Fabio Sciarrino

List of Publications by Citations

177 papers	7,609 citations	42 h-index	83 g-index
229 ext. papers	9,658 ext. citations	7.9 avg, IF	6.24 L-index

#	Paper	IF	Citations
177	Integrated multimode interferometers with arbitrary designs for photonic boson sampling. *Nature Photonics*, **2013**, 7, 545-549	33.9	422
176	Two-particle bosonic-fermionic quantum walk via integrated photonics. *Physical Review Letters*, **2012**, 108, 010502	7.4	367
175	Spin-to-orbital conversion of the angular momentum of light and its classical and quantum applications. *Journal of Optics (United Kingdom)*, **2011**, 13, 064001	1.7	309
174	Integrated photonic quantum technologies. *Nature Photonics*, **2020**, 14, 273-284	33.9	276
173	Anderson localization of entangled photons in an integrated quantum walk. *Nature Photonics*, **2013**, 7, 322-328	33.9	275
172	Quantum information transfer from spin to orbital angular momentum of photons. *Physical Review Letters*, **2009**, 103, 013601	7.4	253
171	Free-space quantum key distribution by rotation-invariant twisted photons. *Physical Review Letters*, **2014**, 113, 060503	7.4	251
170	Complete experimental toolbox for alignment-free quantum communication. *Nature Communications*, **2012**, 3, 961	17.4	205
169	Photonic quantum information processing: a review. *Reports on Progress in Physics*, **2019**, 82, 016001	14.4	196
168	Integrated photonic quantum gates for polarization qubits. *Nature Communications*, **2011**, 2, 566	17.4	192
167	Photonic polarization gears for ultra-sensitive angular measurements. *Nature Communications*, **2013**, 4, 2432	17.4	191
166	Experimental validation of photonic boson sampling. *Nature Photonics*, **2014**, 8, 615-620	33.9	188
165	Polarization entangled state measurement on a chip. *Physical Review Letters*, **2010**, 105, 200503	7.4	168
164	Optimal quantum cloning of orbital angular momentum photon qubits through Hong-Ou-Mandel coalescence. *Nature Photonics*, **2009**, 3, 720-723	33.9	158
163	Teleportation of a vacuum--one-photon qubit. *Physical Review Letters*, **2002**, 88, 070402	7.4	156
162	Storage and retrieval of vector beams of light in a multiple-degree-of-freedom quantum memory. *Nature Communications*, **2015**, 6, 7706	17.4	155
161	Experimental scattershot boson sampling. *Science Advances*, **2015**, 1, e1400255	14.3	138

160	Experimental realization of the quantum universal NOT gate. *Nature*, **2002**, 419, 815-8	50.4	130
159	Experimental on-demand recovery of entanglement by local operations within non-Markovian dynamics. *Scientific Reports*, **2015**, 5, 8575	4.9	116
158	Quantum walks and wavepacket dynamics on a lattice with twisted photons. *Science Advances*, **2015**, 1, e1500087	14.3	109
157	Three-photon bosonic coalescence in an integrated tritter. *Nature Communications*, **2013**, 4, 1606	17.4	107
156	Entanglement test on a microscopic-macroscopic system. *Physical Review Letters*, **2008**, 100, 253601	7.4	84
155	Optimal Measurements for Simultaneous Quantum Estimation of Multiple Phases. *Physical Review Letters*, **2017**, 119, 130504	7.4	82
154	Rotated waveplates in integrated waveguide optics. *Nature Communications*, **2014**, 5, 4249	17.4	81
153	Suppression law of quantum states in a 3D photonic fast Fourier transform chip. *Nature Communications*, **2016**, 7, 10469	17.4	72
152	Photonic quantum metrology. *AVS Quantum Science*, **2020**, 2, 024703	10.3	71
151	Quantum interferometry with three-dimensional geometry. *Scientific Reports*, **2012**, 2, 862	4.9	67
150	Thermally reconfigurable quantum photonic circuits at telecom wavelength by femtosecond laser micromachining. *Light: Science and Applications*, **2015**, 4, e354-e354	16.7	65
149	Contextual, optimal, and universal realization of the quantum cloning machine and of the NOT gate. *Physical Review Letters*, **2004**, 92, 067901	7.4	64
148	Quantum-enhanced multiparameter estimation in multiarm interferometers. *Scientific Reports*, **2016**, 6, 28881	4.9	63
147	Experimental optimal cloning of four-dimensional quantum states of photons. *Physical Review Letters*, **2010**, 105, 073602	7.4	61
146	Experimental quantum private queries with linear optics. *Physical Review A*, **2009**, 80,	2.6	59
145	Experimental generation and characterization of single-photon hybrid ququarts based on polarization and orbital angular momentum encoding. *Physical Review A*, **2010**, 81,	2.6	58
144	Joining the quantum state of two photons into one. *Nature Photonics*, **2013**, 7, 521-526	33.9	53
143	Air-core fiber distribution of hybrid vector vortex-polarization entangled states. *Advanced Photonics*, **2019**, 1, 1	8.1	48

