim, March 2016.
- C155 H. **Bahrami**, S. A. Mirbozorgi, L. A. Rusch, and B. Gosselin, "Integrated UWB Transmitter and Antenna Design for Interfacing High-Density Brain Microprobes," in *2015 IEEE International Conference on Ubiquitous Wireless Broadband (ICUWB)*, pp. 1-5.
- C154 S. A. Mirbozorgi, H. **Bahrami**, M. Sawan, L. Rusch, and B. Gosselin, "A full-duplex wireless integrated transceiver for implant-to-air data communications," in *Custom Integrated Circuits Conference (CICC), 2015 IEEE*, pp. 1-4, 28-30 Sept. 2015.
- C153 S. **Amiralizadeh**, C. S. Park, and L. A. Rusch, "Experimental Study of M-QAM Constellation Options for Short-Reach Dual-Polarization Optical OFDM with Direct Detection," in *IEEE European Conference on Optical Communications (ECOC 2015)*, Valencia, September 2015.
- C152 L. Wang, P. Vaity, Y. Messaddeq, L. A. Rusch, and S. LaRochelle, "Orbital-Angular-Momentum Polarization Mode Dispersion in Optical Fibers and Its Measurement Technique," in *IEEE European Conference on Optical Communications (ECOC 2015)*, Valencia, September 2015.
- C151 A. **Yekani**, M. Chagnon, C. S. Park, M. Poulin, D. V. Plant, and L. A. Rusch, "Experimental Comparison of PAM vs. DMT using an O-Band Silicon Photonic Modulator at Different Propagation Distances," in *IEEE European Conference on Optical Communications (ECOC 2015)*, Valencia, September 2015.
- C150 L. A. Rusch and S. LaRochelle, "Designing optical fiber for OAM mode transmission," in *International Conf. on Orbital Angular Momentum (ICOAM)*, New York, , August 2015 (**invited**).
- C149 L. A. Rusch and S. LaRochelle, "Spatial Division Multiplexing using Ring Core Fibers for OAM," in *IEEE European Conf. on Network and Optical Communications (NOC)*, London, , July 2015 (**keynote**).
- C148 Z. **Cao**, A. T. Nguyen, and L. A. Rusch, "Full-duplex Analog WiFi Transport over RSOA-based Wavelength-reused Digital Passive Optical Networks," in *IEEE International Conference on Communications (ICC 2015)*, London, June 2015.
- C147 W. C. **Ng**, A. T. Nguyen, C. S. Park, and L. A. Rusch, "Enhancing Clock Tone via Polarization Pre-rotation: A Low-complexity, Extended Kalman Filter-based Approach," in *IEEE Optical Fiber Communications Conference (OFC 2015)*, p. TH2A.19, March 2015.
- C146 C. **Brunet**, P. Vaity, B. Ung, Y. Messaddeq, S. LaRochelle, and L. A. Rusch, "Design of a family of ring-core fiber for OAM," in *IEEE Optical Fiber Communications Conference (OFC 2015)*, Los Angeles, p. M3D.1, March 2015.
- C145 S. LaRochelle and L. A. Rusch, "Optical fibers for OAM mode transmissions," in *Asia Communications and Photonics Conference (ACP'2014)*, Shanghai, November 2014, (**invited**).
- C144 Z. **Cao**, A. Nguyen, and L. Rusch, "Full-duplex WiFi Analog Signal Transmission with Digital Signal Downlink in Radio-over-Fiber System Employing ...," in *IEEE MWP 2014*, Sapporo, Oct 2014.
- C143 W. C. **Ng**, A. T. Nguyen, and L. A. Rusch, "Reduction of MIMO-FIR taps via SOP-Estimation in Stokes Space for 100 Gbps Short Reach Applications," in *IEEE ECOC 2014*, Cannes, Sep 2014.
- C142 A. T. Nguyen, Z. **Cao**, K. **Lefebvre**, and L. A. Rusch, "Full-duplex WiFi Analog Transmission in RSOA-based Radio-over-Fiber System with Wavelength ...," in *IEEE ECOC 2014*, Cannes, Sep 2014.

- C141 P. Vaity, C. **Brunet**, Y. Messaddeq, S. LaRochelle, and L. A. Rusch, "Exciting OAM Modes in Annular-core Fibers via Perfect OAM Beams " in *IEEE ECOC 2014*, Cannes, Sep 2014.
- C140 A. T. Nguyen, W. C. **Ng**, and L. Rusch, "An Optimized 16-QAM Constellation for Mitigating Impairments of Phase Noise and Limited Transmitter ...," in *IEEE ECOC 2014*, Cannes, Sep 2014
- C139 H. **Bahrami**, S. A. **Mirbozorgi**, B. Gosselin, and L. Rusch, "BER Performance of Implant-To-Air High-Speed UWB Data Communications ...," in *IEEE EMBC 2014*, Chicago, Aug 2014, pp. 3961-4.
- C138 M. El Khaled, H. **Bahrami**, P. Fortier, B. Gosselin, and L. A. Rusch, "Capacity of UWB Wireless Channel for Neural Recording Systems," in *IEEE EMBC 2014*, Chicago, Aug 2014, pp. 3965-3968.
- C137 H. **Bahrami**, E. Porter, A. Santorelli, B. Gosselin, M. Popovic, and L. Rusch, "Flexible Sixteen Monopole Antenna Array for Breast ...," in *IEEE EMBC 2014*, Chicago, Aug 2014, pp. 3775-8.
