

# Tom Baehr-Jones

## List of Publications by Year in descending order

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118  
papers

8,357  
citations

76294

40  
h-index

60583

81  
g-index

118  
all docs

118  
docs citations

118  
times ranked

6428  
citing authors

#	ARTICLE	IF	CITATIONS
1	Accelerating recurrent Ising machines in photonic integrated circuits. <i>Optica</i> , 2020, 7, 551.	4.8	70
2	Scalable feedback control of single photon sources for photonic quantum technologies. <i>Optica</i> , 2019, 6, 335.	4.8	18
3	Integrated Photonics for Counterfactual Communication. , 2019, , .		1
4	A Low-Power Hybrid-Integrated 40-Gb/s Optical Receiver in Silicon. <i>IEEE Transactions on Microwave Theory and Techniques</i> , 2018, 66, 589-595.	2.9	15
5	Nonlinear characterization of a silicon integrated Bragg waveguide filter. <i>Optics Letters</i> , 2018, 43, 1171.	1.7	1
6	Linear programmable nanophotonic processors. <i>Optica</i> , 2018, 5, 1623.	4.8	240
7	A Silicon Photonic Transceiver and Hybrid Tunable Laser for 64 Gbaud Coherent Communication. , 2018, , .		10
8	Modular architecture for fully non-blocking silicon photonic switch fabric. <i>Microsystems and Nanoengineering</i> , 2017, 3, 16071.	3.4	35
9	Quantum transport simulations in a programmable nanophotonic processor. <i>Nature Photonics</i> , 2017, 11, 447-452.	15.6	359
10	Deep learning with coherent nanophotonic circuits. <i>Nature Photonics</i> , 2017, 11, 441-446.	15.6	1,845
11	Programmable dispersion on a photonic integrated circuit for classical and quantum applications. <i>Optics Express</i> , 2017, 25, 21275.	1.7	23
12	Complexity Scaling in Silicon Photonics. , 2017, , .		6
13	Programmable Nanophotonics for Quantum Simulation and Machine Learning. , 2017, , .		1
14	Energy correlations of photon pairs generated by a silicon microring resonator probed by Stimulated Four Wave Mixing. <i>Scientific Reports</i> , 2016, 6, 23564.	1.6	37
15	Large-scale quantum photonic circuits in silicon. <i>Nanophotonics</i> , 2016, 5, 456-468.	2.9	109
16	Tunable-Coupling Resonator Arrays for Chip-Based Quantum Enigma Machines. , 2016, , .		0
17	Programmable Wavelength Locking and Routing in a Silicon-Photonic Interconnection Network Implementation. , 2015, , .		9
18	Optimized silicon photonic components for high-performance interconnect systems. , 2015, , .		0

#	ARTICLE	IF	CITATIONS
19	A low-power 40 Gb/s optical receiver in silicon. , 2015, , .		6
20	High-speed BPSK modulation using a silicon modulator. , 2015, , .		0
21	Polarization-insensitive 40Gb/s 4-WDM channels receiver on SOI platform. , 2015, , .		1
22	Symmetrical polarization splitter/rotator design and application in a polarization insensitive WDM receiver. Optics Express, 2015, 23, 16052.	1.7	23
23	Phase coherence length in silicon photonic platform. Optics Express, 2015, 23, 16890.	1.7	42
24	Single Microring-Based $2 \times 2$ Silicon Photonic Crossbar Switches. IEEE Photonics Technology Letters, 2015, 27, 1981-1984.	1.3	31
25	High-Speed BPSK Modulation in Silicon. IEEE Photonics Technology Letters, 2015, 27, 1329-1332.	1.3	7
26	Scalability of silicon photonic enabled optically connected memory. , 2014, , .		3
27	A 40-GHz bandwidth transimpedance amplifier with adjustable gain-peaking in 65-nm CMOS. , 2014, , .		7
28	A Compact Low-Power 320-Gb/s WDM Transmitter Based on Silicon Microrings. IEEE Photonics Journal, 2014, 6, 1-8.	1.0	32
29	High-speed silicon modulators with slow-wave electrodes. , 2014, , .		1
30	Ultra-compact 320 Gb/s and 160 Gb/s WDM transmitters based on silicon microrings. , 2014, , .		23
31	Progress in silicon platforms for integrated optics. Nanophotonics, 2014, 3, 205-214.	2.9	30
32	CMOS-compatible highly efficient polarization splitter and rotator based on a double-etched directional coupler. Optics Express, 2014, 22, 2489.	1.7	74
33	Silicon Mod-MUX-Ring transmitter with 4 channels at 40 Gb/s. Optics Express, 2014, 22, 16431.	1.7	17
34	Silicon microring modulator for 40 Gb/s NRZ-OOK metro networks in O-band. Optics Express, 2014, 22, 28284.	1.7	22
35	A single adiabatic microring-based laser in 220 nm silicon-on-insulator. Optics Express, 2014, 22, 1172.	1.7	43
36	Efficient, compact and low loss thermo-optic phase shifter in silicon. Optics Express, 2014, 22, 10487.	1.7	272

