

# Christine Silberhorn

## List of Publications by Year in descending order

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148  
papers

8,109  
citations

44069

48  
h-index

48315

88  
g-index

148  
all docs

148  
docs citations

148  
times ranked

4047  
citing authors

#	ARTICLE	IF	CITATIONS
1	Heralded Generation of Ultrafast Single Photons in Pure Quantum States. <i>Physical Review Letters</i> , 2008, 100, 133601.	7.8	502
2	A 2D Quantum Walk Simulation of Two-Particle Dynamics. <i>Science</i> , 2012, 336, 55-58.	12.6	339
3	Generation of Continuous Variable Einstein-Podolsky-Rosen Entanglement via the Kerr Nonlinearity in an Optical Fiber. <i>Physical Review Letters</i> , 2001, 86, 4267-4270.	7.8	328
4	Decoherence and Disorder in Quantum Walks: From Ballistic Spread to Localization. <i>Physical Review Letters</i> , 2011, 106, 180403.	7.8	300
5	Continuous Variable Quantum Cryptography: Beating the 3 dB Loss Limit. <i>Physical Review Letters</i> , 2002, 89, 167901.	7.8	287
6	Gaussian Boson Sampling. <i>Physical Review Letters</i> , 2017, 119, 170501.	7.8	268
7	Tomography of quantum detectors. <i>Nature Physics</i> , 2009, 5, 27-30.	16.7	267
8	Fiber-assisted detection with photon number resolution. <i>Optics Letters</i> , 2003, 28, 2387.	3.3	247
9	Polarization squeezing and continuous-variable polarization entanglement. <i>Physical Review A</i> , 2002, 65, .	2.5	239
10	Quantum teleportation from a telecom-wavelength photon to a solid-state quantum memory. <i>Nature Photonics</i> , 2014, 8, 775-778.	31.4	208
11	Probing multimode squeezing with correlation functions. <i>New Journal of Physics</i> , 2011, 13, 033027.	2.9	193
12	Photon Temporal Modes: A Complete Framework for Quantum Information Science. <i>Physical Review X</i> , 2015, 5, .	8.9	190
13	Highly Efficient Single-Pass Source of Pulsed Single-Mode Twin Beams of Light. <i>Physical Review Letters</i> , 2011, 106, 013603.	7.8	186
14	A versatile source of single photons for quantum information processing. <i>Nature Communications</i> , 2013, 4, 1818.	12.8	181
15	A quantum pulse gate based on spectrally engineered sum frequency generation. <i>Optics Express</i> , 2011, 19, 13770.	3.4	179
16	Single-Mode Parametric-Down-Conversion States with 50 Photons as a Source for Mesoscopic Quantum Optics. <i>Physical Review Letters</i> , 2016, 116, 143601.	7.8	149
17	Fiber-assisted single-photon spectrograph. <i>Optics Letters</i> , 2009, 34, 2873.	3.3	146
18	Efficient Conditional Preparation of High-Fidelity Single Photon States for Fiber-Optic Quantum Networks. <i>Physical Review Letters</i> , 2004, 93, 093601.	7.8	142