- C136 H. **Rastegarfar**, L. Rusch, and A. Leon-Garcia, "Scheduling-Based Load-Balanced Fabric for High-Performance Wavelength- ...," in *Adv. Photonics for Comm.* San Diego, July 2014, p. PW3B.3.
- C135 S. **Amiralizadeh** and L. Rusch, "Transmitter Sensitivity to High PAPR in Coherent Optical OFDM Systems," in *IEEE CLEO*, California, June 2014, p. SW1J.5.
- C134 L. Wang, B. Ung, P. Vaity, L. Rusch, Y. Messaddeq, and S. LaRochelle, "Characterization of Optical Fibers Supporting OAM States using Fiber ...," in *IEEE CLEO*, California, June 2014, p. SM2N.4.
- C133 S. A. **Mirbozorgi**, H. **Bahrami**, L. A. Rusch, and B. Gosselin, "A low-power 2.4-GHz receiver for wireless implantable neural stimulators," in *IEEE ISCAS*, June 2014, pp. 1082-1085.
- C132 B. Ung, L. Wang, **C. Brunet**, P. Vaity, C. Jin, L. Rusch, Y. Messaddeq, and S. LaRochelle, "Inverse-parabolic graded-index profile for transmission of cylindrical vector modes in optical fibers," in *IEEE Conf. on Optical Fiber Comm. (OFC)*, Mar 2014.
- C131 A. Nguyen, **K. Lefebvre**, and L. Rusch, "Multi-service OFDM Uplink Transmission in Full-Duplex FTTx Systems Using RSOA-based WDM-PON Architecture," in *IEEE Conf. on Optical Fiber Comm. (OFC)*, Mar 2014.
- C130 **W. C. Ng**, A. Nguyen, S. Ayotte, C. S. Park, and L. Rusch, "Parallel and Pipelined Decision-Directed Phase Recovery for 64-QAM in the Presence of Sinusoidal Tones," in *IEEE Conf. on Optical Fiber Comm. (OFC)*, Mar 2014.
- C129 **C. Brunet**, B. Ung, Y. Messaddeq, S. LaRochelle, E. Bernier, and L. Rusch, "Design of an Optical Fiber Supporting 16 OAM Modes," in *IEEE Conf. on Optical Fiber Comm. (OFC)*, to Mar 2014.
- C128 H. **Rastegarfar**, A. Leon-Garcia, S. LaRochelle, and L. A. Rusch, "The practical limit to impairment-aware scheduling in all-optical routers," in *IEEE Photonics Conference (IPC 2013)*, 8-12 September 2013, pp. 531-532.
- C127 **K. Lefebvre**, A. Nguyen, and L. Rusch, "Downstream Modulation Index Tuning to Enable Full-duplex OOK-DL/OFDM-UL Transmission in RSOA-based RoF System " in *IEEE Microwave Photonics Conf.*, Virginia, Oct 2013.
- C126 **K. Lefebvre**, A. Nguyen, and L. Rusch, "Full-Duplex In-band OOK-Downlink/OFDM-Uplink Transmitted over 40km of SSMF in RSOA-based Radio-over-Fiber System " in *IEEE Photonics Conference*, Seattle, Sep 2013.
- C125 **B. Filion**, **W. C. Ng**, A. Nguyen, L. Rusch, and S. LaRochelle, "Wideband Wavelength Conversion of 5 Gbaud 64-QAM Signals in a Semiconductor Optical Amplifier," in *European Conference on Optical Communications (ECOC) 2013*, London, Sep 2013.

- C124 **H. Rastegarfar**, L. Rusch, and A. Leon-Garcia, "Load Balancing in Wavelength-Routing Cloud Data Centers," in *2013 IEEE Conference on High Performance Switching and Routing*, Taiwan, July 2013.
- C123 **W. C. Ng**, T. N. Huynh, A. Nguyen, S. Ayotte, C. S. Park, L. P. Barry, and L. Rusch, "Improvement due to Optically Filtered Lasers in Parallelized Decision-Directed Phase Recovery for 16-QAM," in *IEEE OptoElectronics and Communications Conference*, Kyoto, July 2013.
- C122 **Y. BenM'Sallem**, C. S. Park, S. LaRochelle, and L. Rusch, "High Efficiency Wavelength Conversion of 40 Gbit/s OOK and DPSK with Good Stability," in *IEEE Photonics in Switching 2013*, Kyoto, Jul 2013.
- C121 **B. Filion**, **S. Amiralizadeh**, A. Nguyen, L. Rusch, and S. LaRochelle, "Wideband Wavelength Conversion of 16 Gbaud 16 QAM Signals in a Semiconductor Optical Amplifier," in *IEEE Optical Fiber Communications Conference (OFC 2013)*, Los Angeles, Mar 2013.
- C120 T. N. Huynh, **W. C. Ng**, A. T. Nguyen, L. Rusch, and L. P. Barry, "Tracking Excess Noise from a Monolithic Tunable Laser in Coherent Communication Systems " in *IEEE Optical Fiber Communications Conference (OFC 2013)*, Los Angeles, Mar 2013.
- C119 **R. Farhodi** and L. Rusch, "Multi-Level Coded Modulation for Phase Noise Optimized Constellations," in *IEEE Optical Fiber Communications Conference (OFC 2013)*, Los Angeles, Mar 2013.
