

M. VASILYEV'S PATENTS, JOURNAL AND CONFERENCE PAPERS

Patents Granted

1. "Enabler of large Raman gain on small-effective-area fibers,"
J. M. Grochocinski, **M. Vasilyev**, V. Srikant, and J. Passalugo, U.S. Patent 6,618,191, granted September 9, 2003.
2. "Optical amplifier with reduced non-linear signal impairments by optimum pumping configuration and method for using same,"
M. Vasilyev, S. Tsuda, G. G. Luther, and Y. Liu, U.S. Patent 6,643,057, granted November 4, 2003.
3. "Distributed Raman amplification system,"
S. Gray, K. Jepsen, and **M. Vasilyev**, U.S. Patent 6,744,556, granted June 1, 2004.
4. "Dispersion-Managed Cable For Raman-Assisted Transmission,"
S. R. Bickham, D. G. Dalgoutte, J. M. Grochocinsky, and **M. Vasilyev**, U.S. Patent 6,943,935, granted September 13, 2005.
5. "Wide-band Raman amplifiers,"
A. Kobayakov and **M. Vasilyev**, U.S. Patent 6,992,814, granted January 31, 2006.
6. "Optical analyzers of polarization properties,"
C. A. Fuchs, **M. Vasilyev**, and B. Yurke, U.S. Patent 7,206,069, granted April 17, 2007.
7. "Optical apparatus having a polarization splitter and multiple interferometers,"
C. A. Fuchs, **M. Vasilyev**, and B. Yurke, U.S. Patent 7,463,361, granted December 9, 2008.
8. "Multi-channel all-optical signal processor,"
M. Vasilyev and T. I. Lakoba, U.S. Patent 7,505,690, granted March 17, 2009.
9. "Wavelength and intensity monitoring of optical cavity,"
M. Vasilyev and N. Stelmakh, U.S. Patent 7,852,486, granted December 14, 2010.
10. "Compact multi-port optical signal processor,"
M. Vasilyev and N. M. Stelmakh, U.S. Patent 8,340,484, granted December 25, 2012.

Journal Papers

11. "Gain-equalizable few-mode fiber optical parametric amplifier in telecom band,"
N. Huo, H. Cheng, S. Zhu, C. Guo, Y. Zhang, Q. Mo, L. Cui, **M. Vasilyev**, and X. Li, *Opt. Comm.* **508**, 127735 (2022).
12. "Investigation of Spontaneous Raman Scattering in Few-Mode Fibers: Dependence on Polarization and Spatial Modes,"
Z. Zhang, H. Cheng, C. Guo, L. Cui, Y. Zhang, Q. Mo, H. Yu, **M. Vasilyev**, and X. Li, *J. Lightwave Technol.* **39**, 6281–6287 (2021).
13. "Silicon-nitride microring resonators for nonlinear optical and biosensing applications,"
S. C. Samudrala, S. Das, K. J. Lee, M. G. Abdallah, B. R. Wenner, J. W. Allen, M. S. Allen, R. Magnusson, and **M. Vasilyev**, *Appl. Opt.* **60**, G132–G138 (2021).
14. "Progress Toward Spatially-Entangled Photon-Pair Generation in a Few-Mode Fiber,"
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *IEEE Photon. Technol. Lett.* **33**, 864–867 (2021).
15. "Noise figure study for a 3-stage hybrid amplifier using parametric wavelength converters and EDFA,"
C. Guo, A. Shamshooli, Y. Akasaka, T. Ikeuchi, and **M. Vasilyev**, *IEEE Photon. Technol. Lett.* **33**,

872–875 (2021).

16. “Reconfigurable Spatial-Mode-Selective Frequency Conversion in a Three-Mode Fiber,”
A. Shamschooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *IEEE Photon. Technol. Lett.* **33**, 860–863 (2021).
17. “SiN-microring-resonator-based optical biosensor for neuropeptide Y detection,”
S. Das, S. C. Samudrala, K. J. Lee, M. G. Abdallah, B. R. Wenner, J. W. Allen, M. S. Allen, R. Magnusson, and **M. Vasilyev**, *IEEE Photon. Technol. Lett.* **33**, 888–891 (2021).
18. (Invited) “Recent Progress on Optical Regeneration of Wavelength-Division-Multiplexed Data,”
P. G. Patki, P. Guan, L. Li, T. I. Lakoba, L. K. Oxenløwe, **M. Vasilyev**, and M. Galili, *J. Sel. Top. Quant. Electron.* **27**, 7700812 (2021).
19. “Measurement of effective nonlinear coefficients in few-mode fibers,”
L. Cui, X. Liu, C. Guo, Z. Zhang, N. Zhao, **M. Vasilyev**, and X. Li, *Opt. Lett.* **44**, 5768–5771 (2019).
20. “Investigation of Hybrid Silicon-Nitride/Polymer Waveguides for Second-Harmonic Generation,”
S. Das, B. R. Wenner, J. W. Allen, M. S. Allen, and **M. Vasilyev**, *IEEE Photon. J.* **11**, 4500509 (2019).
21. “All-optical regenerator of multi-channel signals,”
L. Li, P. G. Patki, Y. B. Kwon, V. Stelmakh, B. D. Campbell, M. Annamalai, T. I. Lakoba, and **M. Vasilyev**, *Nature Comm.* **8**, 884 (2017).
22. (Invited) “First Monolithically Integrated Dual-Pumped Phase-Sensitive Amplifier Chip Based on a Saturated Semiconductor Optical Amplifier,”
W. Li, M. Lu, A. Mecozzi, **M. Vasilyev**, S. Arafın, D. Dadic, L. A. Johansson, and L. A. Coldren, *IEEE J. Quantum Electron.* **52**, 0600212 (2016).
23. “Matched filtering of ultrashort pulses,”
M. Vasilyev, *Science* **350**, 1314–1315 (2015).
24. “On multi-channel operation of phase-preserving 2R amplitude regenerator,”
T. I. Lakoba and **M. Vasilyev**, *Opt. Commun.* **322**, 114–117 (2014).
25. “Spatially-resolved self-heterodyne spectroscopy of lateral modes of broad-area laser diodes,”
N. Stelmakh and **M. Vasilyev**, *Opt. Express* **22**, 3845–3859 (2014),
<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-22-4-3845> .
26. “Compact representation of the spatial modes of a phase-sensitive image amplifier,”
M. Annamalai, N. Stelmakh, P. Kumar, and **M. Vasilyev**, *Opt. Express* **21**, 28134–28153 (2013),
<http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-21-23-28134> .
27. “Fundamental eigenmode of travelling-wave phase-sensitive optical parametric amplifier: experimental generation and verification,”
A. R. Bhagwat, G. Alon, O.-K. Lim, C.-H. Chen, M. Annamalai, **M. Vasilyev**, and P. Kumar, *Opt. Lett.* **38**, 2858–2860 (2013).
28. “Optimization of gain in traveling-wave optical parametric amplifiers by tuning the offset between pump- and signal-waist locations,”
G. Alon, O.-K. Lim, A. Bhagwat, C.-H. Chen, M. Annamalai, **M. Vasilyev**, and P. Kumar, *Opt. Lett.* **38**, 1268–1270 (2013).
29. “Phase-sensitive multimode parametric amplification in a parabolic-index waveguide,”
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30. “Frequency up-conversion of quantum images,”

