

# Bahram Jalali

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

151  
papers

5,480  
citations

36  
h-index

72  
g-index

204  
ext. papers

6,977  
ext. citations

5.3  
avg, IF

6.09  
L-index

#	Paper	IF	Citations
151	Phase Diversity Electro-optic Sampling: A new approach to single-shot terahertz waveform recording.. <i>Light: Science and Applications</i> , <b>2022</b> , 11, 14	16.7	1
150	Nonlinear Schrodinger Kernel for hardware acceleration of machine learning. <i>Journal of Lightwave Technology</i> , <b>2022</b> , 1-1	4	1
149	Enhanced OFDM communication using optical dynamic range compression. <i>Optics Communications</i> , <b>2022</b> , 508, 127773	2	
148	Neural network enabled time stretch spectral regression. <i>Optics Express</i> , <b>2021</b> , 29, 20786-20794	3.3	2
147	Chromo-modal dispersion for optical communication and time-stretch spectroscopy. <i>Optics Letters</i> , <b>2021</b> , 46, 500-503	3	1
146	Spectro-temporal encoded multiphoton microscopy and fluorescence lifetime imaging at kilohertz frame-rates. <i>Nature Communications</i> , <b>2020</b> , 11, 2062	17.4	17
145	Time-stretch LiDAR as a spectrally scanned time-of-flight ranging camera. <i>Nature Photonics</i> , <b>2020</b> , 14, 14-18	33.9	56
144	Spectral dynamics on saturable absorber in mode-locking with time stretch spectroscopy. <i>Scientific Reports</i> , <b>2020</b> , 10, 14460	4.9	8
143	Physics-Based Feature Engineering. <i>Springer Series in Optical Sciences</i> , <b>2019</b> , 255-275	0.5	0
142	Deep Cytometry: Deep learning with Real-time Inference in Cell Sorting and Flow Cytometry. <i>Scientific Reports</i> , <b>2019</b> , 9, 11088	4.9	34
141	Time-stretch Network Analyzer for Single-shot Characterization of Electronic Devices <b>2019</b> ,		2
140	Tera-sample-per-second single-shot device analyzer. <i>Optics Express</i> , <b>2019</b> , 27, 23321-23335	3.3	6
139	Fourier-domain mode-locked laser combined with a master-oscillator power amplifier architecture. <i>Optics Letters</i> , <b>2019</b> , 44, 1952-1955	3	9
138	Feature Enhancement in Visually Impaired Images. <i>IEEE Access</i> , <b>2018</b> , 6, 1407-1415	3.5	11
137	Spectral periodicity in soliton explosions on a broadband mode-locked Yb fiber laser using time-stretch spectroscopy. <i>Optics Letters</i> , <b>2018</b> , 43, 1862-1865	3	21
136	Invited Article: Optical dynamic range compression. <i>APL Photonics</i> , <b>2018</b> , 3, 110806	5.2	3
135	Artificial Intelligence in Label-free Microscopy <b>2017</b> ,		7

134	Time stretch and its applications. <i>Nature Photonics</i> , <b>2017</b> , 11, 341-351	33.9	182
133	Matrix Analysis of Warped Stretch Imaging. <i>Scientific Reports</i> , <b>2017</b> , 7, 11150	4.9	1
132	Nanometer-Resolved Imaging Vibrometer <b>2017</b> , 15-20		
131	Time Stretch Quantitative Phase Imaging <b>2017</b> , 43-63		
130	Label-Free High-Throughput Phenotypic Screening <b>2017</b> , 33-41		
129	Time Stretch <b>2017</b> , 7-11		
128	Three-Dimensional Ultrafast Laser Scanner <b>2017</b> , 21-29		
127	Design of Warped Stretch Transform <b>2017</b> , 101-119		1
126	Optical Data Compression in Time Stretch Imaging <b>2017</b> , 89-99		
125	Signal De-convolution with analog logarithmic computing primitives in silicon photonics <b>2016</b> ,		1
124	Deep Learning in Label-free Cell Classification. <i>Scientific Reports</i> , <b>2016</b> , 6, 21471	4.9	249
123	Analog optical computing primitives in silicon photonics. <i>Optics Letters</i> , <b>2016</b> , 41, 1273-6	3	15
122	Engineering Strain in Silicon Using SIMOX 3D Sculpting <b>2016</b> ,		1
121	Chapter 11 Information Capacity of Silicon Nanophotonics <b>2016</b> , 317-354		
120	History of Brain Mapping and Neurophotonics <b>2016</b> , 1-18		
119	Context-Aware Image Compression. <i>PLoS ONE</i> , <b>2016</b> , 11, e0158201	3.7	3
118	Phase stretch transform for super-resolution localization microscopy. <i>Biomedical Optics Express</i> , <b>2016</b> , 7, 4198-4209	3.5	7
117	Single-shot network analyzer for extremely fast measurements. <i>Applied Optics</i> , <b>2016</b> , 55, 8406-8412	0.2	8