- C118 **S. Amiralizadeh**, A. Nguyen, C. S. Park, A. Ghazisaeidi, and L. Rusch, "Experimental Validation of Digital Filter Back-propagation to Suppress SOA-induced Nonlinearities in 16-QAM," in *IEEE Optical Fiber Communications Conference (OFC 2013)*, Los Angeles, Mar 2013.
- C117 **H. Rastegarfar**, A. Leon-Garcia, S. LaRochelle, and L. Rusch, "Impact of Tunable Wavelength Converter Performance on All-Optical - ...," in *IEEE Photonics in Switching*, Corsica, Sep 2012.
- C116 **W. C. Ng**, A. Nguyen, S. Ayotte, C. Park, and L. Rusch, "Optically-filtered Laser Source Enabling Improved Phase Tracking in," in *IEEE Euro. Conf. on Optical Comm.*, Sep 2012.
- C115 **H. Bahrami**, B. Gosselin, and L. Rusch, "Realistic Modeling of the Biological Channel for the Design of Implantable ...," in *Engineering in Medicine & Biology Conf.*, San Diego, Sep 2012.
- C114 **H. Bahrami**, B. Gosselin, and L. Rusch, "Design of a Miniaturized UWB Antenna Optimized for Implantable Neural Recording Systems," in *IEEE Inter. NEWCAS Conf.*, Montreal, Jun 2012.
- C113 S. LaRochelle, Q. Xu, **H. Rastegarfar**, **Y. BenM'Sallem**, A. Leon-Garcia, and L. Rusch, "Performance Analysis of All-Optical Routers for Packet-...," *Photonics North*, Jun 2012 (**invited**).
- C112. **R. Farhodi**, **A. Ghazisaeidi**, and L. Rusch, "Analytical PDF of Decision Statistic for Coherent MPSK with Electronic Dispersion ...," in *IEEE Conf. on Optical Fiber Comm. (OFC)*, Mar 2012.
- C111 **C. Brunet**, M. Parizeau, and L. Rusch, "Impact of MCMC Convergence Behavior on MMC Parallelization," in *IEEE Conf. on Info. Sciences and Systems*, Princeton, Mar 2012.
- C110 **H. Rastegarfar**, K. Khavari, S. LaRochelle, L. Rusch, and A. Leon-Garcia, "A High-Performance Network Architecture for Scalable ...," in *IEEE Photonics Conf. 2011*, Nov 2011.
- C109 **H. Rastegarfar**, Q. Xu, **A. Ghazisaeidi**, **Y. BenM'Sallem**, A. Leon-Garcia, S. LaRochelle, and L. Rusch, "Cross-Layer Study of Optical Burst Switches ...," in *IEEE Photonics Conf.*, Nov 2011.

- C108 **A. Ghazisaeidi** and L. Rusch, "Low Complexity Digital Backpropagation to Mitigate SOA-induced Phase Distortions," in *IEEE Photonics Conf. 2011*, Alexandria, VA, Nov 2011.
- C107 **B. Filion, A. Ghazisaeidi**, L. Rusch, and S. LaRochelle, "Extraction of Semiconductor Optical Amplifier Parameters for Wavelength Conversion Modeling," in *IEEE Photonics Conf.*, Nov 2011.
- C106 **M. Mirshafiei** and L. Rusch, "Equalizer Complexity/Performance Trade-Offs for High Data-Rate IR-UWB Linear Receivers in ...," in *IEEE Inter. Conf. on Ultra-Wideband*, Sep 2011, pp. 215-220.
- C105 **M. Mirshafiei**, J. Schwartz, D. Plant, and L. Rusch, "UWB Matched Filter Reception Using an Electromagnetic Bandgap ...," in *IEEE Inter. Conf. on Ultra-Wideband*, Sep 2011, pp. 516-520.
- C104 Q. Xu, H. **Rastegarfar**, **Y. BenM'Sallem**, S. LaRochelle, A. Leon-Garcia, and L. Rusch, "OOK Q-factor Degradation in Scalable Optical Switches," in *IEEE Inter. Conf. on High Performance Switching and Routing*, .Spain, July 2011.
- C103 D. Lemus, M. Abtahi, **M. Mirshafiei**, L. Rusch, and S. LaRochelle, "Combining Multiple Semiconductor Laser Sources for ...," in *IEEE Conf. on Lasers and Electro-Optics*, May 2011.
- C102 **M. Mirshafiei**, M. Abtahi, S. Larochelle, and L. Rusch, "Pulse Shapes That Outperform Traditional UWB waveforms," in *2010 IEEE Conf. on Global Communications*, Dec 2010, pp. 1-5.
- C101 **M. Mirshafiei**, M. Abtahi, and L. Rusch, "Optical Generation of UWB Waveform via Upconversion of Gain-Switched ...," in *2010 IEEE Photonics Annual Mtg.*, Denver, Nov 2010.
- C100 Q. Xu, **A. Ghazisaeidi**, S. Doucet, **Y. BenM'Sallem**, L. Rusch, and S. Larochelle, "Tunable SOA Wavelength Converter for ...," in *IEEE Photonics Society Annual Mtg.*, Denver, Nov 2010.