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19	Photon-number-resolving detection using time-multiplexing. <i>Journal of Modern Optics</i> , 2004, 51, 1499-1515.	1.3	137
20	An optimized photon pair source for quantum circuits. <i>Optics Express</i> , 2013, 21, 13975.	3.4	136
21	Continuous-variable quantum information processing. <i>Laser and Photonics Reviews</i> , 2010, 4, 337-354.	8.7	117
22	Photon Propagation in a Discrete Fiber Network: An Interplay of Coherence and Losses. <i>Physical Review Letters</i> , 2011, 107, 233902.	7.8	117
23	Quantum Key Distribution with Bright Entangled Beams. <i>Physical Review Letters</i> , 2002, 88, 167902.	7.8	115
24	From quantum pulse gate to quantum pulse shaper-engineered frequency conversion in nonlinear optical waveguides. <i>New Journal of Physics</i> , 2011, 13, 065029.	2.9	111
25	Theory of quantum frequency conversion and type-II parametric down-conversion in the high-gain regime. <i>New Journal of Physics</i> , 2013, 15, 053038.	2.9	107
26	Single-photon sources: Approaching the ideal through multiplexing. <i>Review of Scientific Instruments</i> , 2020, 91, 041101.	1.3	97
27	Tailoring nonlinear processes for quantum optics with pulsed temporal-mode encodings. <i>Optica</i> , 2018, 5, 534.	9.3	92
28	Spectral structure and decompositions of optical states, and their applications. <i>New Journal of Physics</i> , 2007, 9, 91-91.	2.9	88
29	Optimized generation of heralded Fock states using parametric down-conversion. <i>New Journal of Physics</i> , 2010, 12, 063001.	2.9	88
30	Quantum key distribution with passive decoy state selection. <i>Physical Review A</i> , 2007, 75, .	2.5	86
31	Demonstration of coherent time-frequency Schmidt mode selection using dispersion-engineered frequency conversion. <i>Physical Review A</i> , 2014, 90, .	2.5	86
32	Limits on the deterministic creation of pure single-photon states using parametric down-conversion. <i>Physical Review A</i> , 2012, 85, .	2.5	82
33	Secure Quantum Key Distribution using Continuous Variables of Single Photons. <i>Physical Review Letters</i> , 2008, 100, 110504.	7.8	78
34	High-performance single-photon generation with commercial-grade optical fiber. <i>Physical Review A</i> , 2011, 83, .	2.5	78
35	Direct, Loss-Tolerant Characterization of Nonclassical Photon Statistics. <i>Physical Review Letters</i> , 2006, 97, 043602.	7.8	74
36	Direct generation of genuine single-longitudinal-mode narrowband photon pairs. <i>New Journal of Physics</i> , 2015, 17, 073039.	2.9	72

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37	An efficient integrated two-color source for heralded single photons. <i>New Journal of Physics</i> , 2013, 15, 033010.	2.9	68
38	Probing the Negative Wigner Function of a Pulsed Single Photon Point by Point. <i>Physical Review Letters</i> , 2010, 105, 253603.	7.8	67
39	Nonlinear integrated quantum electro-optic circuits. <i>Science Advances</i> , 2019, 5, eaat1451.	10.3	65
40	Bridging visible and telecom wavelengths with a single-mode broadband photon pair source. <i>Physical Review A</i> , 2010, 81, .	2.5	64
41	Experiment towards continuous-variable entanglement swapping: Highly correlated four-partite quantum state. <i>Physical Review A</i> , 2003, 68, .	2.5	60
42	Multi-walker discrete time quantum walks on arbitrary graphs, their properties and their photonic implementation. <i>New Journal of Physics</i> , 2011, 13, 013001.	2.9	57
43	Detecting quantum light. <i>Contemporary Physics</i> , 2007, 48, 143-156.	1.8	56
44	Post-selection free, integrated optical source of non-degenerate, polarization entangled photon pairs. <i>Optics Express</i> , 2013, 21, 27981.	3.4	55
45	How colors influence numbers: Photon statistics of parametric down-conversion. <i>Physical Review A</i> , 2009, 80, .	2.5	53
46	Toolbox for the design of LiNbO <sub>3</sub> -based passive and active integrated quantum circuits. <i>New Journal of Physics</i> , 2017, 19, 123009.	2.9	53
47	Spatial modes in waveguided parametric down-conversion. <i>Physical Review A</i> , 2009, 80, .	2.5	52
48	Tomography and Purification of the Temporal-Mode Structure of Quantum Light. <i>Physical Review Letters</i> , 2018, 120, 213601.	7.8	51
49	Direct Measurement of the Spatial-Spectral Structure of Waveguided Parametric Down-Conversion. <i>Physical Review Letters</i> , 2009, 103, 233901.	7.8	49
50	Uncovering Quantum Correlations with Time-Multiplexed Click Detection. <i>Physical Review Letters</i> , 2015, 115, 023601.	7.8	47
51	Pure single photon generation by type-I PDC with backward-wave amplification. <i>Optics Express</i> , 2009, 17, 3441.	3.4	46
52	Characterization of the nonclassical nature of conditionally prepared single photons. <i>Physical Review A</i> , 2005, 72, .	2.5	45
53	Assessing the purity of a single photon by the width of the Hongâ€“Ouâ€“Mandel interference. <i>New Journal of Physics</i> , 2010, 12, 113052.	2.9	45
54	Heralded generation of high-purity ultrashort single photons in programmable temporal shapes. <i>Optics Express</i> , 2018, 26, 2764.	3.4	42