- M. Vasilyev** and P. Kumar, *Opt. Express* **20**, 6644–6656 (2012), <http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-20-6-6644> .
31. “Spontaneous decay of CdSe / ZnS core-shell quantum dots at the air-dielectric interface,” L. Zhu, S. Samudrala, N. Stelmakh, and **M. Vasilyev**, *Opt. Express* **20**, 3144–3151 (2012), <http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-20-3-3144> ; also selected for publication in *Virtual J. Biomed. Opt.* **7** (3), <http://www.opticsinfobase.org/vjbo/abstract.cfm?URI=oe-20-3-3144> .
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 33. “Spatial modes of phase-sensitive parametric image amplifiers with circular and elliptical Gaussian pumps,” M. Annamalai, N. Stelmakh, **M. Vasilyev**, and P. Kumar, *Opt. Express* **19**, 26710–26724 (2011), <http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-19-27-26710> .
 34. “NALM-based, phase-preserving 2R regenerator of high-duty-cycle pulses,” T. I. Lakoba, J. R. Williams, and **M. Vasilyev**, *Opt. Express* **19**, 23017–23028 (2011), <http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-19-23-23017> .
 35. “Noise performance of a frequency non-degenerate phase-sensitive amplifier with un-equalized inputs,” Z. Tong, C. Lundström, M. Karlsson, **M. Vasilyev**, and P. A. Andrekson, *Opt. Lett.* **36**, 722–724 (2011).
 36. “Optimization of coupling from a sub-wavelength nanoaperture to the fundamental Gaussian mode,” M. Annamalai and **M. Vasilyev**, *J. Mod. Opt.* **57**, 1954–1960 (2010).
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 39. “Mode harnessing for laser diodes,” N. Stelmakh and **M. Vasilyev**, *Optics and Photonics News* **21**, No. 4, pp. 20–25 (2010).
 40. “Estimation of the spatial bandwidth of an optical parametric amplifier with plane-wave pump,” **M. Vasilyev**, N. Stelmakh, and P. Kumar, *J. Mod. Opt.* **56**, 2029–2033 (2009).
 41. “Phase-sensitive image amplification with elliptical Gaussian pump,” **M. Vasilyev**, N. Stelmakh, and P. Kumar, *Opt. Express* **17**, 11415–11425 (2009), <http://www.opticsinfobase.org/oe/abstract.cfm?URI=oe-17-14-11415> .
 42. “Degenerate and nondegenerate lateral-mode patterns in quantum cascade lasers,” N. Stelmakh, **M. Vasilyev**, F. Toor, and C. Gmachl, *Appl. Phys. Lett.* **94**, 013501 (2009).
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 44. “In-line phase-sensitive amplification of multi-channel CW signals based on frequency nondegenerate four-wave-mixing in fiber,”

- R. Tang, P. S. Devgan, V. S. Grigoryan, P. Kumar, and **M. Vasilyev**, *Opt. Express* **16**, 9046–9053 (2008), <http://www.opticsinfobase.org/abstract.cfm?URI=oe-16-12-9046> .
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46. “Optimum pre-emphasis in ultra-long-haul networks,”
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<http://www.opticsinfobase.org/abstract.cfm?URI=JON-5-3-159> .
47. (Invited) “Squeezing And Fiber-Optic Communications,”
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48. “Quantum mechanics of phase-sensitive amplification in a fiber,”
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<http://www.opticsinfobase.org/abstract.cfm?URI=oe-13-19-7563> .
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54. “Transparent Ultra-Long-Haul DWDM Networks with “Broadcast & Select” OADM/OXC Architecture,”
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57. “Analytical Model for Raman Noise Figure in Dispersion-Managed Fibers,”
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72. “Perturbation theory of quantum solitons: continuum evolution and optimum squeezing by spectral filtering,”
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Book Chapters and Hard-Bound Volumes

77. “Optical Amplifiers,”
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78. “Mode Coupling in Phase-Sensitive Amplifier with Generalized Pump Mode and Spot Size,”
M. Annamalai, **M. Vasilyev**, and P. Kumar, in *Quantum Communication, Measurement, and Computation 11*, ed. by H.-J. Schmiedmayer and P. Walther, AIP Conf. Proc. **1633**, pp. 261–263 (2014).
79. “Enhanced Optical Resolution with Phase-Sensitive Preamplification in Coherent Image Detection,”
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85. “Photocurrent noise suppression and optical amplification in negative-feedback opto-electronic loop,”
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Refereed Conference Papers

86. “Flexible Data Rate and Power Efficiency Pulse-Position-Modulation Communication with Independent Free-Running Clocks,”
C. Guo, R. J. Essiambre, S. K. Dacha, A. Blanco-Redondo, F. R. Kschischang, K. Banaszek, J. D. Sandoz, J. Cloonan, **M. Vasilyev**, to be presented at the *Conference on Lasers and Electro-Optics*, Charlotte, NC, May 5–10, 2024, paper SF3D.3.
87. “Positive (>0 dB) Wavelength Conversion Efficiency in Temperature-Tuned Five-Segment Highly-Nonlinear Fiber Without Pump Dithering,”
H. Rabbani, C. Guo, and **M. Vasilyev**, *Optical Fiber Communication conference*, San Diego, CA, March 24–28, 2024, paper M1B.5.
88. “Record Photon Information Efficiency with Optical Clock Transmission and Recovery of 12.5 bits/photon After 77 dB of Optical Path Loss,”
C. Guo, S. K. Dacha, R. J. Essiambre, A. Ashikhmin, A. Blanco-Redondo, F. R. Kschischang, K. Banaszek, M. Weiner, R. Kopf, I. Crawley, M. H. Idjadi, A. A. Sayem, J. Zhao, J. D. Sandoz, N. Fontaine, N. Menkart, R. Ryf, J. Cloonan, **M. Vasilyev**, T. E. Murphy, and E. C. Burrows, *the IEEE Photonics Conference*, Orlando, FL, November 12–16, 2023, post-deadline paper PD2.
89. “Phase-preserving amplitude regeneration in a Mamyshev regenerator with mid-stage optical phase conjugation,”
C. Guo and **M. Vasilyev**, *Optical Fiber Communication conference*, San Diego, CA, March 5–9, 2023, paper W2A.31.
90. “Temperature-tuned two-segment highly-nonlinear fiber with increased stimulated Brillouin scattering threshold,”
C. Guo, **M. Vasilyev**, Y. Akasaka, P. Palacharla, S. Takasaka, and R. Sugizaki, *Optical Fiber Communication conference*, San Diego, CA, March 5–9, 2023, paper Th1B.2.
91. (Invited) “Devices for quantum communication over mode-division-multiplexing systems,”
A. Shamshooli, Y. B. Kwon, C. Guo, and **M. Vasilyev**, “*Quantum Computing, Communication, and Simulation III*” conference (part of the *SPIE Quantum West / Photonics West*), San Francisco, CA, January 28 – February 2, 2023, paper 12446-36; Proc. SPIE **12446**, 124460E (2023).
92. (Invited) “S-band Amplifier Using Highly Nonlinear Fibers,”
Y. Akasaka, S. Takasaka, R. Sugizaki, C. Guo, and **M. Vasilyev**, *27th OptoElectronics and Communications Conference (OECC) and International Conference on Photonics in Switching and Computing (PSC)*, July 3–6, 2022, Toyama, Japan, paper TuC1-1.
93. “Amplitude regeneration and phase noise suppression of an 8-PSK signal by an attenuation-imbalance NOLM,”
C. Guo, **M. Vasilyev**, and T. I. Lakoba, *CLEO 2022 conference*, San Jose, CA, May 15–20, 2022, paper STh5M.6.
94. “Power consumption and FWM crosstalk analysis of a hybrid S-band amplifier based on two parametric wavelength converters and an EDFA,”
C. Guo, **M. Vasilyev**, Y. Akasaka, and P. Palacharla, *the Optical Fiber Communication conference*, San Diego, CA, March 6–10, 2022, paper W4J.5.
95. “Alignment of zero-dispersion wavelength along highly-nonlinear fiber length with simultaneous increase in the stimulated Brillouin scattering threshold,”
C. Guo, **M. Vasilyev**, Y. Akasaka, and P. Palacharla, *the Optical Fiber Communication conference*, San Diego, CA, March 6–10, 2022, paper W3E.2.
96. (Invited) “Fiber-based sources of quantum light for quantum information processing,”

X. Li, L. Cui, X. Guo, Z. Y. Ou, and **M. Vasilyev**, *Asia Communications and Photonics Conference ACP 2021*, Shanghai, China, October 24–27, 2021, paper M4A.1.