- C99 Z. A. **El-Sahn**, **W. Mathlouthi**, H. Fathallah, S. Larochelle, and L. Rusch, "A Novel FBG-Based Self-Seeded RSOA Transmitter ...," in *IEEE Photonics Society Annual Mtg.*, Nov 2010.
- C98 **W. C. Ng**, Q. Xu, K. Dolgaleva, S. Doucet, D. Lemus, P. Chretien, W. Zhu, L. Rusch, S. LaRochelle, L. Qian, and J. Aitchison, "Error-free 0.16pi-XPM-based All-Optical Wavelength Conversion in a 1-cm-long ...," in *IEEE Photonics Society Annual Mtg.*, Nov 2010, pp. 54-55.
- C97 **M. Mirshafiei**, M. Dastmalchi, M. Abtahi, S. Larochelle, and L. Rusch, "Optical Distribution of UWB: Low Complexity ...," in *2010 Int'l Topical Mtg. on Microwave Photonics*, Oct 2010.
- C96 M. Abtahi and L. Rusch, "Arbitrary UWB Waveform Generator Supporting OOK, PPM and PSK Modulation Formats," in *2010 Int'l Topical Mtg. on Microwave Photonics*, Montreal, Oct 2010.
- C95 **Y. BenM'Sallem**, Q. T. Le, L. Bramerie, Q.-T. Nguyen, E. Borgne, P. Besnard, S. LaRochelle, L. Rusch, and J.-C. Simon, "Quantum-Dash Mode-Locked Laser Source for Wavelength-Tunable 56 Gbit/s DQPSK," in *Euro. Conf. on Optical Comm. (ECOC)*, Turin, Sep 2010.
- C94 M. Dastmalchi, M. Abtahi, D. Lemus, L. Rusch, and S. LaRochelle, "Simple and efficient UWB pulse ...," in *2010 Bragg Gratings, Photosens. & Poling in Glass Waveguides*, June 2010.
- C93 **M. Sisto**, M. Pasandi, L. Rusch, and S. LaRochelle, "Optical phase and amplitude control for beamforming ...," in *2010 IEEE Conf. on Optical Fiber Comm. (OFC)*, San Diego, Mar 2010.
- C92 A. Bononi, L. Rusch, **A. Ghazisaeidi**, **F. Vacondio**, and N. Rossi, "A Fresh Look at Multicanonical Monte Carlo ...," in *IEEE Globecom 2009 ONS Sym.*, Honolulu, Dec 2009, pp. CTS-14.1.
- C91 **M. M. Rad**, H. Fathallah, S. LaRochelle, and L. Rusch, "Experimental Validation of Periodic Codes for PON ...," in *IEEE Globecom 2009 ONS Sym.*, Honolulu, Dec 2009, pp. ONS-04.6.

- C90 **A. Ghazisaeidi, F. Vacondio**, and L. Rusch, "Evaluation of the Impact of Filter Shape on the Performance of SOA- ...," in *IEEE Globecom 2009 ONS Sym.*, Honolulu, Dec 2009, pp. ONS-04.4.
- C89 **F. Vacondio, A. Ghazisaeidi**, and L. Rusch, "Simultaneous WDM-DQPSK Demodulation With a Single AWG," in *2009 European Conf. on Optical Communications*, Vienna, Sep 2009.
- C88 M. Abtahi, M. Dastmalchi, S. LaRochelle, and L. Rusch, "Generation of Arbitrary UWB Waveforms: A Low Complexity ...," in *2009 Int'l Conf. Ultra Wide Band*, Sep 2009, pp. 408-412.
- C87 **A. Ghazisaeidi** and L. Rusch, "On the Capacity of SOA-assisted SAC-OCDMA Systems: A Numerical Approach using ...," in *2009 LEOS Summer Topicals*, Newport Beach, July 2009.
- C86 L. Rusch and M. Abtahi, "Optical Processing to Enhance UWB Transmission and Reception," in *CLEO 2009*, Baltimore, May 2009, **(invited)**.
- C85 Y. Kim, M. Pasandj, S. Doucet, L. Rusch & S. LaRochelle, "OSNR requirements for Optical Multicarrier Generator for Short Range Radio-Over-Fiber Systems," in *CLEO 2009*, May 2009.
- C84 L. Rusch and M. Abtahi, "Novel Optically Generated Ultra Wideband (UWB) Signals," in 2009 IEEE Conf. on Optical Fiber Communication, San Diego, Mar 2009, **(invited)**.
- C83 M. Abtahi, M. Dastmalchi, S. LaRochelle, and L. Rusch, "Programmable UWB Waveform Generation Using FBGs with Temperature-Controlled ...," in *OFC 2009*, San Diego, Mar 2009.
- C82 **A. Ghazisaeidi, F. Vacondio**, A. Bononi, and L. Rusch, "Statistical Characterization of Bit Patterning in SOAs: BER Prediction and Experimental ...," in *OFC 2009*, San Diego, Mar 2009.
- C81 **Mirshafiei**, M., M. Abtahi, S. LaRochelle, and L. Rusch, "Wideband Antenna EIRP Measurements for Various UWB Waveforms," in *ICUWB 2008*, Hannover, Germany, Sep 2008.
- C80 Abtahi, M., **M. Mirshafiei**, L. Rusch, and S. LaRochelle, "An Optical Realization of a 500 Mb/s UWB Transceiver," in *ICUWB 2008*, Hannover, Germany, September 2008.