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55	High-performance source of spectrally pure, polarization entangled photon pairs based on hybrid integrated-bulk optics. <i>Optics Express</i> , 2018, 26, 32475.	3.4	41
56	Scheme for the generation of entangled solitons for quantum communication. <i>Journal of Modern Optics</i> , 1999, 46, 1927-1939.	1.3	40
57	Experimental verification of high spectral entanglement for pulsed waveguided spontaneous parametric down-conversion. <i>Physical Review A</i> , 2009, 79, .	2.5	37
58	Dual-path source engineering in integrated quantum optics. <i>Physical Review A</i> , 2015, 92, .	2.5	37
59	Storage of hyperentanglement in a solid-state quantum memory. <i>Optica</i> , 2015, 2, 279.	9.3	37
60	Fabrication limits of waveguides in nonlinear crystals and their impact on quantum optics applications. <i>New Journal of Physics</i> , 2019, 21, 033038.	2.9	37
61	Quantum walks with dynamical control: graph engineering, initial state preparation and state transfer. <i>New Journal of Physics</i> , 2016, 18, 063017.	2.9	36
62	Probing measurement-induced effects in quantum walks via recurrence. <i>Science Advances</i> , 2018, 4, eaar6444.	10.3	32
63	Sub-shot-noise phase quadrature measurement of intense light beams. <i>Optics Letters</i> , 2004, 29, 1936.	3.3	31
64	A proposed testbed for detector tomography. <i>Journal of Modern Optics</i> , 2009, 56, 432-441.	1.3	31
65	A high dynamic range optical detector for measuring single photons and bright light. <i>Optics Express</i> , 2019, 27, 1.	3.4	31
66	Broadband frequency mode entanglement in waveguided parametric downconversion. <i>Optics Letters</i> , 2008, 33, 1825.	3.3	30
67	Driven Quantum Walks. <i>Physical Review Letters</i> , 2014, 113, 083602.	7.8	29
68	On-chip generation of photon-triplet states. <i>Optics Express</i> , 2016, 24, 2836.	3.4	29
69	Proposal for Quantum Simulation via All-Optically-Generated Tensor Network States. <i>Physical Review Letters</i> , 2018, 120, 130501.	7.8	27
70	Squeezed light from microstructured fibres: towards free-space quantum cryptography. <i>Applied Physics B: Lasers and Optics</i> , 2001, 73, 855-859.	2.2	26
71	Producing high fidelity single photons with optimal brightness via waveguided parametric down-conversion. <i>Optics Express</i> , 2009, 17, 22823.	3.4	26
72	Counter-propagating photon pair generation in a nonlinear waveguide. <i>Optics Express</i> , 2020, 28, 3215.	3.4	26

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73	Quantum walk coherences on a dynamical percolation graph. <i>Scientific Reports</i> , 2015, 5, 13495.	3.3	24
74	Cryogenic electro-optic polarisation conversion in titanium in-diffused lithium niobate waveguides. <i>Optics Express</i> , 2020, 28, 28961.	3.4	23
75	Time-multiplexed measurements of nonclassical light at telecom wavelengths. <i>Physical Review A</i> , 2014, 90, .	2.5	22
76	Characterizing entanglement in pulsed parametric down-conversion using chronocyclic Wigner functions. <i>Physical Review A</i> , 2013, 87, .	2.5	21
77	Demonstrating quantum random with single photons. <i>European Journal of Physics</i> , 2009, 30, 1189-1200.	0.6	20
78	Direct probing of the Wigner function by time-multiplexed detection of photon statistics. <i>New Journal of Physics</i> , 2009, 11, 043012.	2.9	19
79	Exponentially enhanced quantum communication rate by multiplexing continuous-variable teleportation. <i>New Journal of Physics</i> , 2012, 14, 083007.	2.9	18
80	Tomography by Noise. <i>Physical Review Letters</i> , 2014, 113, 070403.	7.8	16
81	Periodically poled ridge waveguides in KTP for second harmonic generation in the UV regime. <i>Optics Express</i> , 2018, 26, 28827.	3.4	16
82	Nonlinear focal mapping of ferroelectric domain walls in LiNbO <sub>3</sub> : Analysis of the SHG microscopy contrast mechanism. <i>Journal of Applied Physics</i> , 2020, 128, 234102.	2.5	14
83	Compressive characterization of telecom photon pairs in the spatial and spectral degrees of freedom. <i>Optica</i> , 2018, 5, 1418.	9.3	13
84	Universal compressive tomography in the time-frequency domain. <i>Optica</i> , 2021, 8, 1296.	9.3	12
85	Characterisation of fabrication inhomogeneities in Ti:LiNbO <sub>3</sub> waveguides. <i>New Journal of Physics</i> , 2019, 21, 123005.	2.9	11
86	Cryogenic Second-Harmonic Generation in Periodically Poled Lithium Niobate Waveguides. <i>Physical Review Applied</i> , 2021, 15, .	3.8	11
87	Free and defect-bound (bi)polarons in $\text{LiNbO}_3$ : Atomic structure and spectroscopic signatures from <i>ab initio</i> calculations. <i>Physical Review Research</i> , 2020, 2, .	3.6	11
88	General framework for the analysis of imperfections in nonlinear systems. <i>Optics Letters</i> , 2019, 44, 5398.	3.3	11
89	Multimode states in decoy-based quantum-key-distribution protocols. <i>Physical Review A</i> , 2009, 80, .	2.5	10
90	Improving SPDC single-photon sources via extended heralding and feed-forward control. <i>New Journal of Physics</i> , 2019, 21, 053038.	2.9	10