97. (Invited) “Emerging applications of wavelength conversion,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, Y. Akasaka, P. Palacharla, and **M. Vasilyev**, *IEEE Photonics Conference*, October 17–21, 2021, paper ThE2.1.
98. “Noise figure measurement for a 3-stage hybrid amplifier using parametric wavelength converters and EDFA,”
C. Guo, A. Shamshooli, **M. Vasilyev**, Y. Akasaka, and P. Palacharla, *IEEE Photonics Conference*, October 17–21, 2021, paper ThE2.2.
99. “Linewidth and Cavity Feedback in Photonic Crystal Surface Emitting Lasers,”
A. R. K. Kalapala, C. Guo, L. Overman, **M. Vasilyev**, J. Coleman, and W. Zhou, *IEEE Photonics Conference*, October 17–21, 2021, paper MB2.4.
100. “Full 2π phase shift from single and double layer photonic crystal slabs,”
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101. (Invited) “Spatial-Mode-Selective Frequency Conversion,”
A. Shamshooli, Y. B. Kwon, C. Guo, F. Parmigiani, X. Li, C. Langrock, M. M. Fejer, and **M. Vasilyev**, *OSA Photonics in Switching and Computing Conference*, September 27–29, 2021, paper Tu4A.1.
102. “Investigation of Hybrid S-band Amplifier Performance with 8-channel \times 10 Gbaud 16-QAM signals,”
C. Guo, A. Shamshooli, Y. Akasaka, P. Palacharla, and **M. Vasilyev**, *the European Conference on Optical Communications (ECOC)*, Bordeaux, France, September 13–16, 2021, paper Tu2A.3.
103. “Toward OAM-selective frequency conversion in a three-mode fiber,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *CLEO 2021 conference*, San Jose, CA, May 11–13, 2021, paper SM1F.5.
104. “Progress Toward Generation of Spatially-Entangled Photon Pairs in a Few-Mode Fiber,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *the IEEE Photonics Conference 2020*, September 28 – October 1, 2020, paper MI2.2.
105. “Reconfigurable mode-selective frequency conversion in a three-mode fiber,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *the IEEE Photonics Conference 2020*, September 28 – October 1, 2020, paper ThF1.2.
106. “Noise figure of a 3-stage hybrid amplifier using parametric wavelength converters and EDFA,”
A. Shamshooli, C. Guo, **M. Vasilyev**, Y. Akasaka, and T. Ikeuchi, *the IEEE Photonics Conference 2020*, September 28 – October 1, 2020, paper WE3.4.
107. “Towards the detection of neuropeptide Y at nanomolar level by a SiN microring resonator,”
S. Das, S. C. Samudrala, K. J. Lee, B. R. Wenner, J. W. Allen, M. S. Allen, R. Magnusson, and **M. Vasilyev**, *the IEEE Photonics Conference 2020*, September 28 – October 1, 2020, paper TuF4.2.
108. “Toward Generation of Orbital-Angular-Momentum-Entangled Photon Pairs in a Few-Mode Fiber,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *the Frontiers in Optics / Laser Science Conference 2020*, September 14–17, 2020, paper FM1D.2.
109. “Mode-Selective Frequency Conversion in a Three-Mode Fiber,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *CLEO 2020 conference*, San Jose, CA, May 10–15, 2020, paper SM3P.3.

110. “Toward Generation of Spatially-Entangled Photon Pairs in a Few-Mode Fiber,”
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *CLEO 2020 conference*, San Jose, CA, May 10–15, 2020, paper JTh2A.27.
111. “Gain equalizable optical parametric amplifiers using few-mode fiber,”
N. Huo, C. Guo, Z. Zhang, L. Cui, **M. Vasilyev**, and X. Li, “*Nonlinear Frequency Generation and Conversion: Materials and Devices XIX*” conference (part of the *SPIE LASE / Photonics West*), San Francisco, CA, February 1–6, 2020, paper 11264-1U; Proc. SPIE **11264**, 112641U (2020).
112. “Fundamental selectivity limits of gas spectroscopy,”
K. Saha, Y. Sun, and **M. Vasilyev**, *the Frontiers in Optics / Laser Science Meeting*, September 15–19, 2019, Washington, DC, paper JW4A.118.
113. “Measurement of Effective Nonlinear Coefficients in Few-Mode Fibers,”
L. Cui, C. Guo, Z. Zhang, N. Zhao, **M. Vasilyev**, X. Li, *the Frontiers in Optics / Laser Science Meeting*, September 15–19, 2019, Washington, DC, paper FW5B.4.
114. “Investigation of Neuropeptide Y Detection by a Silicon-Nitride Microring Resonator,”
S. Das, S. C. Samudrala, K. J. Lee, B. R. Wenner, J. W. Allen, M. S. Allen, R. Magnusson, and **M. Vasilyev**, *the IEEE Photonics Society’s Research and Applications of Photonics in Defense Conference (RAPID) conference*, Miramar Beach, FL, August 19–21, 2019, paper WF1.4.
115. (Invited) “Optical biosensing with silicon-nitride microresonators,”
S. Das, S. C. Samudrala, K. J. Lee, R. Magnusson, B. R. Wenner, J. W. Allen, M. S. Allen, and **M. Vasilyev**, *the IEEE Photonics Society’s Research and Applications of Photonics in Defense Conference (RAPID) conference*, Miramar Beach, FL, August 19–21, 2019, paper TuC1.1.
116. (Invited) “Multi-channel all-optical signal regeneration,”
L. Li, P. Patki, T. I. Lakoba, and **M. Vasilyev**, *Optical Fiber Communication conference*, San Diego, CA, March 3–7, 2019, paper W4F.1.
117. (Invited) “All-optical regeneration of multiple WDM channels,”
L. Li, P. Patki, T. I. Lakoba, and **M. Vasilyev**, “*Metro and Data Center Optical Networks and Short-Reach Links II*” conference (part of the *SPIE OPTO / Photonics West*), San Francisco, CA, February 2–7, 2019, paper 10946-25; Proc. SPIE **10946**, 109460Q (2019).
118. (Invited) “Simultaneous nonlinear-optical processing of multiple WDM channels,”
L. Li, P. Patki, T. I. Lakoba, and **M. Vasilyev**, *IEEE Photonics Society’s Photonics in Switching and Computing conference*, Limassol, Cyprus, September 19–21, 2018, paper Fr4A.1.
119. “Investigation of Si₃N₄ microring resonator for bio-chemical sensing applications,”
S. Das, S. Samudrala, K. Lee, B. Wenner, J. W. Allen, M. Allen, R. Magnusson, and **M. Vasilyev**, *Frontiers in Optics/Laser Science Conference (FiO/LS)*, Washington, DC, September 16–20, 2018, paper JW3A.98.
120. “Robustness of second-harmonic generation in a hybrid SiN / polymer waveguide,”
S. Das, B. R. Wenner, J. W. Allen, M. S. Allen, and **M. Vasilyev**, *the IEEE Photonics Society’s Research and Applications of Photonics in Defense Conference (RAPID) conference*, Miramar Beach, FL, August 22–24, 2018, paper ThC2.7.
121. “Hybrid Silicon-Nitride / Polymer Waveguide for Nonlinear-Optics Applications,”
S. Das, B. Wenner, J. Allen, M. Allen, and **M. Vasilyev**, *CLEO 2018 conference*, San Jose, CA, May 13–18, 2018, paper JTU2A.77.
122. (Invited) “Spatial-Mode-Selective Quantum Frequency Conversion,”
Y.-B. Kwon, M. Giribabu, L. Li, S. C. Samudrala, C. Langrock, M. M. Fejer, and **M. Vasilyev**, “*Nonlinear Frequency Generation and Conversion: Materials and Devices XVII*” conference (part of *SPIE LASE / Photonics West*), January 27 – February 1, 2018, San Francisco, CA, paper 10516-25.

