

# Marco Fiorentino

## List of Publications by Year in descending order

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134  
papers

4,579  
citations

147566  
31  
h-index

118652  
62  
g-index

134  
all docs

134  
docs citations

134  
times ranked

3839  
citing authors

#	ARTICLE	IF	CITATIONS
1	Flat dielectric grating reflectors with focusing abilities. <i>Nature Photonics</i> , 2010, 4, 466-470.	15.6	445
2	Corona: System Implications of Emerging Nanophotonic Technology. , 2008, , .		336
3	Phase-stable source of polarization-entangled photons using a polarization Sagnac interferometer. <i>Physical Review A</i> , 2006, 73, .	1.0	292
4	A multi-directional backlight for a wide-angle, glasses-free three-dimensional display. <i>Nature</i> , 2013, 495, 348-351.	13.7	272
5	Corona. <i>Computer Architecture News</i> , 2008, 36, 153-164.	2.5	226
6	Spontaneous parametric down-conversion in periodically poled KTP waveguides and bulk crystals. <i>Optics Express</i> , 2007, 15, 7479.	1.7	191
7	Electrically-pumped compact hybrid silicon microring lasers for optical interconnects. <i>Optics Express</i> , 2009, 17, 20355.	1.7	165
8	Four-wave mixing in microstructure fiber. <i>Optics Letters</i> , 2001, 26, 1048.	1.7	146
9	Optical parametric oscillator based on four-wave mixing in microstructure fiber. <i>Optics Letters</i> , 2002, 27, 1675.	1.7	136
10	Sub-Wavelength Grating Lenses With a Twist. <i>IEEE Photonics Technology Letters</i> , 2014, 26, 1375-1378.	1.3	134
11	Deterministic Controlled-NOT Gate For Single-Photon Two-Qubit Quantum Logic. <i>Physical Review Letters</i> , 2004, 93, 070502.	2.9	117
12	25-â€‰Gbps low-voltage waveguide Si-Ge avalanche photodiode. <i>Optica</i> , 2016, 3, 793.	4.8	114
13	High-flux source of polarization-entangled photons from a periodically poled KTiOPO <sub>4</sub> parametric down-converter. <i>Physical Review A</i> , 2004, 69, .	1.0	109
14	Silicon Photonic Transceiver Circuits With Microring Resonator Bias-Based Wavelength Stabilization in 65 nm CMOS. <i>IEEE Journal of Solid-State Circuits</i> , 2014, 49, 1419-1436.	3.5	92
15	Observation of twin-beam-type quantum correlation in optical fiber. <i>Optics Letters</i> , 2001, 26, 367.	1.7	89
16	Two-Photon Coincident-Frequency Entanglement via Extended Phase Matching. <i>Physical Review Letters</i> , 2005, 94, 083601.	2.9	89
17	Generation of ultrabright tunable polarization entanglement without spatial, spectral, or temporal constraints. <i>Physical Review A</i> , 2004, 69, .	1.0	87
18	A 25 Gb/s, 4.4 V-Swing, AC-Coupled Ring Modulator-Based WDM Transmitter with Wavelength Stabilization in 65 nm CMOS. <i>IEEE Journal of Solid-State Circuits</i> , 2015, 50, 3145-3159.	3.5	80

#	ARTICLE	IF	CITATIONS
19	Hybrid Silicon Laser Technology: A Thermal Perspective. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1490-1498.	1.9	67
20	Robust hybrid quantum dot laser for integrated silicon photonics. Optics Express, 2016, 24, 16167.	1.7	64
21	Low Threshold Electrically-Pumped Hybrid Silicon Microring Lasers. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 1528-1533.	1.9	62
22	A 25 Gb/s Hybrid-Integrated Silicon Photonic Source-Synchronous Receiver With Microring Wavelength Stabilization. IEEE Journal of Solid-State Circuits, 2016, 51, 2129-2141.	3.5	54
23	A comb laser-driven DWDM silicon photonic transmitter based on microring modulators. Optics Express, 2015, 23, 21541.	1.7	50
24	Long-term survival in patients with septic acute kidney injury is strongly influenced by renal recovery. PLoS ONE, 2018, 13, e0198269.	1.1	50
25	Silicon-germanium avalanche photodiodes with direct control of electric field in charge multiplication region. Optica, 2019, 6, 772.	4.8	45
26	A Low-Voltage Si-Ge Avalanche Photodiode for High-Speed and Energy Efficient Silicon Photonic Links. Journal of Lightwave Technology, 2020, 38, 3156-3163.	2.7	42
27	Soliton squeezing in microstructure fiber. Optics Letters, 2002, 27, 649.	1.7	38
28	Soliton squeezing in a Mach-Zehnder fiber interferometer. Physical Review A, 2001, 64, .	1.0	36
29	Teardrop Reflector-Assisted Unidirectional Hybrid Silicon Microring Lasers. IEEE Photonics Technology Letters, 2012, 24, 1988-1990.	1.3	36
30	Single-photon two-qubit SWAP gate for entanglement manipulation. Physical Review A, 2005, 72, .	1.0	35
31	Error-Free Operation in a Hybrid-Silicon Quantum Dot Comb Laser. IEEE Photonics Technology Letters, 2018, 30, 71-74.	1.3	34
32	Compact sources of polarization-entangled photons. Optics Express, 2008, 16, 20149.	1.7	33
33	Fabrication of Silicon-on-Diamond Substrate and Low-Loss Optical Waveguides. IEEE Photonics Technology Letters, 2011, 23, 657-659.	1.3	27
34	Differences in acute kidney injury ascertainment for clinical and preclinical studies. Nephrology Dialysis Transplantation, 2017, 32, 1789-1805.	0.4	27
35	On-Chip Hybrid Silicon Quantum Dot Comb Laser with 14 Error-Free Channels. , 2018, , .		26
36	64-Gb/s low-voltage waveguide SiGe avalanche photodiodes with distributed Bragg reflectors. Photonics Research, 2020, 8, 1118.	3.4	25