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91	Driven discrete time quantum walks. <i>New Journal of Physics</i> , 2016, 18, 073008.	2.9	9
92	Quantum state and mode profile tomography by the overlap. <i>New Journal of Physics</i> , 2018, 20, 033003.	2.9	9
93	Characterisation of width-dependent diffusion dynamics in rubidium-exchanged KTP waveguides. <i>Optics Express</i> , 2020, 28, 24353.	3.4	9
94	Characteristics of displaced single photons attained via higher order factorial moments. <i>New Journal of Physics</i> , 2012, 14, 105011.	2.9	8
95	High resolution time-to-space conversion of sub-picosecond pulses at 155Åµm by non-degenerate SFG in PPLN crystal. <i>Optics Express</i> , 2012, 20, 27388.	3.4	8
96	Increasing the Dimensionality of Quantum Walks Using Multiple Walkers. <i>Journal of Computational and Theoretical Nanoscience</i> , 2013, 10, 1644-1652.	0.4	8
97	High-power waveguide resonator second harmonic device with external conversion efficiency up to 75%. <i>Journal of Optics (United Kingdom)</i> , 2018, 20, 065501.	2.2	8
98	Numerical Analysis of Parametric Downconversion. , 2009, , .		7
99	Single-channel electronic readout of a multipixel superconducting nanowire single photon detector. <i>Optics Express</i> , 2020, 28, 5528.	3.4	7
100	Spatially single mode photon pair source at 800 nm in periodically poled Rubidium exchanged KTP waveguides. <i>Optics Express</i> , 2020, 28, 32925.	3.4	7
101	Distillation of squeezing using an engineered pulsed parametric down-conversion source. <i>Optics Express</i> , 2020, 28, 30784.	3.4	7
102	Remotely projecting states of photonic temporal modes. <i>Optics Express</i> , 2020, 28, 28295.	3.4	6
103	Cryogenic integrated spontaneous parametric down-conversion. <i>Optica</i> , 2022, 9, 108.	9.3	6
104	Controlling the correlations in frequency upconversion in PPLN and PPKTP waveguides. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 1235-1238.	0.8	5
105	Waveguide resonator with an integrated phase modulator for second harmonic generation. <i>Optics Express</i> , 2021, 29, 1991.	3.4	5
106	Statistical Benchmarking of Scalable Photonic Quantum Systems. <i>Physical Review Letters</i> , 2021, 126, 023601.	7.8	5
107	Realistic $g^{(2)}$ measurement of a PDC source with single photon detectors in the presence of background. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2011, 8, 1216-1219.	0.8	4
108	Full-field reconstruction of ultrashort waveforms by time to space conversion interferogram analysis. <i>Optics Express</i> , 2014, 22, 20205.	3.4	4