123. “Toward a Multi-Species Gas Sensor on a Chip,”
A. Shamshooli, C. Zhang, Y. Liu, P. Palit, Y. Sun, and **M. Vasilyev**, *Frontiers in Optics / Laser Science conference*, Washington, DC, September 17–21, 2017, paper FTu4E.2.
124. “Single-photon-level spatial-mode-selective frequency up-conversion in a multimode $\chi^{(2)}$ waveguide,”
Y. B. Kwon, M. Giribabu, C. Langrock, M. Fejer, **M. Vasilyev**, *CLEO 2017 conference*, San Jose, CA, May 14–19, 2017, paper FF2E.1.
125. **(Invited)** “Fiber-based multichannel all-optical regeneration,”
L. Li, P. G. Patki, T. I. Lakoba, and **M. Vasilyev**, *Frontiers in Optics / Laser Science conference*, Rochester, NY, October 17–21, 2016, paper FTu3B.1.
126. “Experimental demonstration of spatial-mode-selective frequency up-conversion in a multimode $\chi^{(2)}$ waveguide,”
Y. B. Kwon, M. Giribabu, L. Li, S. C. Samudrala, C. Langrock, M. Fejer, and **M. Vasilyev**, *CLEO 2016 conference*, San Jose, CA, June 5–10, 2016, paper STh3P.4.
127. **(Invited)** “Investigation of an Integrated Photonic Dual-Pumped Phase-Sensitive Amplifier based on a Highly Saturated Semiconductor Optical Amplifier,”
W. Li, A. Mecozzi, **M. Vasilyev**, M. Lu, L. Johansson, and L. A. Coldren, *CLEO 2016 conference*, San Jose, CA, June 5–10, 2016, paper STh4F.3.
128. “2R Regeneration of 12 WDM Channels with 100-GHz Spacing in a Group-Delay-Managed Nonlinear Medium,”
L. Li, Y.-B. Kwon, B. Campbell, T. I. Lakoba, and **M. Vasilyev**, *Optical Fiber Communication conference*, Anaheim, CA, March 20–24, 2016, paper W4D.4. **Semi-finalist of the Corning Best Student Paper competition.**
129. **(Invited)** “Single-chip dual-pumped SOA-based phase-sensitive amplifier at 1550 nm,”
L. A. Coldren, W. Li, A. Mecozzi, M. Lu, S. Arafin, **M. Vasilyev**, D. Dadic, and L. Johansson, *the IEEE Photonics Society Summer Topical Meeting on Nonlinear-Optical Signal Processing*, Nassau, Bahamas, July 13–15, 2015, paper MF3.3.
130. “Investigation of 3-Channel All-Optical Regeneration in a Group-Delay-Managed Nonlinear Medium,”
L. Li, **M. Vasilyev**, and T. I. Lakoba, *CLEO 2015 conference*, San Jose, CA, May 10–15, 2015, paper SM2M.2. **Semi-finalist of the T. Maiman Best Student Paper competition.**
131. “Spatial-mode-selective quantum frequency conversion in nonlinear waveguides,”
M. Vasilyev and Y. B. Kwon, *the Quantum Optics and Quantum Information Transfer and Processing conference (part of SPIE Optics + Optoelectronics)*, April 13–16, 2015, Prague, Czech Republic, paper 9505-25; Proc. SPIE **9505**, 95050O (2015).
132. “Phase noise suppression of a 50%-duty-cycle RZ-DPSK signal by using an attenuation-imbalanced NOLM,”
L. Li, **M. Vasilyev**, and T. I. Lakoba, *the IEEE Photonics Society Summer Topical Meeting on Nonlinear-Optical Signal Processing*, Montreal, Canada, July 14–16, 2014, paper MD2.4. **Finalist of the Best Student Paper competition.**
133. “Nonlinear-optical-loop-mirror-based, phase-preserving 2R regeneration of a high-duty-cycle RZ-DPSK signal,”
L. Li, **M. Vasilyev**, and T. I. Lakoba, *the Conference on Lasers and Electro-Optics*, San Jose, CA, June 8–13, 2014, paper JW2A.13.
134. “Spatial-Mode-Selective Quantum Frequency Conversion in a $\chi^{(2)}$ Slab Waveguide,”
M. Vasilyev, Y. B. Kwon, and Y.-P. Huang, *the Quantum Information and Measurement (QIM)*

conference (part of OSA Research in Optical Sciences Congress), Berlin, Germany, March 18–20, 2014, paper JW2A.52.

135. “Mode-selective frequency up-conversion in a $\chi^{(2)}$ waveguide,”
Y. B. Kwon and **M. Vasilyev**, the “Nonlinear Frequency Generation and Conversion: Materials, Devices, and Applications XIII” conference (part of SPIE LASE / Photonics West), February 1–6, 2014, San Francisco, CA, paper 8964-21; Proc. SPIE **8964**, 8964-21.
136. “All-optical 2R regenerator of 16-QAM signals,”
L. Li and **M. Vasilyev**, the “Next-Generation Optical Communication: Components, Sub-Systems, and Systems III” conference (part of SPIE OPTO / Photonics West), February 1–6, 2014, San Francisco, CA, paper 9009-7; Proc. SPIE **9009**, 9009-7.
137. “Highly mode-selective quantum frequency conversion in a slab waveguide,”
M. Vasilyev, Y. B. Kwon, and Y.-P. Huang, the “Advances in Photonics of Quantum Computing, Memory, and Communication VII” conference (part of SPIE OPTO / Photonics West), February 1–6, 2014, San Francisco, CA, paper 8997-22; Proc. SPIE **8997**, 8997-22.
138. (Invited) “Phase-Sensitive Noiseless Amplification and Frequency Conversion of Spatially-Multimode Light,”
M. Annamalai, **M. Vasilyev**, and P. Kumar, the IEEE Photonics Society Summer Topical Meeting on Quantum Communications & Photonics, Waikoloa, HI, July 8–10, 2013, paper TuD2.4.
139. “Surface Plasmonic Optical Tweezers Based on Standard Single-Mode Fiber,”
L. Zhu and **M. Vasilyev**, Conference on Lasers and Electro-Optics, San Jose, CA, June 9–14, 2013, paper JTu4A.74.
140. “Spatial eigenmodes of traveling-wave phase-sensitive parametric amplifiers,”
M. Annamalai, N. Stelmakh, **M. Vasilyev**, and P. Kumar, the 11th International Conference on Quantum Communication, Measurement and Computing (QCMC 2012), Vienna, Austria, July 30–August 3, 2012, paper P3-82.
141. “Phase-Sensitive Multimode Parametric Amplification in Parabolic-Index Waveguides,”
M. Vasilyev and M. Annamalai, the IEEE Photonics Society Summer Topical Meeting on Space Division Multiplexing for Optical Systems and Networks, Seattle, WA, July 9–11, 2012, paper WC2.3.
142. “Impact of Phase-Sensitive-Amplifier's Mode Structure on Amplified Image Quality,”
M. Annamalai, **M. Vasilyev**, and P. Kumar, Conference on Lasers and Electro-Optics, San Jose, CA, May 6–11, 2012, paper CF1B.7.
143. “Spatial Modes of Phase-Sensitive Image Amplifier with Higher-Order Gaussian Pump and Phase Mismatch,”
M. Annamalai, N. Stelmakh, **M. Vasilyev**, and P. Kumar, the IEEE Photonics conference, Arlington, VA, October 9–13, 2011, paper TuO4.
144. “Quasi-parallelized Multicanonical Monte Carlo method for highly nonlinear systems, with application to all-optical regeneration,”
T. I. Lakoba and **M. Vasilyev**, the 9th International Conference of Numerical Analysis and Applied Mathematics (ICNAAM), Halkidiki, Greece, September 19–25, 2011.
145. “Amplification of a Squeezed-Quadrature using a Cascaded Traveling-Wave Phase-Sensitive Optical Parametric Amplifier,”
G. Alon, O.-K. Lim, A. Bhagwat, C.-H. Chen, **M. Vasilyev**, and P. Kumar, the International Quantum Electronics Conference / Conference on Lasers and Electro-Optics (IQEC/CLEO) Pacific Rim, August 28–September 1, 2011, Sydney, Australia, paper I790.
146. (Invited) “Enhanced optical resolution in target detection with phase-sensitive versus phase-