142	Fast escape of a quantum walker from an integrated photonic maze. *Nature Communications*, **2016**, 7, 11682	17.4	47
141	General rules for bosonic bunching in multimode interferometers. *Physical Review Letters*, **2013**, 111, 130503	7.4	47
140	Path-polarization hyperentangled and cluster states of photons on a chip. *Light: Science and Applications*, **2016**, 5, e16064	16.7	47
139	Particle statistics affects quantum decay and Fano interference. *Physical Review Letters*, **2015**, 114, 090201	7.4	46
138	Experimental statistical signature of many-body quantum interference. *Nature Photonics*, **2018**, 12, 173-178	33.9	46
137	Experimental realization of macroscopic coherence by phase-covariant cloning of a single photon. *Physical Review A*, **2007**, 76,	2.6	44
136	Entanglement of photons in their dual wave-particle nature. *Nature Communications*, **2017**, 8, 915	17.4	42
135	Integrated sources of entangled photons at the telecom wavelength in femtosecond-laser-written circuits. *Optica*, **2018**, 5, 311	8.6	42
134	Experimental Phase Estimation Enhanced by Machine Learning. *Physical Review Applied*, **2018**, 10,	4.3	42
133	Realization of the optimal phase-covariant quantum cloning machine. *Physical Review A*, **2005**, 72,	2.6	41
132	Entangled vector vortex beams. *Physical Review A*, **2016**, 94,	2.6	41
131	Experimental multiphase estimation on a chip. *Optica*, **2019**, 6, 288	8.6	40
130	Experimental Implementation of a Kochen-Specker Set of Quantum Tests. *Physical Review X*, **2013**, 3,	9.1	39
129	Generation of hybrid polarization-orbital angular momentum entangled states. *Optics Express*, **2010**, 18, 18243-8	3.3	39
128	Experimental quantum process tomography of non-trace-preserving maps. *Physical Review A*, **2010**, 82,	2.6	39
127	All-optical non-Markovian stroboscopic quantum simulator. *Physical Review A*, **2015**, 91,	2.6	38
126	Hybrid ququart-encoded quantum cryptography protected by Kochen-Specker contextuality. *Physical Review A*, **2011**, 84,	2.6	35
125	First observation of the quantized exciton-polariton field and effect of interactions on a single polariton. *Science Advances*, **2018**, 4, eaao6814	14.3	34