116	Engineering Strain in Silicon Using SIMOX 3-D Sculpting. <i>IEEE Photonics Journal</i> , <b>2016</b> , 8, 1-9	1.8	2
115	Nanoscale Strain Mapping in SIMOX 3-D Sculpted Silicon Waveguides Using Tip-Enhanced Raman Spectroscopy. <i>IEEE Photonics Journal</i> , <b>2016</b> , 8, 1-12	1.8	
114	Noise and Information Capacity in Silicon Nanophotonics. <i>IEEE Photonics Journal</i> , <b>2015</b> , 7, 1-20	1.8	1
113	Tailoring Wideband Signals With a Photonic Hardware Accelerator. <i>Proceedings of the IEEE</i> , <b>2015</b> , 103, 1071-1086	14.3	26
112	Radiofrequency encoded angular-resolved light scattering. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 123701	3.4	3
111	Design of Warped Stretch Transform. <i>Scientific Reports</i> , <b>2015</b> , 5, 17148	4.9	15
110	Optical data compression in time stretch imaging. <i>PLoS ONE</i> , <b>2015</b> , 10, e0125106	3.7	35
109	High-throughput biological cell classification featuring real-time optical data compression <b>2015</b> ,		1
108	Sparsity and self-adaptivity in anamorphic stretch transform <b>2015</b> ,		1
107	Ultrafast Dark-Field Surface Inspection by Hybrid Dispersion Laser Scanning. <i>Kyokai Joho Imeji Zasshi/Journal of the Institute of Image Information and Television Engineers</i> , <b>2015</b> , 69, 574-579	0	
106	Dispersion Engineering Employing Curved Space Mapping and Chromo-Modal Excitation <b>2015</b> ,		1
105	Warped time lens in temporal imaging for optical real-time data compression. <i>Science Bulletin</i> , <b>2014</b> , 59, 2649-2654		4
104	Experimental demonstration of optical real-time data compression). <i>Applied Physics Letters</i> , <b>2014</b> , 104, 111101	3.4	22
103	TimeBandwidth engineering. <i>Optica</i> , <b>2014</b> , 1, 23	8.6	56
102	Compact, transmissive two-dimensional spatial disperser design with application in simultaneous endoscopic imaging and laser microsurgery. <i>Applied Optics</i> , <b>2014</b> , 53, 376-82	1.7	15
101	Digitally synthesized beat frequency-multiplexed fluorescence lifetime spectroscopy. <i>Biomedical Optics Express</i> , <b>2014</b> , 5, 4428-36	3.5	6
100	The Anamorphic Stretch Transform: Putting the Squeeze on Big Data <i>Optics and Photonics News</i> , <b>2014</b> , 25, 24	1.9	24
99	Discrete Anamorphic Transform for Image Compression. <i>IEEE Signal Processing Letters</i> , <b>2014</b> , 21, 829-833.	2	21

98	Self-adaptive stretch in anamorphic image compression <b>2014</b> ,		1
97	Time-stretch accelerated processor for real-time, in-service, signal analysis <b>2014</b> ,		2
96	Coherent Time-Stretch Transform for Near-Field Spectroscopy. <i>IEEE Photonics Journal</i> , <b>2014</b> , 6, 1-7	1.8	12
95	Ultrafast dark-field surface inspection with hybrid-dispersion laser scanning. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 251106	3.4	24
94	Ultrafast automated image cytometry for cancer detection. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , <b>2013</b> , 2013, 129-32	0.9	1
93	Digitally synthesized beat frequency multiplexing for sub-millisecond fluorescence microscopy. <i>Nature Photonics</i> , <b>2013</b> , 7, 806-810	33.9	95
92	Photonic time-stretch digitizer and its extension to real-time spectroscopy and imaging. <i>Laser and Photonics Reviews</i> , <b>2013</b> , 7, 207-263	8.3	47
91	Digital broadband linearization of optical links. <i>Optics Letters</i> , <b>2013</b> , 38, 446-8	3	40
90	Label-free high-throughput cell screening in flow. <i>Biomedical Optics Express</i> , <b>2013</b> , 4, 1618-25	3.5	61
89	Coherent time-stretch transformation for real-time capture of wideband signals. <i>Optics Express</i> , <b>2013</b> , 21, 21618-27	3.3	18
88	Spectrally encoded angular light scattering. <i>Optics Express</i> , <b>2013</b> , 21, 28960-7	3.3	6
87	Anamorphic transformation and its application to time-bandwidth compression. <i>Applied Optics</i> , <b>2013</b> , 52, 6735-43	1.7	30
86	Optically amplified detection for biomedical sensing and imaging. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , <b>2013</b> , 30, 2124-32	1.8	18
85	High-throughput single-microparticle imaging flow analyzer. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2012</b> , 109, 11630-5	11.5	258
84	Real-time wavelength and bandwidth-independent optical integrator based on modal dispersion. <i>Optics Express</i> , <b>2012</b> , 20, 14109-16	3.3	7
83	High-throughput optical coherence tomography at 800 nm. <i>Optics Express</i> , <b>2012</b> , 20, 19612-7	3.3	38
82	Dispersive Fourier transformation in the 800 nm spectral range <b>2012</b> ,		2
81	. <i>IEEE Photonics Technology Letters</i> , <b>2011</b> , 23, 947-949	2.2	4