insensitive pre-amplification,”

O.-K. Lim, Z. Dutton, G. Alon, C. H. Chen, **M. Vasilyev**, and P. Kumar, *SPIE Optics + Photonics Conference*, San Diego, CA, August 21–25, 2011, paper 8163-4; Proc. SPIE **8163**, 8163-4.

147. (Invited) “Quantum enhancement of a coherent LADAR receiver using phase-sensitive amplification,”
P. A. Wasilousky, K. H. Smith, R. Glasser, G. L. Burdge, L. Burberry, B. Deibner, M. Silver, R. C. Peach, C. Visone, P. Kumar, O.-K. Lim, G. Alon, C. H. Chen, A. Bhagwat, P. Manurkar, **M. Vasilyev**, M. Annamalai, N. Stelmakh, Z. Dutton, S. Guha, C. Santivanez, J. Chen, M. Silva, W. Kelly, J. H. Shapiro, R. Nair, B. J. Yen, and F. N. C. Wong, *SPIE Optics + Photonics Conference*, San Diego, CA, August 21–25, 2011, paper 8163-5; Proc. SPIE **8163**, 8163-5.
148. (Invited) “Quantum enhanced LIDAR resolution with multi-spatial-mode phase sensitive amplification,”
C. Santivanez, S. Guha, Z. Dutton, M. Annamalai, **M. Vasilyev**, B. J. Yen, R. Nair, and J. H. Shapiro, *SPIE Optics + Photonics Conference*, San Diego, CA, August 21–25, 2011, paper 8163-34; Proc. SPIE **8163**, 8163-34.
149. “Compact Representation of Spatial Modes of Phase-Sensitive Image Amplifier,”
M. Annamalai, **M. Vasilyev**, N. Stelmakh, and P. Kumar, *the Conference on Lasers and Electro-Optics*, Baltimore, MD, May 1–6, 2011, paper JThB77.
150. “Generation and Verification of Traveling-wave Phase-sensitive Eigenmodes of an Optical Parametric Amplifier,”
A. Bhagwat, G. Alon, O. Lim, C. Chen, P. Kumar, M. Annamalai, and **M. Vasilyev**, *the Conference on Lasers and Electro-Optics*, Baltimore, MD, May 1–6, 2011, paper QThN4.
151. “Cascaded Traveling-Wave Phase-Sensitive Optical Parametric Amplifiers,”
G. Alon, O.-K. Lim, A. Bhagwat, C.-H. Chen, **M. Vasilyev**, and P. Kumar, *the Conference on Lasers and Electro-Optics*, Baltimore, MD, May 1–6, 2011, paper CTuD3.
152. “Eigenmodes of a travelling-wave phase-sensitive optical parametric amplifier,”
M. Annamalai, N. Stelmakh, **M. Vasilyev**, and P. Kumar, *the 10th International Conference on Fibre Optics and Photonics: PHOTONICS-2010*, December 12–15, 2010, Indian Institute of Technology Guwahati (IIT), India, paper 193.
153. “Spatial Modes of Phase-Sensitive Image Amplifier with Elliptical Gaussian Pump,”
M. Annamalai, N. Stelmakh, **M. Vasilyev**, P. Kumar, *Frontiers in Optics / Laser Science XXVI conference*, October 24–28, 2010, Rochester, NY, paper LTuB5.
154. “Spontaneous Emission Lifetimes of CdSe/ZnSe Core-Shell Quantum Dots at Air-Material Interface,”
L. Zhu, S. Samudrala, N. M. Stelmakh, **M. Vasilyev**, *Frontiers in Optics / Laser Science XXVI conference*, October 24–28, 2010, Rochester, NY, paper FThAA4.
155. “Transmission Characteristics of Silver Nano-Apertures,”
L. Zhu, S. Samudrala, M. Annamalai, N. M. Stelmakh, **M. Vasilyev**, *Frontiers in Optics / Laser Science XXVI conference*, October 24–28, 2010, Rochester, NY, paper JWA34.
156. (Invited) “Multichannel all-optical regeneration,”
P. G. Patki, **M. Vasilyev**, and T. I. Lakoba, *the IEEE Photonics Society Summer Topical Meeting on Nonlinear Fiber Optics*, Playa del Carmen, Mexico, July 19–21, 2010, paper WC2.2.
157. “Multiport AWG-based Dispersion Compensators,”
N. Stelmakh and **M. Vasilyev**, *the IEEE Photonics Society Summer Topical Meeting on Novel Waveguiding, Structures, and Phenomena*, Playa del Carmen, Mexico, July 19–21, 2010, paper WB2.5.