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37	A high-responsivity photodetector absent metal-germanium direct contact. Optics Express, 2014, 22, 11367.	1.7	69
38	Experimental demonstration of broadband Lorentz non-reciprocity in an integrable photonic architecture based on Mach-Zehnder modulators. Optics Express, 2014, 22, 17409.	1.7	22
39	Sagnac loop mirror and micro-ring based laser cavity for silicon-on-insulator. Optics Express, 2014, 22, 17872.	1.7	26
40	Design and optimization of a novel silicon-on-insulator wavelength diplexer. Optics Express, 2014, 22, 21521.	1.7	14
41	High efficiency germanium-assisted grating coupler. Optics Express, 2014, 22, 30607.	1.7	16
42	Ultracompact silicon-on-insulator polarization rotator for polarization-diversified circuits. Optics Letters, 2014, 39, 4703.	1.7	56
43	Silicon Parallel Single Mode 48 Å— 50 Gb/s Modulator and Photodetector Array. Journal of Lightwave Technology, 2014, 32, 4370-4377.	2.7	10
44	High-Efficiency Low-Crosstalk 1310-nm Polarization Splitter and Rotator. IEEE Photonics Technology Letters, 2014, 26, 925-928.	1.3	25
45	50 Gb/s Silicon Traveling Wave Mach-Zehnder Modulator near 1300 nm. , 2014, , .		2
46	Design and characterization of a 30-GHz bandwidth low-power silicon traveling-wave modulator. Optics Communications, 2014, 321, 124-133.	1.0	69
47	Sagnac loop mirror based laser cavity for silicon-on-insulator. , 2014, , .		0
48	A 10-Gb/s Silicon Microring Resonator-Based BPSK Link. IEEE Photonics Technology Letters, 2014, 26, 1805-1808.	1.3	13
49	High-Speed Silicon Modulator With Slow-Wave Electrodes and Fully Independent Differential Drive. Journal of Lightwave Technology, 2014, 32, 2240-2247.	2.7	63
50	High-Efficiency Grating Couplers Near 1310 nm Fabricated by 248-nm DUV Lithography. IEEE Photonics Technology Letters, 2014, 26, 1569-1572.	1.3	14
51	100-Gb/s NRZ optical transceiver analog front-end in 130-nm SiGe BiCMOS. , 2014, , .		3
52	Monolithically Integrated MESFET Devices on a High-Speed Silicon Photonics Platform. Journal of Lightwave Technology, 2014, 32, 4345-4348.	2.7	2
53	40-Gb/s silicon modulators for mid-reach applications at 1550 nm. , 2014, , .		0
54	Silicon microring based modulator and filter for high speed transmitters at 1310 nm. , 2014, , .		2

