

Jeremy O'Brien

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95
papers

12,743
citations

54
h-index

112
g-index

117
ext. papers

15,920
ext. citations

13.7
avg, IF

6.38
L-index

#	Paper	IF	Citations
95	Photonic quantum technologies. <i>Nature Photonics</i> , 2009 , 3, 687-695	33.9	1288
94	A variational eigenvalue solver on a photonic quantum processor. <i>Nature Communications</i> , 2014 , 5, 4213	17.4	1030
93	Silica-on-silicon waveguide quantum circuits. <i>Science</i> , 2008 , 320, 646-9	33.3	685
92	Quantum walks of correlated photons. <i>Science</i> , 2010 , 329, 1500-3	33.3	574
91	Integrated compact optical vortex beam emitters. <i>Science</i> , 2012 , 338, 363-6	33.3	561
90	Optical quantum computing. <i>Science</i> , 2007 , 318, 1567-70	33.3	552
89	QUANTUM OPTICS. Universal linear optics. <i>Science</i> , 2015 , 349, 711-6	33.3	504
88	Beating the standard quantum limit with four-entangled photons. <i>Science</i> , 2007 , 316, 726-9	33.3	446
87	Simplifying quantum logic using higher-dimensional Hilbert spaces. <i>Nature Physics</i> , 2009 , 5, 134-140	16.2	428
86	Multidimensional quantum entanglement with large-scale integrated optics. <i>Science</i> , 2018 , 360, 285-291	33.3	337
85	Shor's quantum factoring algorithm on a photonic chip. <i>Science</i> , 2009 , 325, 1221	33.3	289
84	On-chip quantum interference between silicon photon-pair sources. <i>Nature Photonics</i> , 2014 , 8, 104-108	33.9	285
83	Manipulation of multiphoton entanglement in waveguide quantum circuits. <i>Nature Photonics</i> , 2009 , 3, 346-350	33.9	258
82	Large-scale silicon quantum photonics implementing arbitrary two-qubit processing. <i>Nature Photonics</i> , 2018 , 12, 534-539	33.9	239
81	Measurement of quantum weak values of photon polarization. <i>Physical Review Letters</i> , 2005 , 94, 220405	7.4	238
80	Laser written waveguide photonic quantum circuits. <i>Optics Express</i> , 2009 , 17, 12546-54	3.3	200
79	Violation of the Leggett-Garg inequality with weak measurements of photons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 1256-61	11.5	197

78	Demonstration of a simple entangling optical gate and its use in bell-state analysis. <i>Physical Review Letters</i> , 2005 , 95, 210504	7.4	191
77	Time-reversal and super-resolving phase measurements. <i>Physical Review Letters</i> , 2007 , 98, 223601	7.4	179
76	Generating, manipulating and measuring entanglement and mixture with a reconfigurable photonic circuit. <i>Nature Photonics</i> , 2012 , 6, 45-49	33.9	174
75	Strongly enhanced photon collection from diamond defect centers under microfabricated integrated solid immersion lenses. <i>Applied Physics Letters</i> , 2010 , 97, 241901	3.4	170
74	Experimental realization of Shor's quantum factoring algorithm using qubit recycling. <i>Nature Photonics</i> , 2012 , 6, 773-776	33.9	158
73	A quantum delayed-choice experiment. <i>Science</i> , 2012 , 338, 634-7	33.3	158
72	Silicon Quantum Photonics. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2016 , 22, 390-402	3.8	151
71	Boson sampling from a Gaussian state. <i>Physical Review Letters</i> , 2014 , 113, 100502	7.4	145
70	On the experimental verification of quantum complexity in linear optics. <i>Nature Photonics</i> , 2014 , 8, 621-626	33.9	138
69	Nonclassical interference and entanglement generation using a photonic crystal fiber pair photon source. <i>Physical Review Letters</i> , 2007 , 99, 120501	7.4	130
68	Fast electrical switching of orbital angular momentum modes using ultra-compact integrated vortex emitters. <i>Nature Communications</i> , 2014 , 5, 4856	17.4	121
67	Reference-frame-independent quantum key distribution. <i>Physical Review A</i> , 2010 , 82,	2.6	119
66	Multimode quantum interference of photons in multiport integrated devices. <i>Nature Communications</i> , 2011 , 2, 224	17.4	112
65	Measuring a photonic qubit without destroying it. <i>Physical Review Letters</i> , 2004 , 92, 190402	7.4	105
64	Photon pair generation in a silicon micro-ring resonator with reverse bias enhancement. <i>Optics Express</i> , 2013 , 21, 27826-34	3.3	104
63	Integrated Quantum Photonics. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2009 , 15, 1673-1688	3.8	103
62	Solid immersion facilitates fluorescence microscopy with nanometer resolution and sub-femtosecond emitter localization. <i>Advanced Materials</i> , 2012 , 24, OP309-13	24	94
61	Measuring protein concentration with entangled photons. <i>Applied Physics Letters</i> , 2012 , 100, 233704	3.4	93