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37	A 100 Gb/s PAM4 Two-Segment Silicon Microring Resonator Modulator Using a Standard Foundry Process. <i>ACS Photonics</i> , 2022, 9, 1165-1171.	3.2	24
38	A single comb laser source for short reach WDM interconnects. , 2009, , .		23
39	A Compact Verilog-A Model of Silicon Carrier-Injection Ring Modulators for Optical Interconnect Transceiver Circuit Design. <i>Journal of Lightwave Technology</i> , 2016, 34, 2996-3005.	2.7	23
40	A 3D-Integrated 56 Gb/s NRZ/PAM4 Reconfigurable Segmented Mach-Zehnder Modulator-Based Si-Photonics Transmitter. , 2018, , .		22
41	Multifaced Roles of HDL in Sepsis and SARS-CoV-2 Infection: Renal Implications. <i>International Journal of Molecular Sciences</i> , 2021, 22, 5980.	1.8	21
42	An Energy-Efficient and Bandwidth-Scalable DWDM Heterogeneous Silicon Photonics Integration Platform. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2022, 28, 1-19.	1.9	21
43	High Responsivity Si-Ge Waveguide Avalanche Photodiodes Enhanced by Loop Reflector. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2022, 28, 1-8.	1.9	20
44	Spontaneous parametric down conversion in a nanophotonic waveguide. <i>Optics Express</i> , 2007, 15, 8770.	1.7	19
45	Heterogeneous silicon light sources for datacom applications. <i>Optical Fiber Technology</i> , 2018, 44, 43-52.	1.4	19
46	Strong Optical Confinement between Nonperiodic Flat Dielectric Gratings. <i>Physical Review Letters</i> , 2011, 106, 193901.	2.9	18
47	Error-free DWDM transmission and crosstalk analysis for a silicon photonics transmitter. <i>Optics Express</i> , 2015, 23, 32968.	1.7	18
48	Energy Efficiency Analysis of Comb Source Carrier-Injection Ring-Based Silicon Photonic Link. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2020, 26, 1-13.	1.9	18
49	Fully-Integrated Heterogeneous DML Transmitters for High-Performance Computing. <i>Journal of Lightwave Technology</i> , 2020, 38, 3322-3337.	2.7	18
50	Amplitude squeezing in a Mach-Zehnder fiber interferometer: Numerical analysis of experiments with microstructure fiber. <i>Optics Express</i> , 2002, 10, 128.	1.7	17
51	A 40 Gb/s PAM4 silicon microring resonator modulator transmitter in 65nm CMOS. , 2016, , .		17
52	Performance Requirements for Terabit-Class Silicon Photonic Links Based on Cascaded Microring Resonators. <i>Journal of Lightwave Technology</i> , 2020, 38, 3469-3477.	2.7	17
53	Glomerulonephritis in AKI: From Pathogenesis to Therapeutic Intervention. <i>Frontiers in Medicine</i> , 2020, 7, 582272.	1.2	16
54	Reflective silicon binary diffraction grating for visible wavelengths. <i>Optics Letters</i> , 2011, 36, 1515.	1.7	15