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55	Integrated Source of Spectrally Filtered Correlated Photons for Large-Scale Quantum Photonic Systems. <i>Physical Review X</i> , 2014, 4, .	2.8	100
56	A compact and low-loss silicon waveguide crossing for O-band optical interconnect. , 2014, , .		3
57	A High-Efficiency Nonuniform Grating Coupler Realized With 248-nm Optical Lithography. <i>IEEE Photonics Technology Letters</i> , 2013, 25, 1358-1361.	1.3	45
58	A 30 GHz silicon photonic platform. , 2013, , .		12
59	Ultra-Responsive Phase Shifters for Depletion Mode Silicon Modulators. <i>Journal of Lightwave Technology</i> , 2013, 31, 3787-3793.	2.7	19
60	A 30 GHz silicon photonic platform: Multi-project wafer shuttles for next-generation optical systems. , 2013, , .		1
61	30GHz silicon platform for photonics system. , 2013, , .		1
62	Silicon Photonics: The Next Fabless Semiconductor Industry. <i>IEEE Solid-State Circuits Magazine</i> , 2013, 5, 48-58.	0.5	105
63	Zwitterionic polymer-modified silicon microring resonators for label-free biosensing in undiluted human plasma. <i>Biosensors and Bioelectronics</i> , 2013, 42, 100-105.	5.3	44
64	A CMOS-Compatible, Low-Loss, and Low-Crosstalk Silicon Waveguide Crossing. <i>IEEE Photonics Technology Letters</i> , 2013, 25, 422-425.	1.3	51
65	Noise Characterization of a Waveguide-Coupled MSM Photodetector Exceeding Unity Quantum Efficiency. <i>Journal of Lightwave Technology</i> , 2013, 31, 23-27.	2.7	13
66	A 92 mW, 20 dB gain, broadband lumped SiGe amplifier with bandwidth exceeding 67 GHz. , 2013, , .		5
67	A CMOS-compatible silicon photonic platform for high-speed integrated opto-electronics. <i>Proceedings of SPIE</i> , 2013, , .	0.8	14
68	A compact and low loss Y-junction for submicron silicon waveguide. <i>Optics Express</i> , 2013, 21, 1310.	1.7	302
69	Ultralow loss single layer submicron silicon waveguide crossing for SOI optical interconnect. <i>Optics Express</i> , 2013, 21, 29374.	1.7	190
70	A compact bi-wavelength polarization splitting grating coupler fabricated in a 220 nm SOI platform. <i>Optics Express</i> , 2013, 21, 31019.	1.7	91
71	Germanium photodetector with 60 GHz bandwidth using inductive gain peaking. <i>Optics Express</i> , 2013, 21, 28387.	1.7	121
72	Low power 50 Gb/s silicon traveling wave Mach-Zehnder modulator near 1300 nm. <i>Optics Express</i> , 2013, 21, 30350.	1.7	246

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73	Broadband on-chip optical non-reciprocity using phase modulators. Optics Express, 2013, 21, 14500.	1.7	34
74	Highly linear silicon traveling wave Mach-Zehnder carrier depletion modulator based on differential drive. Optics Express, 2013, 21, 3818.	1.7	75
75	A 30 GHz silicon photonic platform. , 2013, , .		12
76	A Silicon Platform for High-Speed Photonics Systems. , 2012, , .		12
77	Bandwidth enhancement of waveguide-coupled photodetectors with inductive gain peaking. Optics Express, 2012, 20, 7101.	1.7	36
78	Ultralow drive voltage silicon traveling-wave modulator. Optics Express, 2012, 20, 12014.	1.7	204
79	Linearity of silicon ring modulators for analog optical links. Optics Express, 2012, 20, 13115.	1.7	60
80	Ultra-thin silicon-on-insulator strip waveguides and mode couplers. Applied Physics Letters, 2012, 101, .	1.5	18
81	Electrically tunable resonant filters in phase-shifted contra-directional couplers. , 2012, , .		5
82	Shared shuttles for integrated silicon optoelectronics. , 2012, , .		3
83	Myths and rumours of silicon photonics. Nature Photonics, 2012, 6, 206-208.	15.6	173
84	Silicon multi-project wafer platforms for optoelectronic system integration. , 2012, , .		6
85	A 25 Gb/s 400 fJ/bit silicon traveling-wave modulator. , 2012, , .		0
86	Ultrathin Silicon-on-Insulator Grating Couplers. IEEE Photonics Technology Letters, 2012, 24, 2247-2249.	1.3	28
87	Single-chip photonic integration with CMOS for aerospace. , 2012, , .		0
88	High-Order Nonlinearities of Anionic Polymethine Salts and Polycarbonate with Enhanced Third-Order Nonlinearities for Silicon-Organic Hybrid Devices. Advanced Materials, 2012, 24, OP326-30.	11.1	28
89	Efficient Poling of Electro-Optic Polymers in Thin Films and Silicon Slot Waveguides by Detachable Pyroelectric Crystals. Advanced Materials, 2012, 24, OP42-7.	11.1	28
90	Electro-Optical Materials: Efficient Poling of Electro-Optic Polymers in Thin Films and Silicon Slot Waveguides by Detachable Pyroelectric Crystals (Adv. Mater. 10/2012). Advanced Materials, 2012, 24, OP1.	11.1	4