60	Simulating the vibrational quantum dynamics of molecules using photonics. <i>Nature</i> , 2018 , 557, 660-667	50.4	93
59	Witnessing eigenstates for quantum simulation of Hamiltonian spectra. <i>Science Advances</i> , 2018 , 4, eaap9646	9.6	92
58	Measuring two-qubit gates. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2007 , 24, 172	1.7	91
57	Experimental quantum Hamiltonian learning. <i>Nature Physics</i> , 2017 , 13, 551-555	16.2	87
56	Quantum walks of correlated photon pairs in two-dimensional waveguide arrays. <i>Physical Review Letters</i> , 2014 , 112, 143604	7.4	82
55	Adding control to arbitrary unknown quantum operations. <i>Nature Communications</i> , 2011 , 2, 413	17.4	77
54	Nanofabricated solid immersion lenses registered to single emitters in diamond. <i>Applied Physics Letters</i> , 2011 , 98, 133107	3.4	77
53	Chip-to-chip quantum teleportation and multi-photon entanglement in silicon. <i>Nature Physics</i> , 2020 , 16, 148-153	16.2	77
52	Fast path and polarization manipulation of telecom wavelength single photons in lithium niobate waveguide devices. <i>Physical Review Letters</i> , 2012 , 108, 053601	7.4	75
51	Continuous-variable entanglement on a chip. <i>Nature Photonics</i> , 2015 , 9, 316-319	33.9	73
50	Gallium arsenide (GaAs) quantum photonic waveguide circuits. <i>Optics Communications</i> , 2014 , 327, 49-55	2	69
49	Chip-to-chip quantum photonic interconnect by path-polarization interconversion. <i>Optica</i> , 2016 , 3, 407	8.6	68
48	Beating the standard quantum limit: phase super-sensitivity of N-photon interferometers. <i>New Journal of Physics</i> , 2008 , 10, 073033	2.9	66
47	Observing fermionic statistics with photons in arbitrary processes. <i>Scientific Reports</i> , 2013 , 3, 1539	4.9	64
46	High-fidelity operation of quantum photonic circuits. <i>Applied Physics Letters</i> , 2010 , 97, 211109	3.4	60
45	Photonic module: An on-demand resource for photonic entanglement. <i>Physical Review A</i> , 2007 , 76,	2.6	58
44	Reference-frame-independent quantum-key-distribution server with a telecom tether for an on-chip client. <i>Physical Review Letters</i> , 2014 , 112, 130501	7.4	56
43	Realization of a Knill-Laflamme-Milburn controlled-NOT photonic quantum circuit combining effective optical nonlinearities. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 10067-71	11.5	55

42	Heralding two-photon and four-photon path entanglement on a chip. <i>Physical Review Letters</i> , 2011 , 107, 163602	7.4	54
41	Testing foundations of quantum mechanics with photons. <i>Nature Physics</i> , 2014 , 10, 278-286	16.2	52
40	An entanglement filter. <i>Science</i> , 2009 , 323, 483-5	33.3	51
39	High-extinction ratio integrated photonic filters for silicon quantum photonics. <i>Optics Letters</i> , 2017 , 42, 815-818	3	48
38	Effect of loss on multiplexed single-photon sources. <i>New Journal of Physics</i> , 2015 , 17, 043057	2.9	47
37	Towards practical quantum metrology with photon counting. <i>Npj Quantum Information</i> , 2016 , 2,	8.6	46
36	GaN directional couplers for integrated quantum photonics. <i>Applied Physics Letters</i> , 2011 , 99, 161119	3.4	46
35	All-optical-fiber polarization-based quantum logic gate. <i>Physical Review A</i> , 2009 , 79,	2.6	46
34	Guaranteed violation of a Bell inequality without aligned reference frames or calibrated devices. <i>Scientific Reports</i> , 2012 , 2, 470	4.9	42
33	Efficient quantum walk on a quantum processor. <i>Nature Communications</i> , 2016 , 7, 11511	17.4	40
32	Deterministic optical quantum computer using photonic modules. <i>Physical Review A</i> , 2008 , 78,	2.6	37
31	Calculating unknown eigenvalues with a quantum algorithm. <i>Nature Photonics</i> , 2013 , 7, 223-228	33.9	34
30	Operating quantum waveguide circuits with superconducting single-photon detectors. <i>Applied Physics Letters</i> , 2010 , 96, 211101	3.4	34
29	On-chip manipulation of single photons from a diamond defect. <i>Physical Review Letters</i> , 2013 , 111, 213603	3.4	26
28	Towards the atomic-scale fabrication of a silicon-based solid state quantum computer. <i>Surface Science</i> , 2003 , 532-535, 1209-1218	1.8	23
27	Entanglement generation by Fock-state filtration. <i>Physical Review Letters</i> , 2007 , 98, 203602	7.4	20
26	Experimental quantum process discrimination. <i>Physical Review Letters</i> , 2009 , 102, 160502	7.4	18
25	Demonstrating superior discrimination of locally prepared states using nonlocal measurements. <i>Physical Review Letters</i> , 2005 , 94, 220406	7.4	18