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109	Improved non-linear devices for quantum applications. <i>New Journal of Physics</i> , 2021, 23, 063082.	2.9	4
110	Understanding gray track formation in KTP: Ti <sup>3+</sup> centers studied from first principles. <i>Physical Review Materials</i> , 2020, 4, .	2.4	4
111	Temporal correlations of spectrally narrowband photon pair sources. <i>Quantum Science and Technology</i> , 2017, 2, 024002.	5.8	3
112	On the Prospects of Multiport Devices for Photon-Number-Resolving Detection. <i>Quantum Reports</i> , 2019, 1, 162-180.	1.3	3
113	Efficient C-band single-photon upconversion with chip-scale Ti-indiffused pp-LiNbO <sub>3</sub> waveguides. <i>Applied Optics</i> , 2019, 58, 5910.	1.8	3
114	Quantum cryptography with bright entangled beams. , 0, , .		2
115	Direct experimental test of non-separability and other quantum techniques using continuous variables of light. <i>European Physical Journal D</i> , 2002, 18, 229-235.	1.3	2
116	Characterization and Preparation of Higher Photon Number States. <i>AIP Conference Proceedings</i> , 2004, , .	0.4	2
117	Real-time coherent detection of phase modulated ultrashort pulses after time-to-space conversion and spatial demultiplexing. <i>Optics Express</i> , 2014, 22, 31138.	3.4	2
118	Harnessing temporal modes for multi-photon quantum information processing based on integrated optics. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2017, 375, 20160244.	3.4	2
119	Interferometric method for determining the losses of spatially multi-mode nonlinear waveguides based on second harmonic generation.. <i>Optics Express</i> , 2020, 28, 5507.	3.4	2
120	Experimental multiphoton conditional state preparation and analysis. , 0, , .		1
121	Pure single photon generation by type-I PDC with backward-wave amplification. , 2009, , .		1
122	Extracting the physical sector of quantum states. <i>New Journal of Physics</i> , 2017, 19, 093008.	2.9	1
123	General analytic theory of classical collinear three-wave mixing in a monolithic cavity. <i>Journal of Optics (United Kingdom)</i> , 2021, 23, 085803.	2.2	1
124	Photon number resolving detection using time-multiplexing. , 2004, , .		1
125	Efficient conditional preparation of single photons for scalable quantum-optical networking. , 2004, , .		1
126	Fiber solitons-quantum interferometry and entanglement. , 0, , .		0



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127	Bright EPR-Entangled Beams for Quantum Communication. , 2002, , 443-447.		0
128	Continuous variable key distribution: beating the 3 dB loss limit. , 0, , .		0
129	MANAGING CONTINUOUS VARIABLES FOR SINGLE PHOTONS. , 2005, , .		0
130	Characterization of parametric downconversion in the photon number basis. , 0, , .		0
131	Pure single photon generation. , 0, , .		0
132	Single photon quantum key distribution with continuous variables. , 2006, , .		0
133	Loss-tolerant characterization of nonclassical photonic states. , 2006, , .		0
134	Characterizing Single Photons by Photon Counting. , 2009, , .		0
135	A waveguided parametric downconversion source for pure heralded single photons at telecommunication wavelength. , 2009, , .		0
136	Fibre assisted single photon spectrograph. , 2009, , .		0
137	Full characterization of quantum optical detectors. , 2009, , .		0
138	Integrated optical devices for quantum information applications. , 2011, , .		0
139	Quantum pulse gate based on ultrafast frequency upconversion. , 2011, , .		0
140	Multimode ultrafast broadband information coding: State generation, characterization and loss evaluation. , 2011, , .		0
141	Quantum simulations with a two-dimensional Quantum Walk. , 2012, , .		0
142	Bloch oscillations, Landau-Zener tunneling and fractal patterns in a discrete fiber network. , 2012, , .		0
143	High resolution time-to-space imaging of ultra-short pulses at 1.55µm by non-degenerate SFG in PPLN crystal. , 2012, , .		0
144	Continuous Variables for Single Photons. , 2007, , 367-387.		0

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145	PCF Photon Pair Source Bridging the Visible and NIR. , 2009, , .		0
146	Quantum State Preparation with Waveguides and Photon Counting. , 2009, , .		0
147	Direct Observation of Spatial Modes in Waveguided Parametric Downconversion. , 2010, , .		0
148	Continuously adjustable narrow-band heralded single photon source. , 2012, , .		0