## Andrea Carena

List of Publications by Year in descending order

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136950 98798 5,361 192 32 67 h-index citations g-index papers 193 193 193 1840 docs citations times ranked citing authors all docs

| #  | Article   | IF  | CITATIONS |
|----|---|-----|-----------|
| 1  | Statistical Analysis of 100 Gbps per Wavelength SWDM VCSEL-MMF Data Center Links on a Large Set of OM3 and OM4 Fibers. Journal of Lightwave Technology, 2022, 40, 1018-1026.  | 4.6 | 8         |
| 2  | Optimized management of ultra-wideband photonics switching systems assisted by machine learning. Optics Express, 2022, 30, 3989.  | 3.4 | 10        |
| 3  | Performance evaluation of data-driven techniques for the softwarized and agnostic management of an N×N photonic switch. , 2022, $1,1.$  |     | 6         |
| 4  | Spectral and Spatial Power Evolution Design With Machine Learning-Enabled Raman Amplification. Journal of Lightwave Technology, 2022, 40, 3546-3556.  | 4.6 | 6         |
| 5  | Optimal control of BeneÅ; optical networks assisted by machine learning., 2022,,.   |     | o         |
| 6  | Machine learning applied to inverse systems design. , 2022, , .   |     | 3         |
| 7  | Multi–Band Programmable Gain Raman Amplifier. Journal of Lightwave Technology, 2021, 39, 429-438.   | 4.6 | 36        |
| 8  | Automatic Management of $\langle i \rangle N \langle i \rangle$ $\tilde{A}-\langle i \rangle N \langle i \rangle$ Photonic Switch Powered by Machine Learning in Software-Defined Optical Transport. IEEE Open Journal of the Communications Society, 2021, 2, 1358-1365. | 6.9 | 9         |
| 9  | Joint Carrier-Phase Estimation for Digital Subcarrier Multiplexing Systems With Symbol-Rate Optimization. Journal of Lightwave Technology, 2021, 39, 6403-6412.   | 4.6 | 10        |
| 10 | Experimental Characterization of Raman Amplifier Optimization Through Inverse System Design. Journal of Lightwave Technology, 2021, 39, 1162-1170.  | 4.6 | 17        |
| 11 | Automatic design of NxN integrated Benes optical switch. , 2021, , .  |     | 1         |
| 12 | Simultaneous gain profile design and noise figure prediction for Raman amplifiers using machine learning. Optics Letters, 2021, 46, 1157.   | 3.3 | 8         |
| 13 | Machine-learning-aided abstraction of photonic integrated circuits in software-defined optical transport. , 2021, , .   |     | 2         |
| 14 | Inverse design of a Raman amplifier in frequency and distance domains using convolutional neural networks. Optics Letters, 2021, 46, 2650.  | 3.3 | 7         |
| 15 | Machine learning enabled Raman amplifiers. , 2021, , .  |     | O         |
| 16 | Distance and spectral power profile shaping using machine learning enabled Raman amplifiers., 2021,,.   |     | 1         |
| 17 | Optimization of Raman amplifiers using machine learning. , 2021, , .  |     | O         |
| 18 | Optimization of a Hybrid EDFA-Raman C+L Band Amplifier through Neural-Network Models. , 2021, , .   |     | 3         |

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| 19 | Artificial Neural Network Symbol Estimator With Enhanced Robustness to Nonlinear Phase Noise. IEEE Photonics Technology Letters, 2021, 33, 1341-1344. | 2.5 | О         |
| 20 | Real Time Closed-Form Model for Nonlinearity Assessment of Fibre Optic Links with Lumped Loss. , 2021, , .  |     | 0         |
| 21 | Machine Learning for Power Profiles Prediction in Presence of Inter-channel Stimulated Raman Scattering., 2021,,.                                     |     | 4         |
| 22 | Multi-band programmable gain Raman amplifier for high-capacity optical networks. , 2021, , .  |     | 1         |
| 23 | Generalization Properties of Machine Learning-based Raman Models. , 2021, , .   |     | 4         |
| 24 | Closed-Form EGN Model for FMF Systems. , 2021, , .  |     | 5         |
| 25 | Autonomous Control Model for C+L Multi-band Photonic Switch System using Machine Learning. , 2021, , .  |     | 0         |
