

# Luca Alloatti

## List of Publications by Year in descending order

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90  
papers

4,821  
citations

172207

29  
h-index

301761

39  
g-index

90  
all docs

90  
docs citations

90  
times ranked

4513  
citing authors

#	ARTICLE	IF	CITATIONS
1	Single-chip microprocessor that communicates directly using light. <i>Nature</i> , 2015, 528, 534-538.	13.7	1,028
2	Integrating photonics with silicon nanoelectronics for the next generation of systems on a chip. <i>Nature</i> , 2018, 556, 349-354.	13.7	598
3	High-speed plasmonic phase modulators. <i>Nature Photonics</i> , 2014, 8, 229-233.	15.6	511
4	100-THz silicon-organic hybrid modulator. <i>Light: Science and Applications</i> , 2014, 3, e173-e173.	7.7	252
5	Femtojoule electro-optic modulation using a silicon-organic hybrid device. <i>Light: Science and Applications</i> , 2015, 4, e255-e255.	7.7	187
6	427 Gbit/s electro-optic modulator in silicon technology. <i>Optics Express</i> , 2011, 19, 11841.	1.7	176
7	Monolithic silicon-photonics platforms in state-of-the-art CMOS SOI processes [Invited]. <i>Optics Express</i> , 2018, 26, 13106.	1.7	160
8	Reduced propagation loss in silicon strip and slot waveguides coated by atomic layer deposition. <i>Optics Express</i> , 2011, 19, 11529.	1.7	154
9	Performance tradeoff between lateral and interdigitated doping patterns for high speed carrier-depletion based silicon modulators. <i>Optics Express</i> , 2012, 20, 12926.	1.7	154
10	Silicon-Organic Hybrid Electro-Optical Devices. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2013, 19, 114-126.	1.9	134
11	Silicon-Organic Hybrid (SOH) and Plasmonic-Organic Hybrid (POH) Integration. <i>Journal of Lightwave Technology</i> , 2016, 34, 256-268.	2.7	119
12	Optical properties of highly nonlinear silicon-organic hybrid (SOH) waveguide geometries. <i>Optics Express</i> , 2009, 17, 17357.	1.7	102
13	Silicon-organic hybrid (SOH) IQ modulator using the linear electro-optic effect for transmitting 16QAM at 112 Gbit/s. <i>Optics Express</i> , 2013, 21, 13219.	1.7	100
14	Silicon-organic hybrid (SOH) frequency comb sources for terabit/s data transmission. <i>Optics Express</i> , 2014, 22, 3629.	1.7	99
15	A 45 nm CMOS-SOI Monolithic Photonics Platform With Bit-Statistics-Based Resonant Microring Thermal Tuning. <i>IEEE Journal of Solid-State Circuits</i> , 2016, 51, 893-907.	3.5	99
16	Low-Loss Silicon Strip-to-Slot Mode Converters. <i>IEEE Photonics Journal</i> , 2013, 5, 2200409-2200409.	1.0	83
17	Silicon-organic hybrid phase shifter based on a slot waveguide with a liquid-crystal cladding. <i>Optics Express</i> , 2012, 20, 15359.	1.7	74
18	Low Power Mach-Zehnder Modulator in Silicon-Organic Hybrid Technology. <i>IEEE Photonics Technology Letters</i> , 2013, 25, 1226-1229.	1.3	72