24	Entanglement-enhanced quantum key distribution. <i>Physical Review A</i> , 2008 , 78,	2.6	15
23	One-way quantum computation with four-dimensional photonic qudits. <i>Physical Review A</i> , 2007 , 76,	2.6	15
22	Coherence properties of a single dipole emitter in diamond. <i>New Journal of Physics</i> , 2011 , 13, 055016	2.9	14
21	Focus on integrated quantum optics. <i>New Journal of Physics</i> , 2013 , 15, 035016	2.9	12
20	Reconfigurable controlled two-qubit operation on a quantum photonic chip. <i>New Journal of Physics</i> , 2011 , 13, 115009	2.9	11
19	Modelling superconducting nanowire single photon detectors in a waveguide cavity. <i>Optics Express</i> , 2016 , 24, 8797-808	3.3	10
18	Observation of quantum interference as a function of Berry's phase in a complex Hadamard optical network. <i>Physical Review Letters</i> , 2012 , 108, 260505	7.4	9
17	Photon pair generation in hydrogenated amorphous silicon microring resonators. <i>Scientific Reports</i> , 2016 , 6, 38908	4.9	9
16	Quantum Optical Metrology of Correlated Phase and Loss. <i>Physical Review Letters</i> , 2020 , 124, 140501	7.4	8
15	Testing randomness with photons by direct characterization of optical t-designs. <i>Physical Review A</i> , 2015 , 91,	2.6	7
14	Quantum Logic with Cavity Photons From Single Atoms. <i>Physical Review Letters</i> , 2016 , 117, 023602	7.4	7
13	Scanning tunnelling microscope fabrication of arrays of phosphorus atom qubits for a silicon quantum computer. <i>Smart Materials and Structures</i> , 2002 , 11, 741-748	3.4	7
12	Physics. Precision without entanglement. <i>Science</i> , 2007 , 318, 1393-4	33.3	6
11	Quantum gambling based on Nash-equilibrium. <i>Npj Quantum Information</i> , 2017 , 3,	8.6	5
10	A programmable qudit-based quantum processor.. <i>Nature Communications</i> , 2022 , 13, 1166	17.4	5
9	Topologically protected quantum entanglement emitters. <i>Nature Photonics</i> , 2022 , 16, 248-257	33.9	4
8	Experimental quantum hamiltonian learning using a silicon photonic chip and a nitrogen-vacancy electron spin in diamond 2017 ,		3
7	Two-photon quantum interference in integrated multi-mode interference devices. <i>Optics Express</i> , 2013 , 21, 23401-9	3.3	3

6	Design and analysis of a gallium nitride-on-sapphire tunable photonic crystal directional coupler. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2012 , 29, 1157	1.7	3
5	Multimode interferometry for entangling atoms in quantum networks. <i>Quantum Science and Technology</i> , 2019 , 4, 025008	5.5	2
4	Quantum key distribution with integrated optics 2014 ,		2
3	Quantum interference in silicon waveguide circuits 2011 ,		2
2	L-K Treatment of the SdH Oscillations in the SDW state of Q1D Materials. <i>Synthetic Metals</i> , 1999 , 103, 2054-2055	3.6	1
1	A compiled version of Shor's quantum factoring algorithm on a waveguide chip 2009 ,		1