| 26 | Machine Learning Driven Model for Software Management of Photonics Switching Systems. , 2021, , .   |     | 1         |
| 27 | Correlated Nonlinear Phase-Noise in Multi-Subcarrier Systems: Modeling and Mitigation. Journal of Lightwave Technology, 2020, 38, 1148-1156.          | 4.6 | 10        |
| 28 | Inverse System Design Using Machine Learning: The Raman Amplifier Case. Journal of Lightwave Technology, 2020, 38, 736-753.                           | 4.6 | 63        |
| 29 | Adaptive Probabilistic Shaped Modulation for High-Capacity Free-Space Optical Links. Journal of Lightwave Technology, 2020, 38, 6529-6541.            | 4.6 | 27        |
| 30 | Introducing Load Aware Neural Networks for Accurate Predictions of Raman Amplifiers. Journal of Lightwave Technology, 2020, 38, 6481-6491.            | 4.6 | 23        |
| 31 | Modulation Format, Core and Spectrum Assignment in a Multicore Optical Link with and without MIMO Receivers. , 2020, , .                              |     | 1         |
| 32 | Effectiveness of Machine Learning in Assessing QoT Impairments of Photonics Integrated Circuits to Reduce System Margin. , 2020, , .                  |     | 3         |
| 33 | Machine learning assisted abstraction of photonic integrated circuits in fully disaggregated transparent optical networks. , 2020, , .                |     | 5         |
| 34 | Advancing classical and quantum communication systems with machine learning. , 2020, , .  |     | 1         |
| 35 | Advances in Modeling and Mitigation of Nonlinear Effects in Uncompensated Coherent Optical<br>Transmission Systems. , 2020, , .                       |     | 2         |
| 36 | Experimental demonstration of arbitrary Raman gain–profile designs using machine learning. , 2020, , .  |     | 6         |

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| 37 | Load aware Raman gain profile prediction in dynamic multi-band optical networks. , 2020, , .  |     | 4         |
| 38 | Accurate Closed-Form GN/EGN-Model Formula Leveraging a Large QAM-System Test-Set. IEEE Photonics Technology Letters, 2019, 31, 1381-1384.                       | 2.5 | 7         |
| 39 | Adaptive Stokes-Based Polarization Demultiplexing for Long-Haul Multi-Subcarrier Systems. IEEE Photonics Technology Letters, 2019, 31, 759-762.                 | 2.5 | 11        |
| 40 | A GN/EGN-model real-time closed-form formula tested over 7,000 virtual links. , 2019, , .   |     | 1         |
| 41 | An ultra-fast method for gain and noise prediction of Raman amplifiers. , 2019, , .   |     | 5         |
| 42 | Assessing the Impact of Design Options for an Optical Switch in Network Routing Impairments. , 2019, , .  |     | 4         |
| 43 | Impact of Nonlinear Effects and Mitigation on Coherent Optical Systems. Telecommunications and Information Technology, 2019, , 93-120.                          | 0.2 | 3         |
| 44 | Enhanced resilience towards ROADM-induced optical filtering using subcarrier multiplexing and optimized bit and power loading. Optics Express, 2019, 27, 30710. | 3.4 | 13        |
| 45 | Machine learning-based Raman amplifier design. , 2019, , .  |     | 11        |
| 46 | Observing the effect of polarization mode dispersion on nonlinear interference generation in wide-band optical links. OSA Continuum, 2019, 2, 2856.             | 1.8 | 4         |
| 47 | Low-Complexity Time-Domain DBP Based on Random Step-Size and Partitioned Quantization. Journal of Lightwave Technology, 2018, 36, 2888-2895.                    | 4.6 | 9         |
| 48 | Non-Linearity Modeling for Gaussian-Constellation Systems at Ultra-High Symbol Rates. , 2018, , .   |     | 6         |
| 49 | The Synopsys Software Environment to Design and Simulate Photonic Integrated Circuits: A Case Study for 400G Transmission. , 2018, , .                          |     | 9         |
| 50 | Frequency-Domain Hybrid Modulation Formats for High Bit-Rate Flexibility and Nonlinear Robustness. Journal of Lightwave Technology, 2018, 36, 4856-4870.        | 4.6 | 18        |