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19	A 40-Gb/s PAM-4 Transmitter Based on a Ring-Resonator Optical DAC in 45-nm SOI CMOS. IEEE Journal of Solid-State Circuits, 2017, 52, 3503-3516.	3.5	67
20	40 GBd 16QAM Signaling at 160 Gb/s in a Silicon-Organic Hybrid Modulator. Journal of Lightwave Technology, 2015, 33, 1210-1216.	2.7	50
21	Lasing in silicon-organic hybrid waveguides. Nature Communications, 2016, 7, 10864.	5.8	44
22	Ultra-Efficient CMOS Fiber-to-Chip Grating Couplers. , 2016, , .		44
23	Second-order nonlinear optical metamaterials: ABC-type nanolaminates. Applied Physics Letters, 2015, 107, .	1.5	43
24	Silicon-Organic Hybrid MZI Modulator Generating OOK, BPSK and 8-ASK Signals for Up to 84 Gbit/s. IEEE Photonics Journal, 2013, 5, 6600907-6600907.	1.0	41
25	Generation and application of high power femtosecond pulses in the vibrational fingerprint region. Applied Physics B: Lasers and Optics, 2008, 91, 315-318.	1.1	38
26	Second-order nonlinear silicon-organic hybrid waveguides. Optics Express, 2012, 20, 20506.	1.7	38
27	Using carrier-depletion silicon modulators for optical power monitoring. Optics Letters, 2012, 37, 4681.	1.7	37
28	High-speed modulator with interleaved junctions in zero-change CMOS photonics. Applied Physics Letters, 2016, 108, .	1.5	33
29	Resonance-enhanced waveguide-coupled silicon-germanium detector. Applied Physics Letters, 2016, 108, 071105.	1.5	32
30	Waveguide-coupled detector in zero-change complementary metal-oxide-semiconductor. Applied Physics Letters, 2015, 107, .	1.5	31
31	Optical absorption in silicon layers in the presence of charge inversion/accumulation or ion implantation. Applied Physics Letters, 2013, 103, .	1.5	26
32	Electro-Optic Organic Crystal Silicon High-Speed Modulator. IEEE Photonics Journal, 2014, 6, 1-9.	1.0	23
33	Photonics design tool for advanced CMOS nodes. IET Optoelectronics, 2015, 9, 163-167.	1.8	18
34	High-speed polysilicon CMOS photodetector for telecom and datacom. Applied Physics Letters, 2016, 109, .	1.5	15
35	High-Speed Photonics for Side-by-Side Integration With Billion Transistor Circuits in Unmodified CMOS Processes. Journal of Lightwave Technology, 2017, 35, 1168-1173.	2.7	13
36	High-Speed Silicon-Organic Hybrid (SOH) Modulator with 1.6 fJ/bit and 180 pm/V In-Device Nonlinearity. , 2013, , .		12

#	ARTICLE	IF	CITATIONS
37	A 45nm SOI monolithic photonics chip-to-chip link with bit-statistics-based resonant microring thermal tuning. , 2015, , .		12
38	29.3 A 40Gb/s PAM-4 transmitter based on a ring-resonator optical DAC in 45nm SOI CMOS. , 2017, , .		7
39	Anomalies and Anderson localization: ĩ-coupling of the energy bands. Journal of Physics Condensed Matter, 2009, 21, 045503.	0.7	6
40	Silicon high-speed electro-optic modulator. , 2010, , .		6
41	Doping Geometries for 40G Carrier-Depletion-Based Silicon Optical Modulators. , 2012, , .		6
42	Silicon-organic hybrid devices. Proceedings of SPIE, 2013, , .	0.8	6
43	Optical loss by surface transfer doping in silicon waveguides. Applied Physics Letters, 2015, 107, .	1.5	6
44	Integrated Silicon-Organic Hybrid (SOH) Frequency Shifter. , 2014, , .		5
45	Silicon-Organic Hybrid (SOH) and Plasmonic-Organic Hybrid (POH) Integration. , 2015, , .		5
46	40 Gbit/s silicon-organic hybrid (SOH) phase modulator. , 2010, , .		4
47	100 Gbit/s electro-optic modulator and 56 Gbit/s wavelength converter for DQPSK data in silicon-organic hybrid (SOH) technology. , 2010, , .		4
48	Monolithic Optical Transceivers in 65 nm Bulk CMOS. , 2018, , .		4
49	High-speed, low-power optical modulators in silicon. , 2013, , .		3
50	First Silicon-Organic Hybrid Laser at Telecommunication Wavelengths. , 2012, , .		3
51	A High-Speed Photodetector for Telecom, Ethernet, and FTTH Applications in Zero-change CMOS Process. , 2016, , .		3
52	Smooth and ultra-precise silicon nanowires fabricated by conventional optical lithography. , 2011, , .		2
53	Highly Efficient Strip-to-Slot Mode Converters. , 2012, , .		2
54	Silicon-Organic Hybrid (SOH) Modulator Generating up to 84 Gbit/s BPSK and M-ASK Signals. , 2013, , .		2