124	Experimental Engineering of Arbitrary Qudit States with Discrete-Time Quantum Walks. *Physical Review Letters*, **2019**, 122, 020503	7.4	34
123	Machine Learning-Based Classification of Vector Vortex Beams. *Physical Review Letters*, **2020**, 124, 160401	7.4	34
122	Non-linear parametric processes in quantum information. *Progress in Quantum Electronics*, **2005**, 29, 165-256	9.2	33
121	Wigner-function theory and decoherence of the quantum-injected optical parametric amplifier. *Physical Review A*, **2009**, 80,	2.6	32
120	Experimental entanglement activation from discord in a programmable quantum measurement. *Physical Review Letters*, **2014**, 112, 140501	7.4	31
119	Photonic simulation of entanglement growth and engineering after a spin chain quench. *Nature Communications*, **2017**, 8, 1569	17.4	31
118	Phase estimation via quantum interferometry for noisy detectors. *Physical Review Letters*, **2012**, 108, 233602	7.4	31
117	Experimental violation of local causality in a quantum network. *Nature Communications*, **2017**, 8, 14775	17.4	30
116	Experimental learning of quantum states. *Science Advances*, **2019**, 5, eaau1946	14.3	30
115	Quantum violation of an instrumental test. *Nature Physics*, **2018**, 14, 291-296	16.2	29
114	Bayesian approach to Boson sampling validation. *International Journal of Quantum Information*, **2014**, 12, 1560028	0.8	28
113	Test of mutually unbiased bases for six-dimensional photonic quantum systems. *Scientific Reports*, **2013**, 3, 2726	4.9	27
112	Benchmarking integrated linear-optical architectures for quantum information processing. *Scientific Reports*, **2017**, 7, 15133	4.9	27
111	Device-independent certification of high-dimensional quantum systems. *Physical Review Letters*, **2014**, 112, 140503	7.4	26
110	Quantum-to-classical transition via fuzzy measurements on high-gain spontaneous parametric down-conversion. *Physical Review A*, **2010**, 81,	2.6	25
109	Entanglement-seeded, dual, optical parametric amplification: Applications to quantum imaging and metrology. *Physical Review A*, **2008**, 78,	2.6	25
108	Experimental sub-Rayleigh resolution by an unseeded high-gain optical parametric amplifier for quantum lithography. *Physical Review A*, **2008**, 77,	2.6	25
107	Pattern Recognition Techniques for Boson Sampling Validation. *Physical Review X*, **2019**, 9,	9.1	24

106	Arbitrary, direct and deterministic manipulation of vector beams via electrically-tuned q-plates. *Scientific Reports*, **2015**, 5, 7840	4.9	24
105	Simulation of noise-assisted transport via optical cavity networks. *Physical Review A*, **2011**, 83,	2.6	24
104	Towards quantum supremacy with lossy scattershot boson sampling. *New Journal of Physics*, **2016**, 18, 113008	2.9	24
103	Experimental generalized quantum suppression law in Sylvester interferometers. *New Journal of Physics*, **2018**, 20, 033017	2.9	23
102	Realization of an optimally distinguishable multiphoton quantum superposition. *Physical Review Letters*, **2005**, 95, 240401	7.4	23
101	Maximal qubit violation of n-locality inequalities in a star-shaped quantum network. *New Journal of Physics*, **2017**, 19, 113020	2.9	22
100	All-optical implementation of collision-based evolutions of open quantum systems. *Scientific Reports*, **2019**, 9, 3205	4.9	21
99	Experimental observation of impossible-to-beat quantum advantage on a hybrid photonic system. *Physical Review Letters*, **2012**, 108, 090501	7.4	21
98	Deterministic qubit transfer between orbital and spin angular momentum of single photons. *Optics Letters*, **2012**, 37, 172-4	3	21
97	Resilience of hybrid optical angular momentum qubits to turbulence. *Scientific Reports*, **2015**, 5, 8424	4.9	20
96	Learning an unknown transformation via a genetic approach. *Scientific Reports*, **2017**, 7, 14316	4.9	20
95	Quantum simulation of bosonic-fermionic noninteracting particles in disordered systems via a quantum walk. *Physical Review A*, **2014**, 89,	2.6	20
94	Enhanced resolution of lossy interferometry by coherent amplification of single photons. *Physical Review Letters*, **2010**, 105, 113602	7.4	20
93	Resilience of orbital-angular-momentum photonic qubits and effects on hybrid entanglement. *Physical Review A*, **2011**, 83,	2.6	20
92	Quantum cloning and universal NOT gate by teleportation. *Physics Letters, Section A: General, Atomic and Solid State Physics*, **2004**, 323, 34-39	2.3	20
91	The potential and global outlook of integrated photonics for quantum technologies. *Nature Reviews Physics*, **2022**, 4, 194-208	23.6	20
90	Calibration of Quantum Sensors by Neural Networks. *Physical Review Letters*, **2019**, 123, 230502	7.4	20
89	Generation of tunable entanglement and violation of a Bell-like inequality between different degrees of freedom of a single photon. *Physical Review A*, **2014**, 90,	2.6	19