- C79 **Thériault**, M., L. Rusch, S. Roy, and P. Fortier, "A Semi-Analytic Method for BER Performance of RAKE Based UWB Receivers," in *WCNC 2008*, Las Vegas, pp. 112-117, April 2008.
- C78 **Seddighian**, P., **Y. BenM'Sallem**, A. Leon-Garcia, and L. Rusch, "Time-Stacked Optical Labels: An Alternative to Label-Swapping," in *OFC 2008*, paper OMG5, February 2008.
- C77 **El-Sahn**, Z., M. Zeng, B. J. Shastri, N. Kheder, D. Plant, and L. Rusch, "Dual Architecture Uplink Demonstration of a 7x622 Mbps SAC-OCDMA PON ...," in *OFC 2008*, paper OMR3, Feb 2008.
- C76 **Rad**, M., H. Fathallah, and L. Rusch, "Beat Noise Mitigation via Hybrid 1D/2D-OCDMA: Application to Monitoring of High Capacity PON," in *OFC 2008*, paper OMR7, Feb 2008.
- C75 M. Mousa Pasandj, **M. Sisto**, S. LaRochelle, and L. Rusch, "Low Distortion Null-Steering Beamforming with a Cascade of Fiber Bragg ...," in *2007 LEOS Annual Mtg.*, pp. 114-5, Oct 2007.
- C74 Rosas-Fernández, J. B., M. Presi, **W. Mathlouthi**, S. LaRochelle L. Rusch, and I. White, "All Optical Recognition of 36 SAC-Labels with ...," in *ECOC 2007*, Berlin, paper 3.2.4, Sep 2007.
- C73 **Rad**, M. M., H. Fathallah, and L. Rusch, "Effect of PON Geographical Distribution on Monitoring by Optical Coding," in *ECOC 2007*, paper 7.6.6, Sep 2007.
- C72 **Mathlouthi**, W., **F. Vacondio**, J. Penon, **A. Ghazisaeidi**, and L. Rusch, "DWDM Achieved with Thermal Sources: a Future-proof PON Solution," in *ECOC 2007*, Sep 2007.
- C71 Abtahi, M., J. Magné, **M. Mirshafiei**, L. Rusch, and S. LaRochelle, "Experimental Generation of FCC-Compliant UWB Pulse using FBGs," in *ECOC 2007*, Berlin, Sep 2007.

- C70 **Seddighian**, P., V. Baby, C. Habib, L. R. Chen, L. Rusch, and S. LaRoche, "All-Optical Label Swapping for ...," in *2007 IEEE Photonics in Switching*, San Fran., Aug 2007.
- C69 **Rad**, M. M., L. Rusch, and J.-Y. Chouinard, "Source Matching in Optical CDMA in the Presence of Multiple Access Interference and ...," in *CWIT 2007*, Edmonton, June 2007.
- C68 **Sisto**, M. M., **F. Vacondio**, S. LaRoche, and L. Rusch, "Low Distortion Transmission of 802.11a/n Signals in Amplified Radio Over ...," in *ARP 2007*, Montreal, pp. 40-45, May 2007.
- C67 **Sisto**, M. M., M. E. M. Pasandi, S. LaRoche, and L. Rusch, "Optical Phase and Amplitude Control for Beamforming with ...," in *ARP 2007*, Montreal, pp. 238-243, May 2007.
- C66 **Mathlouthi**, W., **F. Vacondio**, P. **Lemieux**, and L. Rusch, "SOA-based Noise Suppression in Spectrum-Sliced PONs: Impact ...," in *WOC 2007*, Montreal, pp. 4744-79, May 2007.
- C65 Abtahi, M., **S. Ayyotte**, J. **Penon**, and L. Rusch, "Intensity Noise in Balanced Detection of Correlated Incoherent Signals," in *WOC 2007*, Montreal, pp. 204-209, May 2007.
- C64 **Seddighian**, P., J. B. Rosas-Fernández, **S. Ayyotte**, L. Rusch, S. LaRoche, and A. Leon-Garcia, "Low-cost, Scalable Optical Packet Switching ...," in *OFC 2007*, March 2007.
- C63 Fathallah, H. and L. Rusch, "Network Management Solution for PS/PON, WDM/PON and Hybrid PS/WDM/PON using DS-OCDM," in *OFC 2007*, Anaheim, CA, March 2007.
- C62 **Vacondio**, F., M. M. **Sisto**, L. Rusch, and S. LaRoche, "Electrical-to-optical conversion of OFDM 802.11g/a signals by direct current modulation of ...," in *MWP*, Grenoble, Oct 2006.
- C61. Salsi, M., A. Vannucci, A. Bononi, **W. Mathlouthi**, P. **Lemieux**, and L. Rusch, "A Reservoir Dynamic Model for Linear Optical Amplifiers," in *2006 LEOS Annual Mtg.*, Montreal, Oct 2006.
- C60. Rosas-Fernández, J., J. **Penon**, L. Rusch, and S. LaRoche, "All-Optical Label Stacking Capacity for Packet Switching using Spectral Amplitude Code," in *LEOS Annual Mtg.*, Montreal, Oct 2006.
- C59. **Mathlouthi**, W., P. **Lemieux**, M. Salsi, A. Vannucci, A. Bononi, and L. Rusch, "A Novel Reservoir Model for SOAs in WDM Networks," in *2006 LEOS Annual Meeting*, Montreal, Oct 2006.