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55	A Compact Model for Si-Ge Avalanche Photodiodes Over a Wide Range of Multiplication Gain. Journal of Lightwave Technology, 2019, 37, 3229-3235.	2.7	15
56	64 Gbps PAM4 Si-Ge Waveguide Avalanche Photodiodes With Excellent Temperature Stability. Journal of Lightwave Technology, 2020, 38, 4857-4866.	2.7	15
57	A Tunable Hybrid III-V-on-Si MOS Microring Resonator with Negligible Tuning Power Consumption. , 2016, , .		15
58	Integrated Green DWDM Photonics For Next-Gen High-Performance Computing. , 2020, , .		15
59	22.4 A 24Gb/s 0.71pJ/b Si-photonic source-synchronous receiver with adaptive equalization and microring wavelength stabilization. , 2015, , .		13
60	A WDM silicon photonic transmitter based on carrier-injection microring modulators. , 2014, , .		12
61	Detachable 1x8 single mode optical interface for DWDM microring silicon photonic transceivers. , 2020, , .		12
62	A two-segment optical DAC 40 Gb/s PAM4 silicon microring resonator modulator transmitter in 65nm CMOS. , 2017, , .		11
63	Improving Translation from Preclinical Studies to Clinical Trials in Acute Kidney Injury. Nephron, 2018, 140, 81-85.	0.9	11
64	Design Considerations for Energy Efficient DWDM PAM4 Transceivers Employing Avalanche Photodiodes. Laser and Photonics Reviews, 2020, 14, 2000142.	4.4	11
65	An Energy-Efficient Silicon Microring Resonator-Based Photonic Transmitter. IEEE Design and Test, 2014, 31, 46-54.	1.1	10
66	22.6 A 25Gb/s 4.4V-swing AC-coupled Si-photonic microring transmitter with 2-tap asymmetric FFE and dynamic thermal tuning in 65nm CMOS. , 2015, , .		10
67	Heterogeneous MOS microring resonators. , 2017, , .		10
68	Statistical Behavioral Models of Silicon Ring Resonators at a Commercial CMOS Foundry. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-10.	1.9	10
69	Adjoint-method-inspired grating couplers for CWDM O-band applications. Optics Express, 2020, 28, 3756.	1.7	10
70	Avalanche photodiodes on silicon photonics. Journal of Semiconductors, 2022, 43, 021301.	2.0	10
71	A metal thermal shunt design for hybrid silicon microring laser. , 2012, , .		9
72	High efficiency diode comb-laser for DWDM optical interconnects. , 2014, , .		9

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73	25Gb/s Hybrid-Integrated Silicon Photonic Receiver with Microring Wavelength Stabilization. , 2015, , .		8
74	Small-Signal Analysis of All-Si Microring Resonator Photodiode. Electronics (Switzerland), 2022, 11, 183.	1.8	8
75	Crosstalk analysis of ring resonator switches for all-optical routing. Optics Express, 2016, 24, 11668.	1.7	7
76	Pairing of microring-based silicon photonic transceivers for tuning power optimization. , 2018, , .		7
77	Wafer-level testing of inverse-designed and adjoint-inspired vertical grating coupler designs compatible with DUV lithography. Optics Express, 2021, 29, 37021.	1.7	7
78	15 Gb/s Transmission with Wide-FSR Carrier Injection Ring Modulator for Tb/s Optical Links. , 2016, , .		7
79	Energy-efficient channel alignment of DWDM silicon photonic transceivers. , 2018, , .		6
80	Energy Efficiency Analysis of Frequency Comb Sources for Silicon Photonic Interconnects. , 2019, , .		6
81	Bidirectional tuning of microring-based silicon photonic transceivers for optimal energy efficiency. , 2019, , .		6
82	OSNR Sensitivity Analysis for Si-Ge Avalanche Photodiodes. IEEE Photonics Technology Letters, 2022, 34, 321-324.	1.3	6
83	Concurrent multi-channel transmission of a DWDM silicon photonic transmitter based on a comb laser and microring modulators. , 2015, , .		5
84	Silicon Photonic Microring Resonator-Based Transceivers for Compact WDM Optical Interconnects. , 2015, , .		5
85	A 52 ps resolution ILO-based time-to-digital converter array for LIDAR sensors. , 2016, , .		5
86	PAM4 silicon photonic microring resonator-based transceiver circuits. , 2017, , .		5
87	Energy Efficiency and Yield Optimization for Optical Interconnects via Transceiver Grouping. Journal of Lightwave Technology, 2021, 39, 1567-1578.	2.7	5
88	A Comb Laser-Driven DWDM Silicon Photonic Transmitter with Microring Modulator for Optical Interconnect. , 2015, , .		5
89	50 Gb/s PAM4 Low-Voltage Si-Ge Avalanche Photodiode. , 2019, , .		5
90	A LIDAR sensor prototype with embedded 14-bit 52Âps resolution ILO-TDC array. Analog Integrated Circuits and Signal Processing, 2018, 94, 369-382.	0.9	4