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91	Efficient Strip to Strip-Loaded Slot Mode Converter in Silicon-on-Insulator. IEEE Photonics Technology Letters, 2011, 23, 1496-1498.	1.3	21
92	Full-wafer loss measurements of silicon ridge waveguides. , 2011, , .		1
93	Towards a low-loss, ultra-low drive voltage silicon-polymer hybrid electro-optic modulator. , 2011, , .		1
94	Asymmetric strip-loaded slot waveguides and its applications in silicon-polymer hybrid electro-optic modulators. , 2011, , .		1
95	Sub-Volt Silicon-Organic Electro-optic Modulator With 500 MHz Bandwidth. Journal of Lightwave Technology, 2011, 29, 1112-1117.	2.7	42
96	Silicon-polymer hybrid slot waveguide ring-resonator modulator. Optics Express, 2011, 19, 3952.	1.7	114
97	Photolithographically fabricated low-loss asymmetric silicon slot waveguides. Optics Express, 2011, 19, 10950.	1.7	41
98	A high-speed silicon photonics platform. , 2011, , .		4
99	Low-loss asymmetric strip-loaded slot waveguides in silicon-on-insulator. Applied Physics Letters, 2011, 98, .	1.5	40
100	Electron beam lithography writing strategies for low loss, high confinement silicon optical waveguides. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	0.6	114
101	Theoretical Study of Optical Rectification at Radio Frequencies in a Slot Waveguide. IEEE Journal of Quantum Electronics, 2010, 46, 1634-1641.	1.0	7
102	Label-Free Biosensor Arrays Based on Silicon Ring Resonators and High-Speed Optical Scanning Instrumentation. IEEE Journal of Selected Topics in Quantum Electronics, 2010, 16, 654-661.	1.9	472
103	Towards fabless silicon photonics. Nature Photonics, 2010, 4, 492-494.	15.6	336
104	Silicon waveguides and ring resonators at 5.5 μm. Applied Physics Letters, 2010, 97, .	1.5	102
105	Silicon waveguides and ring resonators at 5.5 μm. , 2010, , .		1
106	A low V <sub>π</sub> modulator with GHz bandwidth based on an electro-optic polymer-clad silicon slot waveguide. , 2010, , .		1
107	Silicon-on-sapphire integrated waveguides for the mid-infrared. Optics Express, 2010, 18, 12127.	1.7	217
108	Low-loss strip-loaded slot waveguides in Silicon-on-Insulator. Optics Express, 2010, 18, 25061.	1.7	64

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109	Nanogap quantum dot photodetectors with high sensitivity and bandwidth. Applied Physics Letters, 2010, 96, .	1.5	29
110	Slot machine. Nature Photonics, 2009, 3, 193-194.	15.6	10
111	A Hybrid Electrooptic Microring Resonator-Based 1x4x1 ROADMs for Wafer Scale Optical Interconnects. Journal of Lightwave Technology, 2009, 27, 440-448.	2.7	42
112	All-Optical Modulation in a Silicon Waveguide Based on a Single-Photon Process. IEEE Journal of Selected Topics in Quantum Electronics, 2008, 14, 1335-1342.	1.9	4
113	Nonlinear polymer-clad silicon slot waveguide modulator with a half wave voltage of 0.25V. Applied Physics Letters, 2008, 92, 163303.	1.5	195
114	Design and fabrication of segmented, slotted waveguides for electro-optic modulation. Applied Physics Letters, 2007, 91, .	1.5	40
115	Terahertz all-optical modulation in a silicon-polymer hybrid system. Nature Materials, 2006, 5, 703-709.	13.3	276
116	High-Q optical resonators in silicon-on-insulator-based slot waveguides. Applied Physics Letters, 2005, 86, 081101.	1.5	186
117	Segmented waveguides in thin silicon-on-insulator. Journal of the Optical Society of America B: Optical Physics, 2005, 22, 1493.	0.9	23
118	High-Q ring resonators in thin silicon-on-insulator. Applied Physics Letters, 2004, 85, 3346-3347.	1.5	65