- C58. **El-Sahn**, Z., J. **Penon**, and L. Rusch, "Simulation of Real SAC-OCDMA under Both S-ALOHA and R3T Random Access Protocols," in *2006 LEOS Annual Meeting*, Montreal, Oct 2006.
- C57. **Ayyotte**, S. and L. Rusch, "A Comparison of Optical Sources for Spectral Amplitude Coding OCDMA," in *2006 LEOS Annual Meeting*, Montreal, October 2006.
- C56. Abtahi, M. and L. Rusch, "Abating of Scintillation Noise in FSO Communication Links Using Saturated Optical Amplifiers," in *MilCom 2006*, Washinton DC, Oct 2006.
- C55. **Seddighian**, P., **S. Ayyotte**, J. B. Rosas-Fernández, J. **Penon**, S. LaRoche, and L. Rusch, "Self-Routing Packets with Stacked Optical Code ...," in *ECOC'06*, Cannes, Sept 2006.
- C54. Rosas-Fernández, J. B., **S. Ayyotte**, S. LaRoche, and L. Rusch, "A Single All-Optical Processor for Multiple Spectral Amplitude Code ...," in *ECOC'06*, Cannes, Sept 2006.
- C53. **Mathlouthi**, W., P. **Lemieux**, and L. Rusch, "Optimal SOA-based Noise Reduction Schemes for Incoherent Spectrum-Sliced PONs," in *ECOC'06*, Cannes, Sept 2006.
- C52. Faucher, J., **S. Ayyotte**, Z. **El-Sahn**, M. Y. Mukadam, L. Rusch, and D. Plant, "Receiver for 2D lambda-t OCDMA with Quantizer, CDR and FEC," in *ECOC'06*, Cannes, Sept 2006.
- C51. Rosas-Fernández, J. B., L. R. Chen, S. LaRoche, A. Leon-Garcia, D. V. Plant, and L. Rusch, "Packet switched networks with ...," in *2006 Photonics North*, Quebec, June 2006.

- C50. **Lemieux, P., W. Mathlouthi**, L. Rusch, A. Vannucci, and A. Bononi, "New Gain Parameterization for Fast Semiconductor ...," in *2006 Photonics North*, Quebec, Jun 2006.
- C49 **Penon, J., S. Ayotte**, L. Rusch, and S. LaRochelle, "Incoherent SAC OCDMA System at 7x622Mbps," in *CLEO 2006*, Long Beach, CA, May 2006
- C48 Seddighian, P., **S. Ayotte**, J. B. RosasFernández, J. **Penon**, S. LaRochelle, and L. Rusch, "Label Stacking Using Spectral Amplitude Code Labels for Optical ...," in *OFC 2006*, March 2006
- C47 Rusch, L. A., "Theoretical and practical capacity of OCDMA using spectral amplitude coding," in *2005 Inter. Conf. on Applications of Photonic Technology (Photonics North)*, Toronto, Sep 2005.
- C46 Wei, D.-P., F. **Therriault-Proulx**, L. Rusch, and M. Tețu, "Scintillation Suppression in a Laboratory-Simulated Free-Space Optical ...," in *2005 IEEE/LEOS Summer Topical Mtgs*, Aug 2005.
- C45 **Mathlouthi, W.**, P. **Lemieux**, & L. Rusch, "Intensity Noise in Incoherent-to-Coherent Wavelength Conversion in SOAs," in *2004 Asilomar Conf. Signals, Sys., & Comp.*, Monterey, Nov 2004.
- C44 Rochette, M., **S. Ayotte**, and L. Rusch, "Spectral Efficiency of Frequency-Encoded OCDMA Systems with Incoherent Sources," in *ECOC 2004*, Sep 2004 .
- C43 **Thériault, M.**, L. Rusch, and P. Fortier, "Effect of RAKE Correlations on the Performance of Hybrid RAKE," in *Biennial Symposium on Communications*, Kingston, Ontario, June 2004.
- C42 **Menif, M.**, P. **Lemieux**, **W. Mathlouthi**, and L. Rusch, "Incoherent-to-Coherent Wavelength Conversion Using Semiconductor Optical Amplifier," in *ICC 2004*, Paris, Jun 2004.
- C41 **Ayotte, S.**, M. Rochette, J. **Magné**, L. Rusch, and S. LaRochelle, "Experimental Demonstration and Simulation Results of Frequency Encoded Optical CDMA," in *ICC 2004*, Paris, Jun 2004.
- C40 **Mathlouthi, W.**, M. Menif, and L. Rusch, "Beat noise effects on spectrum-sliced WDM," in *ICAPT 2003(Photonics North)*, Montreal, vol. SPIE 5260,pp. 44-54, Dec 2003.
- C39 Wei, D.-P., **S. Ayotte**, S. LaRochelle, and L. Rusch, "BER Performance Comparison in a Multiuser FFH-OCDMA System with Incoherent and Coherent Sources," in *ECOC 2003*, Sep 2003.
- C38 **Magné, J.**, D.-P. Wei, **S. Ayotte**, L. Rusch, and S. LaRochelle, "Experimental Demonstration of Frequency-Encoded Optical CDMA using Superimposed FBG," in *BGPP 2003*, Sep 2003.