158. “Non-classical states for photon-number-efficient transmission of information,”
M. Vasilyev, N. Stelmakh, and P. Kumar, *the 10th Quantum Communication, Measurement & Computing Conference*, Brisbane, Australia, July 18–23, 2010.
159. “Optical Resolution Enhancement with Phase-Sensitive Preamplification in Direct Image Detection,”
O.-K. Lim, G. Alon, Z. Dutton, S. Guha, **M. Vasilyev**, and P. Kumar, *the 10th Quantum Communication, Measurement & Computing Conference*, Brisbane, Australia, July 18–23, 2010.
160. “Optical Resolution Enhancement with Phase-Sensitive Preamplification,”
O.-K. Lim, G. Alon, Z. Dutton, S. Guha, **M. Vasilyev**, and P. Kumar, *the Conference on Lasers and Electro-Optics 2010*, San Jose, CA, May 16–21, 2010, paper CTuPP7.
161. “Noise Figure Measurements in Phase-Insensitive and Phase-Sensitive Fiber Parametric Amplifier Cascade,”
Z. Tong, A. Bogris, C. Lundström, C. McKinstrie, **M. Vasilyev**, M. Karlsson, P. A. Andrekson, *Optical Fiber Communication conference*, San Diego, CA, March 21–25, 2010, paper OWT4.
162. (Invited) “Multichannel all-optical regeneration,”
P. G. Patki, **M. Vasilyev**, and T. I. Lakoba, *the 40th Winter Colloquium on the Physics of Quantum Electronics (PQE-2010)*, Snowbird, Utah, January 3–7, 2010.
163. (Invited) “Shaping spontaneous emission pattern by plasmonic nanocavity,”
L. Zhu, M. Annamalai, S. C. Samudrala, N. Stelmakh, and **M. Vasilyev**, *the 40th Winter Colloquium on the Physics of Quantum Electronics (PQE-2010)*, Snowbird, Utah, January 3–7, 2010.
164. “Modes of a travelling-wave phase-sensitive optical parametric amplifier,”
M. Annamalai, N. Stelmakh, **M. Vasilyev**, and P. Kumar, *the 40th Winter Colloquium on the Physics of Quantum Electronics (PQE-2010)*, Snowbird, Utah, January 3–7, 2010.
165. “Active plasmonic nanostructures for nonlinear and quantum optics,”
L. Zhu, M. Annamalai, S. C. Samudrala, N. Stelmakh, and **M. Vasilyev**, *2nd International Conference From Nanoparticles & Nanomaterials to Nanodevices & Nanosystems*, Rhodes, Greece, June 28–July 3, 2009.
166. “Laser-beam-manipulating nanostructures for quantum and classical sensing applications,”
N. Stelmakh and **M. Vasilyev**, *2nd International Conference From Nanoparticles & Nanomaterials to Nanodevices & Nanosystems*, Rhodes, Greece, June 28–July 3, 2009.
167. “Shaping spontaneous emission from a single quantum dot into a narrow beam pattern,”
L. Zhu, M. Annamalai, N. Stelmakh, and **M. Vasilyev**, *Conference on Lasers and Electro-Optics / International Quantum Electronics Conference 2009*, Baltimore, MD, May 31–June 5, 2009, post-deadline paper IPDB4.
168. “Investigation of Phase-Sensitive Image Amplification with Elliptical Gaussian Pump,”
M. Vasilyev, N. Stelmakh, and P. Kumar, *Conference on Lasers and Electro-Optics 2009*, Baltimore, MD, May 31–June 5, 2009, paper JWA6.
169. “Observation of degenerate and non-degenerate lateral-mode patterns in mid-IR Quantum Cascade lasers,”
N. Stelmakh, **M. Vasilyev**, F. Toor, and C. Gmachl, *Conference on Lasers and Electro-Optics 2009*, Baltimore, MD, May 31–June 5, 2009, paper JThE14.
170. (Invited) “Lateral mode structure of wide-ridge Quantum Cascade lasers,”
N. Stelmakh, **M. Vasilyev**, F. Toor, and C. Gmachl, *the 39th Winter Colloquium on the Physics of Quantum Electronics (PQE-2009)*, Snowbird, Utah, January 4–8, 2009.
171. “Parametric gain for multimode light,”

- M. Vasilyev**, N. Stelmakh, and P. Kumar, *the 39th Winter Colloquium on the Physics of Quantum Electronics (PQE-2009)*, Snowbird, Utah, January 4–8, 2009.
172. **(Invited)** “All-optical regeneration of multi-wavelength signals,”
P. G. Patki, **M. Vasilyev**, and T. I. Lakoba, *IEEE LEOS European Winter Topical on Nonlinear Processing in Optical Fibres*, Innsbruck, Austria, January 12–14, 2009, paper WC2.3.
173. **(Invited)** “Multichannel nonlinear signal processing: Recent progress in all-optical regeneration of WDM signals,”
T. I. Lakoba and **M. Vasilyev**, *2008 SIAM Conference on Nonlinear Waves and Coherent Structures*, July 2008, paper MS38.3.
174. “Multicanonical Monte Carlo Study of Noisy Signal Evolution in 2R All-Optical Regenerators with Normal and Anomalous Average Dispersions,”
T. I. Lakoba and **M. Vasilyev**, *Conference on Lasers and Electro-Optics 2008*, May 2008, San Jose, CA, paper CTuL3.
175. “Spatially Resolved Spectroscopy of Lateral Modes of Broad-Area Laser Diodes by Self-Heterodyning,”
N. Stelmakh and **M. Vasilyev**, *Conference on Lasers and Electro-Optics 2008*, May 2008, San Jose, CA, paper CMN6.
176. “Optimization of Coupling between a Metal Nanocavity and a Free-Space Gaussian Mode,”
M. Annamalai, S. C. Samudrala, and **M. Vasilyev**, *Quantum Electronics and Laser Science conference 2008*, May 2008, San Jose, CA, paper JTUA132.
177. **(Invited)** “Multiwavelength all-optical regeneration,”
M. Vasilyev, T. I. Lakoba, and P. Patki, *Optical Fiber Communications Conference 2008*, paper OWK3, February 2008, San Diego, CA.
178. **(Invited)** “Phase-sensitive amplification in optical fiber,”
M. Vasilyev, *the 38th Winter Colloquium on the Physics of Quantum Electronics (PQE-2008)*, Snowbird, Utah, January 6–10, 2008.
179. **(Invited)** “Phase-sensitive amplification in optical fiber,”
M. Vasilyev, *IEEE LEOS Winter Topical Meeting on Fibre Optical Parametric Amplifiers and Related Devices*, paper MB1.1, January 2008, Sorrento, Italy.
180. “Single-Channel 2R Regeneration in Quasi-Continuous Dispersion-Managed Nonlinear Medium,”
P. G. Patki, V. Stelmakh, M. Annamalai, T. I. Lakoba, and **M. Vasilyev**, *Frontiers in Optics / Laser Science XXIII Meeting*, September 2007, San Jose, CA, paper FThS3. **Best Student Presentation Award.**
181. “Dispersion-Managed Multichannel 2R Regeneration with Large Anomalous Average Dispersion,”
T. I. Lakoba and **M. Vasilyev**, *Nonlinear Photonics (NP) OSA Topical Meeting*, Quebec City, Canada, September 2007, paper NTuB4.
182. “Multicanonical Monte Carlo Simulations of the Dynamic Power Transfer Characteristic of an All-Optical 2R Regenerator,”
T. I. Lakoba and **M. Vasilyev**, *Bragg Gratings, Photosensitivity and Poling in Glass Waveguides (BGPP) and Nonlinear Photonics (NP) OSA Topical Meeting*, Quebec City, Canada, September 2007, paper JWA6.
183. **(Invited)** “Noise-Free Amplification: Towards Quantum Laser Radar,”
P. Kumar, V. Grigoryan, and **M. Vasilyev**, *the 14th Coherent Laser Radar Conference*, Snowmass, CO, July 2007.
184. “Recirculating-Loop Study of Dispersion-Managed 2R Regeneration,”

- P. G. Patki, V. Stelmakh, M. Annamalai, T. I. Lakoba, and **M. Vasilyev**, *Conference on Lasers and Electro-Optics 2007*, May 2007, Baltimore, MD, paper CMZ3.
185. “Toward in-line phase-sensitive fiber-parametric amplification of multichannel signals,”
R. Tang, M. Shin, P. Devgan, V. S. Grigoryan, **M. Vasilyev**, and P. Kumar, *Conference on Lasers and Electro-Optics 2006*, May 2006, Long Beach, CA, paper JThC81.
186. (Invited) “Phase-sensitive amplification in optical fibers,”
M. Vasilyev, *2005 Frontiers in Optics / Laser Science XXI Meeting*, October 2005, Tucson, AZ, paper FThB1.
187. “Phase-sensitive amplification produced by degenerate four-wave mixing in a fiber,”
C. J. McKinstrie, S. Radic, M. G. Raymer, and **M. Vasilyev**, *Conference on Lasers and Electro-Optics 2005*, May 2005, Baltimore, MD, paper CTuT5.
188. (Invited) “Squeezing and fiber-optic communication,”
M. Vasilyev, *9th International Conference on Squeezed States and Uncertainty Relations 2005*, May 2005, Besançon, France, paper I 79.
189. “Efficient coupling between Gaussian cavity mode and metal nanoaperture,”
M. Vasilyev and P. Kumar, *NanoPhotonics in Information Sciences* conference, April 2005, San Diego, CA, paper NWB4.
190. “Design of Athermal Folded Arrayed Waveguide Grating with External Mirror,”
N. M. Stelmakh and **M. Vasilyev**, *Integrated Photonics Research and Applications* conference, April 2005, San Diego, CA, paper ITuF3.
191. “Fiber-Based All-Optical 2R Regeneration of Multiple WDM Channels,”
M. Vasilyev and T. I. Lakoba, *Optical Fiber Communications Conference 2005*, paper OME62.
192. “Poled Pyriliium Doped Nonlinear Organic Thin Film,”
K. Le, N. Stelmakh, M. Zhou, M. Pomerantz, **M. Vasilyev**, and J. C. Chiao, *Strategic Partnership for Research in Nanotechnology Conference II*, November 2004, Richardson, TX, paper 54.
193. “Efficient coupling between metal nanoaperture and a macroscopic cavity,”
M. Vasilyev, E. Vasilyeva, and P. Kumar, *Strategic Partnership for Research in Nanotechnology Conference II*, November 2004, Richardson, TX, paper 52.
194. “Electro-Optically Tunable Folded Arrayed Waveguide Grating Multiplexer,”
O. Tsunoda, N. Stelmakh, **M. Vasilyev**, K. Le, and J. C. Chiao, *Strategic Partnership for Research in Nanotechnology Conference II*, November 2004, Richardson, TX, paper 34.
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198. (Invited) “Raman-assisted transmission: toward ideal distributed amplification,”
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199. “Performance analysis of Raman amplifiers based on dispersion-managed fibers,”