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91	Hybrid silicon ring lasers. , 2011, , .		3
92	Large color gamut displays with diffraction gratings. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2016, 33, 1133.	0.8	3
93	64Gbps PAM4 Modulation for a Low Energy Si-Ge Waveguide APD with Distributed Bragg Reflectors. , 2020, , .		3
94	Low-voltage three-terminal avalanche photodiodes. , 2017, , .		3
95	Characterization and Applications of Spatial Variation Models for Silicon Microring-Based Optical Transceivers. , 2020, , .		3
96	3D-Integrated DWDM Silicon Photonics Receiver. , 2021, , .		3
97	Compact, High-Speed Hybrid Silicon Microring Lasers for Computer Interconnects. , 2010, , .		2
98	DWDM nanophotonic interconnects: toward terabit/s chip-scale serial link. , 2015, , .		2
99	Low-voltage Si-Ge Avalanche Photodiodes for Datacom. , 2019, , .		2
100	A Tunable Hybrid Laser With Ultra-High Tuning Efficiency. , 2016, , .		2
101	Hybrid Silicon Micro-cavity Light Source on Silicon-on-Diamond Substrate. , 2012, , .		2
102	A 14 Gb/s Directly Modulated Hybrid Microring Laser Transmitter. , 2018, , .		2
103	A Directly Modulated Quantum Dot Microring Laser Transmitter with Integrated CMOS Driver. , 2019, , .		2
104	Single-Photon Two-Qubit Logic Gates. AIP Conference Proceedings, 2004, , .	0.3	1
105	Reflection-assisted unidirectional hybrid silicon microring lasers. , 2012, , .		1
106	Hybrid III-V-on-Silicon Microring Lasers. Materials Research Society Symposia Proceedings, 2013, 1538, 363-369.	0.1	1
107	A compact, high-speed, highly efficient hybrid silicon photodetector. , 2016, , .		1
108	VLSI Photonics for High-Performance Data Centers. Topics in Applied Physics, 2016, , 489-516.	0.4	1

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109	True Concurrent Modulation of a Multi-Channel Ring Modulator Transmitter Driven by a Comb Laser. , 2017, , .		1
110	Silicon Photonics; Ring Modulator Transmitters. , 2018, , 216-223.		1
111	A Compact Circuit Model for Si-Ge Avalanche Photodiodes over a Wide Range of Gain. , 2019, , .		1
112	Loop Reflector Assisted Si-Ge Waveguide Avalanche Photodiodes. , 2021, , .		1
113	Study of Hybrid Silicon Microring Lasers With Undercut Active Region. , 2010, , .		1
114	A Fully-integrated Multi- $\lambda$ Hybrid DML Transmitter. , 2018, , .		1
115	35Gb/s Ultralow-Voltage Three-Terminal Si-Ge Avalanche Photodiode. , 2019, , .		1
116	High-Speed Si/Ge Avalanche Photodiodes with Enhanced Responsivity. , 2021, , .		1
117	A 100 Gb/s PAM4 Two-Segment Silicon Microring Resonator Modulator. , 2021, , .		1
118	Experimental characterization of Inverse-Designed Vertical Grating Couplers in the O-band. , 2021, , .		1
119	Phase-stable source of polarization-entangled photons using a polarization Sagnac interferometer. , 2006, , .		0
120	Compact hybrid Si microring lasers. , 2010, , .		0
121	III&#x2013;V-on-silicon hybrid integration, materials, devices, and applications. , 2011, , .		0
122	Gain-assisted hybrid silicon microring electro-absorption modulators. , 2012, , .		0
123	Silicon photonic integrated devices for datacenter optical networks. , 2014, , .		0
124	Inter-channel modulation power penalty for a silicon photonics transmitter. , 2016, , .		0
125	Adaptive gain, equalization, and wavelength stabilization techniques for silicon photonic microring resonator-based optical receivers. Proceedings of SPIE, 2016, , .	0.8	0
126	Operation and analysis of low-voltage three-terminal avalanche photodiodes. , 2017, , .		0



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127	A Compact Circuit Model for Si-Ge Avalanche Photodiodes over a Wide Range of Gain. , 2019, , .		0
128	An Open Silicon Photonics Ecosystem for Computercom Applications. Topics in Applied Physics, 2021, , 491-506.	0.4	0
129	Fiber-optic sources for quantum communication. , 2002, , .		0
130	CMOS Nanophotonics: Technology, System Implications, and a CMP Case Study. , 2011, , 223-254.		0
131	Reflective silicon binary diffraction grating for visible wavelengths. , 2011, , .		0
132	Hybrid silicon lasers: progress and perspectives. , 2012, , .		0
133	Silicon Photonic Integrated Devices For Optical Interconnects. , 2013, , .		0
134	Building a Robust Hybrid III-V-on-Silicon Transceiver. , 2015, , .		0