| 51 | Observing the Interaction of PMD with Generation of NLI in Uncompensated Amplified Optical Links. , 2018, , .   |     | 10        |
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| 55 | Non-Linearity Modeling at Ultra-High Symbol Rates. , 2018, , .   |     | 4         |
| 56 | Scalable modulation technology and the tradeoff of reach, spectral efficiency, and complexity. , 2017, , .   |     | 1         |
| 57 | Nonlinear Mitigation of a 400G Frequency-Hybrid Superchannel for the 62.5-GHz Slot. Journal of Lightwave Technology, 2017, 35, 3963-3973.                    | 4.6 | 5         |
| 58 | Comparing Different Options for Flexible Networking: Probabilistic Shaping vs. Hybrid Subcarrier Modulation. , $2017, \ldots$                                |     | 10        |
| 59 | On the Accumulation of Non-Linear Interference in Multi-Subcarrier Systems. , 2017, , .  |     | 1         |
| 60 | FFSS: The fast fiber simulator software. , 2017, , .   |     | 13        |
| 61 | Nonlinear mitigation on subcarrier-multiplexed PM-16QAM optical systems. Optics Express, 2017, 25, 4298.   | 3.4 | 30        |
| 62 | Mitigation of transceiver bandwidth limitations using multi-subcarrier signals., 2017,,.   |     | 1         |
| 63 | 400G Frequency-Hybrid Superchannel for the 62.5 GHz Slot. , 2017, , .  |     | 0         |
| 64 | Low-Complexity Chromatic Dispersion Equalizer for 400G Transmission Systems., 2017,,.  |     | 2         |
| 65 | Effectiveness of Symbol-Rate Optimization with PM-16QAM Subcarriers in WDM Transmission. , 2017, , .   |     | 3         |
| 66 | Hybrid Modulation Formats Enabling Elastic Fixed-Grid Optical Networks. Journal of Optical Communications and Networking, 2016, 8, A92.                      | 4.8 | 32        |
| 67 | Analytical and Experimental Results on System Maximum Reach Increase Through Symbol Rate Optimization. Journal of Lightwave Technology, 2016, 34, 1872-1885. | 4.6 | 106       |
| 68 | Merit of Raman Pumping in Uniform and Uncompensated Links Supporting NyWDM Transmission. Journal of Lightwave Technology, 2016, 34, 554-565.                 | 4.6 | 37        |
| 69 | Bit-rate maximization for elastic transponders operating in WDM uncompensated amplified links. , 2016, , .   |     | 1         |
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| 73 | Analytical results on system maximum reach increase through symbol rate optimization. , 2015, , .   |     | 28        |
| 74 | Experimental demonstration of fiber nonlinearity mitigation in a WDM multi-subcarrier coherent optical system. , $2015, \ldots$   |     | 14        |
| 75 | What is the right physical layer model for a highly dynamic reconfgurable optical network?. , 2015, , .   |     | 2         |
| 76 | On the ultimate potential of symbol-rate optimization for increasing system maximum reach. , 2015, , .  |     | 10        |
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| 79 | A Simple and Effective Closed-Form GN Model Correction Formula Accounting for Signal Non-Gaussian Distribution. Journal of Lightwave Technology, 2015, 33, 459-473.         | 4.6 | 88        |
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| 81 | Theoretical and experimental assessment of nonlinearity mitigation through symbol rate optimization. , $2015,  ,  .$  |     | 2         |
| 82 | HFA Optimization for Nyquist WDM Transmission. , 2015, , .  |     | 5         |
| 83 | Flexible FEC Optimization for Time-Domain Hybrid Modulation Formats. , 2015, , .  |     | 2         |
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| 86 | 1306-km 20x1248-Gb/s PM-64QAM Transmission over PSCF with Net SEDP 11,300 (bâ <sup>^™</sup> km)/s/Hz using 115 samp/symb DAC. Optics Express, 2014, 22, 1796.               | 3.4 | 20        |
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| 88 | Impact of low-OSNR operation on the performance of advanced coherent optical transmission systems. , 2014, , .  |     | 17        |