- A. Kobayakov, **M. Vasilyev**, and A. F. Evans, *Optical Fiber Communication Conference 2003*, Technical Digest (OSA, Washington, D.C. 2003), Vol. **1**, pp. 305–306, paper WB2.
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P. Voss, T.-G. Noh, P. Kumar, **M. Vasilyev**, G. M. D’Ariano, *Physics of Quantum Electronics 2002*,

Snowbird, Utah.

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220. (Invited) "Spatially broadband parametric amplification: quantum-noise correlations and noiseless optical amplification of images," P. Kumar, S.-K. Choi, and **M. Vasilyev**, *Proceedings of the 8th International Workshop on Laser Physics (LPHYS'99)*, Budapest, Hungary, July 2-6, 1999.
221. (Invited) "Quantum optics with short pulses: some recent experimental and theoretical developments," **M. Vasilyev**, D. Levandovsky, S.-K. Choi, and P. Kumar, *Proceedings of the 6th International Conference on Squeezed States and Uncertainty Relations*, May 1999, Naples, Italy.
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Other Conference Papers

228. (Invited) “Nonlinear-optical processing of classical and quantum signals,” **M. Vasilyev**, *2024 Photonics Workshop*, University of Texas at Arlington, Arlington, TX, February 9, 2024.

229. “Phase-preserving amplitude regeneration in a Mamyshev regenerator with mid-stage optical phase conjugation,” C. Guo and **M. Vasilyev**, *2024 Photonics Workshop*, University of Texas at Arlington, Arlington, TX, February 9, 2024.

230. “Positive (>0 dB) Wavelength Conversion Efficiency in Temperature-Tuned Five-Segment Highly-Nonlinear Fiber Without Pump Dithering,” H. Rabbani, C. Guo, and **M. Vasilyev**, *2024 Photonics Workshop*, University of Texas at Arlington, Arlington, TX, February 9, 2024.

231. (Invited) “Nonlinear-optical signal processing for classical and quantum communications,” **M. Vasilyev**, *2023 Photonics Workshop and Showcase*, University of Texas at Arlington, Arlington, TX, February 10, 2023.

232. “Phase-preserving amplitude regeneration in a Mamyshev regenerator with mid-stage optical phase conjugation,” C. Guo and **M. Vasilyev**, *2023 Photonics Workshop and Showcase*, University of Texas at Arlington, Arlington, TX, February 10, 2023.

233. (Invited) “WDM-compatible all-optical regeneration,” L. Li, P. G. Patki, C. Guo, **M. Vasilyev**, and T. I. Lakoba, *1st AiPT International All-Optical Signal Processing Workshop*, Aston University, UK, April 6, 2022.

234. (Invited) “Growing Quantum Communication Capacity with Spatial Modes of Optical Fiber,” **M. Vasilyev**, *IEEE MetroCon conference*, Fort Worth, TX, November 3, 2021.

235. “Noise Figure Measurement for the 3-stage S-band Amplifier,” C. Guo, A. Shamshooli, Y. Akasaka, T. Ikeuchi, and **M. Vasilyev**, *UTA Innovation Day*, University of Texas at Arlington, Arlington, TX, April 22, 2020.

236. “Phase Stabilization of Optical Frequency Comb,” S. Rana, C. Guo, and **M. Vasilyev**, *UTA Innovation Day*, University of Texas at Arlington, Arlington, TX, April 22, 2020.

237. "Implementation of Forward Error Correcting Codes in UTA Coherent Optical Communication Testbed,"
K. Saha, C. Guo, and **M. Vasilyev**, *UTA Innovation Day*, University of Texas at Arlington, Arlington, TX, April 22, 2020.
238. "Nonlinear / Quantum Optics in Few-Mode Fibers,"
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *UTA Innovation Day*, University of Texas at Arlington, Arlington, TX, April 22, 2020.
239. "Detection of Neuropeptide Y by a Silicon-Nitride Microring Resonator,"
S. Das, S. C. Samudrala, K. J. Lee, M. Abdallah, B. R. Wenner, J. W. Allen, M. S. Allen, R. Magnusson, and **M. Vasilyev**, *3rd Annual Texas Photonics Center Workshop*, University of Texas at Arlington, Arlington, TX, February 14, 2020.
240. "Noise Figure Measurement for the 3-stage S-band Amplifier,"
C. Guo, A. Shamshooli, Y. Akasaka, T. Ikeuchi, and **M. Vasilyev**, *3rd Annual Texas Photonics Center Workshop*, University of Texas at Arlington, Arlington, TX, February 14, 2020.
241. "Phase Stabilization of Optical Frequency Comb,"
S. Rana, C. Guo, and **M. Vasilyev**, *3rd Annual Texas Photonics Center Workshop*, University of Texas at Arlington, Arlington, TX, February 14, 2020.
242. "Implementation of Forward Error Correcting Codes in UTA Coherent Optical Communication Testbed,"
K. Saha, C. Guo, and **M. Vasilyev**, *3rd Annual Texas Photonics Center Workshop*, University of Texas at Arlington, Arlington, TX, February 14, 2020.
243. "Quantum Information Processing in a Few-Mode Fiber,"
A. Shamshooli, C. Guo, F. Parmigiani, X. Li, and **M. Vasilyev**, *3rd Annual Texas Photonics Center Workshop*, University of Texas at Arlington, Arlington, TX, February 14, 2020.
244. "Second Harmonic Generation in Hybrid Silicon Nitride / Polymer Waveguide,"
S. Das and **M. Vasilyev**, *2nd Annual Texas Photonics Center Workshop*, University of Texas at Dallas, Richardson, TX, February 15, 2019.
245. "Neuropeptide Y Detection by a Silicon-Nitride Microring Resonator,"
S. Das, S. C. Samudrala, K. J. Lee, R. Magnusson, **M. Vasilyev**, B. R. Wenner, J. W. Allen, and M. S. Allen, *2nd Annual Texas Photonics Center Workshop*, University of Texas at Dallas, Richardson, TX, February 15, 2019.
246. "Adaptive-optical-comb-enabled integrated multi-species gas analysis platform,"
A. Shamshooli, C. Zhang, Y. Liu, P. Palit, Y. Sun, and **M. Vasilyev**, *2nd Annual Texas Photonics Center Workshop*, University of Texas at Dallas, Richardson, TX, February 15, 2019.
247. "Fundamental limits of gas spectroscopy,"
K. Saha, Y. Sun, and **M. Vasilyev**, *2nd Annual Texas Photonics Center Workshop*, University of Texas at Dallas, Richardson, TX, February 15, 2019.
248. "Adaptive-optical-comb-enabled integrated multi-species gas analysis platform,"
A. Shamshooli, C. Zhang, Y. Liu, P. Palit, Y. Sun, and **M. Vasilyev**, *UTA Innovation Day*, **Third Prize in Best Poster Competition**, Arlington, TX, April 16, 2018.
249. "Coherent Optical Waveshape Generator,"
J. Smith, A. Shamshooli, N. Rouf, S. Das, and **M. Vasilyev**, *UTA Innovation Day*, Arlington, TX, April 16, 2018.
250. "Second Harmonic Generation in Hybrid Silicon Nitride / Polymer Waveguide,"