88	Colloquium: Multiparticle quantum superpositions and the quantum-to-classical transition. *Reviews of Modern Physics*, **2012**, 84, 1765-1789	40.5	19
87	Loophole-Free Bell Test Based on Local Precertification of Photon Presence. *Physical Review X*, **2012**, 2,	9.1	19
86	Hybrid methods for witnessing entanglement in a microscopic-macroscopic system. *Physical Review A*, **2011**, 84,	2.6	18
85	Entanglement criteria for microscopic-macroscopic systems. *Physical Review A*, **2010**, 82,	2.6	18
84	Implementation of optimal phase-covariant cloning machines. *Physical Review A*, **2007**, 76,	2.6	18
83	Hong-Ou-Mandel interferometer with one and two photon pairs. *Physical Review A*, **2008**, 77,	2.6	17
82	Nonseparable Werner states in spontaneous parametric down-conversion. *Physical Review A*, **2006**, 73,	2.6	17
81	Transmission of vector vortex beams in dispersive media. *Advanced Photonics*, **2020**, 2, 1	8.1	17
80	Quantum key distribution with entangled photons generated on demand by a quantum dot. *Science Advances*, **2021**, 7,	14.3	17
79	What Hong-Ou-Mandel interference says on two-photon frequency entanglement. *Scientific Reports*, **2017**, 7, 7247	4.9	16
78	Decoherence, environment-induced superselection, and classicality of a macroscopic quantum superposition generated by quantum cloning. *Physical Review A*, **2009**, 79,	2.6	16
77	Quantum state engineering using one-dimensional discrete-time quantum walks. *Physical Review A*, **2017**, 96,	2.6	15
76	Experimental Investigation of Quantum Decay at Short, Intermediate, and Long Times via Integrated Photonics. *Physical Review Letters*, **2019**, 122, 130401	7.4	14
75	Experimental bilocality violation without shared reference frames. *Physical Review A*, **2017**, 95,	2.6	14
74	Experimental investigation on the geometry of GHZ states. *Scientific Reports*, **2017**, 7, 13265	4.9	14
73	Testing sequential quantum measurements: how can maximal knowledge be extracted?. *Scientific Reports*, **2012**, 2, 443	4.9	14
72	Twin beams correlation and single beam noise for triply resonant KTP OPOs. *Optics Communications*, **2001**, 194, 373-379	2	14
71	Birth and evolution of an optical vortex. *Optics Express*, **2016**, 24, 16390-5	3.3	13

70	Anomalous lack of decoherence of the macroscopic quantum superpositions based on phase-covariant quantum cloning. *Physical Review Letters*, **2009**, 103, 100501	7.4	13
69	Single-Photon Quantum Contextuality on a Chip. *ACS Photonics*, **2017**, 4, 2807-2812	6.3	12
68	Tunable Two-Photon Quantum Interference of Structured Light. *Physical Review Letters*, **2019**, 122, 013601	7.4	12
67	Two-photon interference: the Hong-Ou-Mandel effect. *Reports on Progress in Physics*, **2021**, 84, 012402	14.4	12
66	Experimental violation of n-locality in a star quantum network. *Nature Communications*, **2020**, 11, 2467	17.4	11
65	Bell experiments with random destination sources. *Physical Review A*, **2011**, 83,	2.6	11
64	Experimental adaptive Bayesian estimation of multiple phases with limited data. *Npj Quantum Information*, **2020**, 6,	8.6	11
63	Is my boson sampler working?. *New Journal of Physics*, **2016**, 18, 041001	2.9	11
62	Optimal photonic indistinguishability tests in multimode networks. *Science Bulletin*, **2018**, 63, 1470-1478	10.6	11
61	Visual assessment of multi-photon interference. *Quantum Science and Technology*, **2019**, 4, 024008	5.5	10
60	Control of quantum transverse correlations on a four-photon system. *Optics Express*, **2011**, 19, 3715-29	3.3	10
59	Polarization preserving ultra fast optical shutter for quantum information processing. *Optics Express*, **2008**, 16, 17609-15	3.3	10
58	Interfacing scalable photonic platforms: solid-state based multi-photon interference in a reconfigurable glass chip. *Optica*, **2019**, 6, 1471	8.6	10
57	Multiphase estimation without a reference mode. *Physical Review A*, **2020**, 102,	2.6	10
56	Experimental Investigation of Superdiffusion via Coherent Disordered Quantum Walks. *Physical Review Letters*, **2019**, 123, 140501	7.4	9
55	Device-independent test of a delayed choice experiment. *Physical Review A*, **2019**, 100,	2.6	9
54	Testing noncontextuality inequalities that are building blocks of quantum correlations. *Physical Review A*, **2015**, 92,	2.6	9
53	Coherent scattering of a multiphoton quantum superposition by a mirror BEC. *Physical Review Letters*, **2010**, 104, 050403	7.4	9