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| 90 | On the impact of non-linear phase-noise on the assessment of long-haul uncompensated coherent systems performance. , 2014, , .  |     | 9         |

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| 94  | Boosting the capacity of legacy networks using PM-64QAM and Nyquist-WDM technique. , 2014, , .  |     | 0         |
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| 98  | Impact of the Transmitted Signal Initial Dispersion Transient on the Accuracy of the GN-Model of Non-Linear Propagation. , 2013, , .                          |     | 23        |
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| 100 | The LOGON Strategy for Low-Complexity Control Plane Implementation in New-Generation Flexible Networks. , 2013, , .   |     | 82        |
| 101 | Experimental demonstration of a frequency-domain Volterra series nonlinear equalizer in polarization-multiplexed transmission. Optics Express, 2013, 21, 276. | 3.4 | 20        |
| 102 | Extension and validation of the GN model for non-linear interference to uncompensated links using Raman amplification. Optics Express, 2013, 21, 3308.        | 3.4 | 39        |
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| 107 | Analytical results on channel capacity in uncompensated optical links with coherent detection: erratum. Optics Express, 2012, 20, 19610.                      | 3.4 | 12        |
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| 115 | Experimental Investigation of Nonlinear Interference Accumulation in Uncompensated Links. IEEE Photonics Technology Letters, 2012, 24, 1230-1232.  | 2.5 | 24        |
| 116 | Evaluation of Non-Linear Interference in Uncompensated Links using Raman Amplification. , 2012, , .  |     | 1         |
| 117 | Ultra-Long-Haul Transmission of $16\tilde{A}-112$ Gb/s Spectrally-Engineered DAC-Generated Nyquist-WDM PM-16QAM Channels with $1.05\tilde{A}-$ (Symbol-Rate) Frequency Spacing. , $2012$ , , . |     | 15        |
| 118 | Non-linearity Compensation Limits in Optical Systems with Coherent Receivers. , 2012, , .  |     | 4         |
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| 123 | On the Performance of Nyquist-WDM Terabit Superchannels Based on PM-BPSK, PM-QPSK, PM-8QAM or PM-16QAM Subcarriers. Journal of Lightwave Technology, 2011, 29, 53-61.                          | 4.6 | 461       |
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| 134 | Nonlinear propagation of 1 Tbps Superchannels based on 240 Gbps PM-16QAM subcarriers on PSCF with hybrid Erbium/Raman fiber amplification. , 2010, , .                         |     | 2         |
| 135 | Joint DGD, PDL and chromatic dispersion estimation in ultra-long-haul WDM transmission experiments with coherent receivers. , 2010, , .  |     | 6         |
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| 139 | Maximum Reach Versus Transmission Capacity for Terabit Superchannels Based on 27.75-GBaud PM-QPSK, PM-8QAM, or PM-16QAM. IEEE Photonics Technology Letters, 2010, 22, 829-831. | 2.5 | 24        |
| 140 | Performance Evaluation of Long-Haul 111 Gb/s PM-QPSK Transmission Over Different Fiber Types. IEEE Photonics Technology Letters, 2010, 22, 1446-1448.                          | 2.5 | 20        |
| 141 | Ultra-Narrow-Spacing 10-Channel 1.12 Tb/s D-WDM Long-Haul Transmission Over Uncompensated SMF and NZDSF. IEEE Photonics Technology Letters, 2010, 22, 1419-1421.               | 2.5 | 50        |
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| 147 | Investigation on the robustness of a Nyquist-WDM Terabit superchannel to transmitter and receiver non-idealities. , 2010, , .                                   |      | 17        |
| 148 | Single- and multi-carrier techniques to build up Tb/s per channel transmission systems. , 2010, , .   |      | 11        |
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