S. Das and **M. Vasilyev**, *UTA Innovation Day*, Arlington, TX, April 16, 2018.

251. “Ultra-high-speed photonic devices,”
M. Vasilyev, *2018 Texas Photonics Center – Graphene Research Institute International Research Center Workshop*, University of Texas at Dallas, Richardson, TX, February 23, 2018.
252. (Invited) “Nonlinear-optical and nanophotonic devices for high-capacity classical and quantum information processing,”
M. Vasilyev, *2017 Texas Photonics Center Workshop*, University of Texas at Dallas, Richardson, TX, November 10, 2017.
253. (Invited) “Nonlinear-optical devices for ultra-high-speed and high-capacity information processing,”
M. Vasilyev, *UT Arlington Photonics Symposium*, University of Texas at Arlington, Arlington, TX, September 14, 2015.
254. “All-optical regeneration of multi-channel signals,”
L. Li and **M. Vasilyev**, *UT Arlington Photonics Symposium*, University of Texas at Arlington, Arlington, TX, September 14, 2015.
255. “Demonstration of spatially selective frequency up-conversion in multimode PPLN,”
Y. B. Kwon and **M. Vasilyev**, *UT Arlington Photonics Symposium*, University of Texas at Arlington, Arlington, TX, September 14, 2015.
256. “Dispersion management in Si₃N₄-SiO₂ optical waveguide,”
S. Das and **M. Vasilyev**, *UT Arlington Photonics Symposium*, University of Texas at Arlington, Arlington, TX, September 14, 2015.
257. “Silicon-nitride nanophotonic devices for nonlinear- and quantum-optics applications,”
S. C. Samudrala and **M. Vasilyev**, *UT Arlington Photonics Symposium*, University of Texas at Arlington, Arlington, TX, September 14, 2015.
258. (Invited) “Nonlinear-optical and nanophotonic devices for classical and quantum information processing,”
M. Vasilyev, *UTA–AFRL Workshop*, University of Texas at Arlington, Arlington, TX, September 11, 2015.
259. (Invited) “Experimental progress on multichannel regeneration in group-delay-managed nonlinear media,”
P. G. Patki, L. Li, **M. Vasilyev**, and T. I. Lakoba, *Aston Workshop on Multichannel Regeneration*, Aston University, Birmingham, United Kingdom, October 24, 2014.
260. “Spontaneous Emission Lifetimes of CdSe/ZnS Core-Shell Quantum Dots at Air-Material Interface,”
L. Zhu, S. Samudrala, N. Stelmakh, and **M. Vasilyev**, *IONS North America–3*, Stanford University, October 13–15, 2011.
261. (Invited) “Multi-channel 2R regeneration in a group-delay-managed nonlinear medium,”
P. Patki, T. I. Lakoba, and **M. Vasilyev**, *15th International SAOT Workshop on All-Optical Signal Regeneration*, Erlangen, Germany, September 28–29, 2011.
262. (Invited) “All-Optical Processing of Multiwavelength Signals,”
M. Vasilyev, *the Workshop on All-Optical Processing of Advanced Modulation Format Signals at the 36th European Conference on Optical Communication*, Turin, Italy, September 19–23, 2010.
263. “Metal nanocavities for classical and quantum information processing,”
M. Annamalai, S. C. Samudrala, and **M. Vasilyev**, *JSPS-UNT Winter School on Nanophotonics*, Denton, TX, February 14–15, 2008.

264. “Resonant scattering of light by sub-wavelength Au nanoparticles,”
S. C. Samudrala, **M. Vasilyev**, N. Stelmakh, H.-W. Huang, and S.-J. Koh, *JSPS-UNT Winter School on Nanophotonics*, Denton, TX, February 14–15, 2008.
265. (Invited) “Nonlinear-Optical Metamaterials for Image Conversion and Amplification,”
M. Vasilyev, *Strategic Partnership for Research in Nanotechnology Conference IV*, February 2007, Houston, TX.
266. “Metal Nanocavities for Classical and Quantum Information Processing,”
S. C. Samudrala, M. Annamalai, and **M. Vasilyev**, *Strategic Partnership for Research in Nanotechnology Conference IV*, February 2007, Houston, TX.
267. “Metal nanoaperture with efficient coupling to a Gaussian mode,”
M. Vasilyev and P. Kumar, *JSPS-UNT Joint Symposium on Nanoscale Materials for Optoelectronics and Biotechnology*, Denton, TX, February 2–3, 2006, paper Th.P-8.
268. “Soliton Squeezing in a Mach-Zehnder Fiber Interferometer,”
M. Fiorentino, J. E. Sharping, D. Levandovsky, **M. Vasilyev**, and P. Kumar, post-deadline paper at 2000 *OSA Annual Meeting*, Providence, RI.
269. “Universal homodyne tomography: Experimental realization applied to the twin-beam quantum state,”
T.-G. Noh, P. Voss, P. Kumar, **M. Vasilyev**, G. M. D’Ariano, at 2000 *OSA Annual Meeting*, Providence, RI.
270. (Invited) “Optical homodyne tomography of parametric twin beams,”
M. Vasilyev, S.-K. Choi, and P. Kumar, 1999 *OSA Annual Meeting*, paper ThD3.
271. “A novel application of optical homodyne tomography: measuring the photon statistics of amplified spontaneous emission in an erbium-doped fiber amplifier,”
P. Voss, T.-G. Noh, **M. Vasilyev**, D. Levandovsky, and P. Kumar, 1999 *OSA Annual Meeting*, paper ThD4.
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M. Vasilyev, S.-K. Choi, P. Kumar, and G. M. D’Ariano, 1998 *OSA Annual Meeting*, paper ThZZ3.
273. “Sub-Poissonian light generation in a nonlinear fiber Sagnac interferometer,”
D. Levandovsky, **M. Vasilyev**, and P. Kumar, 1996 *OSA Annual Meeting*, paper WGG8.
274. (Invited) “Optical amplifier and modulation-based oscillator,”
V. N. Konopsky, A. V. Masalov, A. A. Putilin, and **M. V. Vasilyev**, *Quantum Optics and Spectroscopy of Solids*, Bilkent, Turkey, 1995.
275. “Quantum noise of light and optical amplification in negative-feedback opto-electronic loop,”
A. V. Masalov, A. A. Putilin, and **M. V. Vasilyev**, *E. S. F. Research Conference on Quantum Optics*, Davos, Switzerland, 1994.
276. (Invited) “Anticorrelated state of light and photocurrent shot-noise suppression in closed opto-electronic loop,”
A. V. Masalov, A. A. Putilin, **M. V. Vasilyev**, *4th Seminar on Quantum Optics*, Minsk, Belarus, 1994.
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A. V. Masalov, A. A. Putilin, **M. V. Vasilyev**, *International Conference on Quantum Nonlinear Phenomena*, Dubna, Russia, 1993.

278. "Classical analog of squeezed light,"

M. V. Vasilyev, A. V. Masalov, *XXXV Research Conference of Moscow Institute of Physics and Technology*, Moscow, Russia, 1992.