52	Experimental test of the no-signaling theorem. *Physical Review Letters*, **2007**, 99, 193601	7.4	9
51	Symmetry Protection of Photonic Entanglement in the Interaction with a Single Nanoaperture. *Physical Review Letters*, **2018**, 121, 173901	7.4	9
50	Amplification of polarization NOON states. *Journal of the Optical Society of America B: Optical Physics*, **2009**, 26, 892	1.7	8
49	Entanglement localization after coupling to an incoherent noisy system. *Physical Review A*, **2009**, 79,	2.6	8
48	Witnessing Genuine Multiphoton Indistinguishability. *Physical Review Letters*, **2019**, 122, 063602	7.4	8
47	Quantum walks in synthetic gauge fields with three-dimensional integrated photonics. *Physical Review A*, **2017**, 95,	2.6	7
46	Joining and splitting the quantum states of photons. *Physical Review A*, **2013**, 88,	2.6	7
45	Measurement-induced quantum operations on multiphoton states. *Physical Review A*, **2010**, 82,	2.6	7
44	Calibration of Multiparameter Sensors via Machine Learning at the Single-Photon Level. *Physical Review Applied*, **2021**, 15,	4.3	7
43	The race for quantum supremacy: pushing the classical limit for photonic hardware. *National Science Review*, **2019**, 6, 2-3	10.8	6
42	Experimental reversion of the optimal quantum cloning and flipping processes. *Physical Review A*, **2006**, 73,	2.6	6
41	Insight on future quantum networks. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 20169-70	11.5	5
40	Entanglement, EPR correlations, and mesoscopic quantum superposition by the high-gain quantum injected parametric amplification. *Physical Review A*, **2006**, 74,	2.6	5
39	Experimental Study of Nonclassical Teleportation Beyond Average Fidelity. *Physical Review Letters*, **2018**, 121, 140501	7.4	5
38	Experimental device-independent certified randomness generation with an instrumental causal structure. *Communications Physics*, **2020**, 3,	5.4	4
37	Diagnosing Imperfections in Quantum Sensors via Generalized Cramᴇ-Rao Bounds. *Physical Review Applied*, **2020**, 13,	4.3	4
36	Resilience to decoherence of the macroscopic quantum superpositions generated by universally covariant optimal quantum cloning. *Physical Review A*, **2010**, 82,	2.6	4
35	Continuous-variable nonlocality test performed over a multiphoton quantum state. *Physical Review A*, **2012**, 85,	2.6	4