- C37 Li, Q. and L. Rusch, "Hybrid RAKE / Multiuser Receivers for UWB," in *Rawcon 2003*, Boston, Aug 2003.
- C36 Wei, D.-P., **S. Ayotte**, **W. Mathlouthi**, S. LaRochelle, and L. Rusch, "BER Performance of an Optical Fast Frequency-Hopping CDMA ...," *IEEE OFC 2003*, Atlanta, pp. 544-546, Mar 2003.
- C35 Prettie, C., D. Cheung, L. Rusch, and M. Ho, "Spatial Correlation of UWB Signals in a Home Environment," in *2002 IEEE Conf. on Ultra Wideband Systems and Technologies*, May 2002.
- C34 Li, Q. and L. Rusch, "Multiuser Receivers for DS-CDMA UWB," in *2002 IEEE Conf. on Ultra Wideband Systems and Technologies*, pp. 163-167, May 2002.
- C33 **Inaty, E.**, L. Rusch, and P. Fortier, "Multirate Optical Fast Frequency Hopping CDMA System Using Power Control," in *IEEE Globecom 2000*, San Francisco, vol. 2, pp. 1221-7, Nov 2000.
- C32 **Menif, M.**, M. Karásek, A. Bononi, and L. Rusch, "A New Method to Equalize Static and dynamic OSNR in Cascades of ...," in *2000 ICAPT (Photonics North)*, SPIE 4087, pp. 335-42, Jun 2000.
- C31 **Fouli, K.**, H. Fathallah, M. Menif, and L. Rusch, "Equalization Advantages of OFFH-CDMA over WDM in EDFAs," in *2000 ICAPT (Photonics North)*, Quebec, vol. 4087, pp. 60-5, Jun 2000.

- C30 **Chen**, Y., M. Karásek, and L. Rusch, "Measurement of Power Spread Histograms in Chains of EDFAs Fed by Live ...," *2000 ICAPT (Photonics North)*, SPIE 4087, pp. 348-53, Jun 2000.
- C29 LaRoche, S., P.-Y. Cortès, H. **Fathallah**, L. Rusch, and H. Ben Jaafar, "Writing and applications fibre Bragg grating arrays," in *2000 ICAPT (Photonics North)*, vol. 4087, pp. 140-9, Jun 2000.
- C28 **Fathallah**, H. and L. Rusch, "Robust Optical Communications Without Temperature Control via FFH-CDMA," *11th Tyrrhenian Workshop on Digital Communications*, pp. 312-23, Sep 1999.
- C27 **Fathallah**, H., P.Y. Cortès, L. Rusch, S. LaRoche, and L. Pujol, "Experimental Demonstration of Optical FFH-CDMA Communications," *ECOC '99*, vol. I, pp. 190-1, Sep 1999.
- C26 **Laflamme**, J.P. and L. Rusch, "Multiple-Access Interference Suppression in an Optical DS-CDMA LAN Using Fractionally-Spaced Equalization," *'99 IEEE CCECE*, vol. 1, pp. 186-90, May 1999.
- C25 Tancevski, L., A. Bononi, and L. Rusch, "Large Power & SNR Swings in Cascaded EDFAs Carrying Highly Variable Traffic," in *ECOC'98*, pp. 553-554, September 1998.
- C24 Cortés, P.-Y., H. **Fathallah**, S. LaRoche, L. Rusch, and P. Loïsele, "Writing of Bragg Gratings with Wavelength Flexibility Using a Sagnac ...," in *ECOC'98*, vol. 1, pp. 411-12, Sep 1998.
- C23 Tancevski, L. and L. Rusch, "Submicrosecond transient time responses in cascades of EDFAs," in *1998 ICAPT (Photonics North)*, Ottawa, vol. SPIE 3491, pp. 553-558, July 1998.
- C22 **Boulianne**, L.-P. and L. Rusch, "New Architecture & Codes for Optical Frequency-Hopping Multiple Access," in *1998 ICAPT (Photonics North)*, Ottawa, SPIE 3491, pp. 501-6, July 1998.
- C21 **Hamelin**, E., L. Rusch, and P. Fortier, "New Cross-correlation Results for Multi-rate CDMA," in *1998 IEEE Inter. Conf. on Communications*, vol. 2, pp. 693-698, 7-11 June 1998.
- C20 **Fathallah**, H., L. Rusch, and S. LaRoche, "Optical frequency-hop multiple access communications system," in *1998 IEEE Intern. Conf. on Comm.*, vol. 3, pp. 1269-73, June 1998.
- C19 Bononi, A. and L. Rusch, "Gain Dynamics of Doped-Fiber Amplifiers for Added and Dropped Signals," in *1998 IEEE Intern. Conf. on Communications*, vol. 2, pp. 911-5, June 1998.
- C18 Tancevski, L., L. Rusch, and A. Bononi, "Active Gain Control in Cascades of EDFAs by Pump Compensation," in *32nd Annual Conf. on Information Science & Sys.*, paper TP4.3, Mar 1998.
- C17 Bononi, A., L. Tancevski, and L. Rusch, "Fast Dynamics and Power Swings in Doped-Fiber Amplifiers Fed by Highly- ...," *IEEE 1998 Optical Fiber Conf.*, pp. 213-214, Feb 1998.
- C16 Bononi, A., L. Barbieri, and L. Rusch, "Using SPICE To Simulate Gain Dynamics in Doped-Fiber Amplifier Chains," in *IEEE 1998 Optical Fiber Conf.*, Workshop 204, Feb 1998.