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55	40 GBd 16QAM modulation at 160 Gbit/s in a silicon-organic hybrid (SOH) modulator. , 2014, , .		2
56	High-speed Plasmonic Modulators. , 2014, , .		2
57	Femtojoule modulation and frequency comb generation in silicon-organic hybrid (SOH) devices. , 2014, , .		2
58	Monolithic silicon photonics in a sub-100nm SOI CMOS microprocessor foundry: progress from devices to systems. , 2015, , .		2
59	Infrared vertically-illuminated photodiode for chip alignment feedback. AIP Advances, 2016, 6, 085219.	0.6	2
60	Liquid Crystal Phase Shifter on the SOH Platform with Ultra-Low Power Consumption. , 2012, , .		2
61	Depletion-based optical modulators in a bulk 65 nm CMOS platform. , 2016, , .		2
62	16 Gb/s Microring-to-Microring Photonic Link in 45 nm Monolithic Zero-Change CMOS. , 2018, , .		2
63	Silicon-Organic Hybrid (SOH) Electro-Optical Devices. , 2011, , .		1
64	Loss reduction of silicon slot waveguides with ALD grown thin films. , 2012, , .		1
65	Surface Plasmon Polariton High-Speed Modulator. , 2013, , .		1
66	Silicon-organic hybrid (SOH) technology: A platform for efficient electro-optical devices. , 2013, , .		1
67	Silicon-organic hybrid (SOH) IQ modulator for 16QAM at 112 Gbit/s. , 2013, , .		1
68	From silicon-organic hybrid to plasmonic modulation. , 2014, , .		1
69	Optimization of high-speed CMOS optical modulators with interleaved junctions. , 2016, , .		1
70	Compact Optical TX and RX Macros for Computercom Monolithically Integrated in 45 nm CMOS. Journal of Lightwave Technology, 2021, 39, 6869-6879.	2.7	1
71	Microprocessor Chip with Photonic I/O. , 2017, , .		1
72	Detection or Modulation at 35 Gbit/s with a Standard CMOS-processed Optical Waveguide. , 2012, , .		1

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73	Silicon-Organic Hybrid (SOH) Lasers at Telecommunication Wavelengths. , 2012, , .		1
74	Zero-Change CMOS Photodiode with 0.44 A/W Responsivity. , 2016, , .		1
75	Ultrafast Silicon-Organic Hybrid (SOH) Photonics. , 2010, , .		0
76	Silicon nanophotonics and silicon-organic hybrid (SOH) integration. , 2011, , .		0
77	Silicon-organic hybrid fabrication platform for integrated circuits. , 2012, , .		0
78	Nonlinear Nano-Photonics. , 2013, , .		0
79	Silicon-Organic Hybrid (SOH) Frequency Comb Source for Data Transmission at 784 Gbit/s. , 2013, , .		0
80	Progress in silicon-organic hybrid (SOH) integration. , 2014, , .		0
81	Data Transmission at Terabit/s Data Rates Using Silicon-Organic Hybrid (SOH) Frequency Combs. , 2014, , .		0
82	Efficient nanoscale photonic devices and monolithic electronic-photonic subsystems in sub-100 nm SOI CMOS. , 2015, , .		0
83	Silicon-organic hybrid (SOH) integration and photonic multi-chip systems: Extending the capabilities of the silicon photonic platform. , 2015, , .		0
84	Silicon-organic hybrid (SOH) integration and photonic multi-chip systems: Technologies for high-speed optical interconnects. , 2016, , .		0
85	Signal Processing with Silicon-Organic Hybrid Waveguides. , 2010, , .		0
86	Slotted Photonic Crystal Slow Light Modulators. , 2011, , .		0
87	Nonlinear Optics on the Silicon Platform. , 2012, , .		0
88	Ultra-compact CMOS-Compatible Silicon Modulators. , 2012, , .		0
89	Silicon-organic hybrid integration and photonic wire bonding: Enabling technologies for heterogeneous photonic systems. , 2013, , .		0
90	10Gb/s Intra-Chip Compact Electro-Optical Interconnect. , 2021, , .		0