34	EXPERIMENTAL ENTANGLEMENT RESTORATION ON NOISY CHANNELS BY MEASURING ENVIRONMENT. *International Journal of Quantum Information*, **2009**, 07, 1-8	0.8	4
33	A theoretical and experimental study of fluctuations of the optical parametric oscillator. *Optics and Lasers in Engineering*, **2002**, 37, 585-599	4.6	4
32	Propagation of structured light through tissue-mimicking phantoms. *Optics Express*, **2020**, 28, 35427-35437	3.3	4
31	Causal Networks and Freedom of Choice in Bell's Theorem. *PRX Quantum*, **2021**, 2,	6.1	4
30	Let researchers try new paths. *Nature*, **2016**, 538, 451-453	50.4	4
29	Experimental semi-device-independent tests of quantum channels. *Quantum Science and Technology*, **2019**, 4, 035004	5.5	3
28	Experimental Connection between the Instrumental and Bell Inequalities. *Proceedings (mdpi)*, **2019**, 12, 27	0.3	3
27	Fabrication of Quantum Photonic Integrated Circuits by Means of Femtosecond Laser Pulses. *Foundations of Physics*, **2014**, 44, 843-855	1.2	3
26	Detection efficiency for loophole-free Bell tests with entangled states affected by colored noise. *Physical Review A*, **2013**, 87,	2.6	3
25	Variational quantum process tomography of two-qubit maps. *Physical Review A*, **2013**, 87,	2.6	3
24	Entanglement, Einstein Podolsky Rosen correlations and Schrodinger cat state generation by quantum-injected optical parametric amplification. *Journal of Physics A: Mathematical and Theoretical*, **2007**, 40, 2977-2988	2	3
23	Experimental high-gain quantum-injected optical parametric amplification and multiphoton phase-covariant cloning. *Laser Physics*, **2006**, 16, 1551-1556	1.2	3
22	Adaptive phase estimation through a genetic algorithm. *Physical Review Research*, **2020**, 2,	3.9	3
21	Experimental Robust Self-Testing of the State Generated by a Quantum Network. *PRX Quantum*, **2021**, 2,	6.1	3
20	Investigation on the quantum-to-classical transition by optical parametric amplification: Generation and detection of multiphoton quantum superposition. *Optics Communications*, **2015**, 337, 44-52	2	2
19	Experimental quantification of four-photon indistinguishability. *New Journal of Physics*, **2020**, 22, 043001	2.9	2
18	Validating multi-photon quantum interference with finite data. *Quantum Science and Technology*, **2020**, 5, 045005	5.5	2
17	Femtosecond laser waveguide writing for integrated quantum optics **2012**,		2

16	Complete analysis of measurement-induced entanglement localization on a three-photon system. *Physical Review A*, **2010**, 81,	2.6	2
15	Enhanced detection techniques of orbital angular momentum states in the classical and quantum regimes. *New Journal of Physics*, **2021**, 23, 073014	2.9	2
14	Observation of photonic states dynamics in 3-D integrated Fourier circuits. *Journal of Optics (United Kingdom)*, **2018**, 20, 074001	1.7	2
13	Arbitrary integrated multimode interferometers for the elaboration of photonic qubits **2014**,		1
12	Realization of the optimal universal quantum entangler. *Physical Review A*, **2004**, 70,	2.6	1
11	Manipulating quantum information via quantum cloning. *Journal of Optics B: Quantum and Semiclassical Optics*, **2005**, 7, S664-S671		1
10	Criteria for nonclassicality in the prepare-and-measure scenario. *Physical Review Research*, **2020**, 2,	3.9	1
9	Efficient Long Range Communication by Quantum Injected Optical Parametric Amplification. *Lecture Notes of the Institute for Computer Sciences, Social-Informatics and Telecommunications Engineering*, **2010**, 330-339	0.2	1
8	Hong□Du□Mandel control through spectral shaping. *Journal of Optics (United Kingdom)*, **2018**, 20, 085201	1.7	1
7	Experimental test of quantum causal influences.. *Science Advances*, **2022**, 8, eabm1515	14.3	1
6	Entanglement transfer, accumulation and retrieval via quantum-walk-based qubit□qudit dynamics. *New Journal of Physics*, **2021**, 23, 023012	2.9	0
5	Generation of Highly Resilient to Decoherence Macroscopic Quantum Superpositions via Phase-covariant Quantum Cloning. *Foundations of Physics*, **2011**, 41, 492-508	1.2	
4	MACROSCOPIC QUANTUM ENTANGLEMENT IN LIGHT REFLECTION FROM BOSE-EINSTEIN CONDENSATES. *International Journal of Quantum Information*, **2009**, 07, 171-177	0.8	
3	Optimal quantum machines by linear and non-linear optics. *Fortschritte Der Physik*, **2004**, 52, 1070-1079	5.7	
2	Generalized Quantum Fast Transformations via Femtosecond Laser Writing Technique. *Interdisciplinary Information Sciences*, **2017**, 23, 115-118	0.2	
1	The race towards quantum computational advantage: milestone photonic experiment. *Science Bulletin*, **2021**, 66, 637-639	10.6	