- C15 Tancevski, L. and L. Rusch, "Two Dimensional CDMA Systems for Optical Networks ...," *Multi-media Networks: Security, Displays, Terminals & Gateways*, SPIE 3228, pp. 418-28, Nov 1997.
- C14 **Fathallah**, H., S. LaRoche, & L. Rusch, "Analysis of an optical frequency-hop encoder ...," *Bragg Gratings, Photosensitivity, & Poling in Glass Fibers & Waveguides*, pp. 200-2, Oct 1997.
- C13 Ayadi, F., P. Fortier, E. **Hamelin**, B. Ruchet, L. Rusch, & M. Têtu, "Network Architecture for a High Bandwidth WDMA/CDMA LAN," *IEEE PACRIM '97*, vol. 2, pp. 766-769, Aug 1997.
- C12 Latrasse, C., B. **Ruchet**, L. Rusch, and M. Têtu, "Injection Locking for Coherent Detection of Multi-wavelength Systems," in *1997 IEEE/LEOS Summer Topical Mtgs*, pp. 32-3, Aug 1997.
- C11 **Hamelin**, E., P. Fortier, and Rusch Leslie A., "Code Performance in Multi-rate CDMA for an Optical Fiber Network," in *1997 IEEE CCECE*, vol. 1, pp. 90-93, 25-28 May 1997.

- C10 **Fathallah**, H. and L. Rusch, "Blind Adaptive Narrowband Interference Suppression in DSSS via Subspace Analysis," in *Interf. Rejection & Signal Separation in Wireless Comm.*, Mar 1997.
- C9 **Fathallah**, H. and L. Rusch, "Enhanced Blind Adaptive NB Interference Suppression in DSSS," in *IEEE Globecom '96*, London, vol. 1, pp. 545-549, November 1996.
- C8 Rusch, L. A. and H. **Fathallah**, "MMSE Detector for Narrowband Interference Suppression in DS Spread Spectrum," in *Interf. Rejection & Signal Separation in Wireless Comm.*, Mar 1996.
- C7 Ayadi, F. and L. Rusch, "Dual Balanced Detection for Coherent Optical CDMA with Limited Phase Excursion," *30th Conf. on Information Sciences & Systems*, pp. 1142-5, March 1996.
- C6 Rusch, L. A., "Near-far Limit of BPSK CDMA with Brownian Phase Noise," in *1995 Canadian Workshop on Information Theory*, Québec, pp. 11, May 1995.
- C5 Rusch, L. A. and H. V. Poor, "Phase Drift Effects in Coherent Optical CDMA," in *IEEE Globecom '94*, vol. 4, pp. 159-165, November 1994.
- C4 Rusch, L. A. and H. V. Poor, "Asymptotic Normality of the Cross-Correlation of a CDMA System with Phase Drift," in *28th Annual Conf. on Information Sciences and Systems*, pp. 449-454, March 1994.
- C3 Rusch, L. A. and H. V. Poor, "Narrowband interference suppression in spread spectrum communications via multiuser detection techniques," in *The Seventh IEE European Conf. on Mobile Personal Communications*, pp. 84-89, December 1993.
- C2 Rusch, L. A. and H. V. Poor, "Improved Algorithms for Narrowband Interference Suppression in Direct Sequence Spread," in *The Third IEEE Inter. Symposium on Personal, Indoor and Mobile Radio Communications*, pp. 623-628, October 1992.

CONTRIBUTIONS TO INDUSTRIALLY RELEVANT RESEARCH AND DEVELOPMENT – *patents*

- P6 L. A. Rusch, I. Fazal, and M. M. Rad, "Method and Apparatus for Coupling Optical Fibers," December 5, 2017, US patent 9,838,128.
- P5 **C. Brunet** and L. A. Rusch, "System and Method for Optical Fiber," USA: Huawei, September 13, 2016, US patent 9,442,246.
- P4 Li, Qinghua and Leslie A. Rusch, "Adaptive receiver for multiplex/multi-access communications," assigned to Intel Corp., September 5, 2006, US patent 7,103,098.
- P3 Li, Qinghua and L. Rusch, "Adaptive receiver architecture," patent assigned to Intel Corp., April 19, 2011, US patent 7,929,913.
- P2 Rusch, Leslie A., "Device and Method for Intelligent Wireless Communication Selection," patent assigned to Intel Corp., October 5, 2004, US patent 6,801,777.
- P1 Fathallah, Habib, L. Rusch and Sophie LaRochelle, "Fast Frequency Hopping Spread Spectrum for Code Division Multiple ...," April 30, 2002, US patent 6,381,053.

- D3 **Mathlouthi**, W., **P. Lemieux**, Z. ElSahn, H. Fathallah, and L. Rusch, "Transmitter and receiver devices for optical communication systems," provisional patent applied for May 2007, 6013-225USPR.
- D2 Fathallah, H. and L. Rusch, "Optical Coding-OTDR Technology to Characterize Multi-Path Optical Waveguides ...," provisional patent applied for April 2007, number 000819-0100.

D1 RosasFernández, José B., **S. Ayotte**, S. LaRochelle, and L. Rusch, "Ultra-fast all-optical spectral-amplitude-code label processor for optical packet ...," disclosure filed Dec 2005.