80	The third-order nonlinear optical coefficients of Si, Ge, and Si <sub>1-x</sub> Ge <sub>x</sub> in the midwave and longwave infrared. <i>Journal of Applied Physics</i> , <b>2011</b> , 110, 011301	2.5	125
79	Impact of Optical Nonlinearity on Performance of Photonic Time-Stretch Analog-to-Digital Converter. <i>Journal of Lightwave Technology</i> , <b>2011</b> , 29, 2025-2030	4	5
78	Nomarski serial time-encoded amplified microscopy for high-speed contrast-enhanced imaging of transparent media. <i>Biomedical Optics Express</i> , <b>2011</b> , 2, 3387-92	3.5	25
77	Giant tunable optical dispersion using chromo-modal excitation of a multimode waveguide. <i>Optics Express</i> , <b>2011</b> , 19, 23809-17	3.3	45
76	Optical time-domain analog pattern correlator for high-speed real-time image recognition. <i>Optics Letters</i> , <b>2011</b> , 36, 220-2	3	17
75	Digital broadband linearization technique and its application to photonic time-stretch analog-to-digital converter. <i>Optics Letters</i> , <b>2011</b> , 36, 1077-9	3	25
74	Time-stretch oscilloscope with dual-channel differential detection front end for monitoring of 100 Gb/s return-to-zero differential quadrature phase-shift keying data. <i>Optics Letters</i> , <b>2011</b> , 36, 3804-6	3	2
73	100-Gb/s RZ-DQPSK Signal Monitoring Using Time-Stretch Enhanced Recording Oscilloscope <b>2011</b> ,		1
72	High-speed nanometer-resolved imaging vibrometer and velocimeter. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 101107	3.4	55
71	Time-Stretch Analog-to-Digital Conversion Using Phase Modulation and Broadband Balanced Coherent Detection for Improving Resolution <b>2011</b> ,		1
70	Stress and Piezoelectric Tuning of Silicon Optical Properties <b>2011</b> , 77-106		
69	Eye diagram measurements and equalization with Real-time Burst Sampling <b>2010</b> ,		1
68	Performance of serial time-encoded amplified microscope. <i>Optics Express</i> , <b>2010</b> , 18, 10016-28	3.3	99
67	Raman beam cleanup in silicon in the mid-infrared. <i>Optics Express</i> , <b>2010</b> , 18, 12411-4	3.3	6
66	Digital Equalization of Ultrafast Data Using Real-time Burst Sampling <b>2010</b> ,		1
65	Floating body CMOS phototransistor memory. <i>IEICE Electronics Express</i> , <b>2010</b> , 7, 1790-1795	0.5	1
64	Noise figure of amplified dispersive Fourier transformation. <i>Physical Review A</i> , <b>2010</b> , 82,	2.6	6
63	Breaking Speed and Sensitivity Limits. <i>Optik &amp; Photonik</i> , <b>2010</b> , 5, 32-36		4

62	Periodically poled silicon. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 091116	3.4	40
61	Time stretch enhanced recording oscilloscope. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 041105	3.4	22
60	Theory of amplified dispersive Fourier transformation. <i>Physical Review A</i> , <b>2009</b> , 80,	2.6	120
59	Time-gated filter for sideband suppression. <i>Optics Letters</i> , <b>2009</b> , 34, 869-71	3	7
58	Simultaneous mechanical-scan-free confocal microscopy and laser microsurgery. <i>Optics Letters</i> , <b>2009</b> , 34, 2099-101	3	29
57	Photonic Bandwidth Compression Front End for Digital Oscilloscopes. <i>Journal of Lightwave Technology</i> , <b>2009</b> , 27, 5073-5077	4	26
56	Demonstration of Raman gain at 800 nm in single-mode fiber and its potential application to biological sensing and imaging. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 251101	3.4	12
55	A Non-Electronic Wireless Receiver with Immunity to Damage by Electromagnetic Pulses. <i>Optical Science and Engineering</i> , <b>2009</b> , 421-446		
54	Influence of Pump-to-Signal RIN Transfer on Noise Figure in Silicon Raman Amplifiers. <i>IEEE Photonics Technology Letters</i> , <b>2008</b> , 20, 2021-2023	2.2	10
53	Limiting nature of continuum generation in silicon. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 091114	3.4	33
52	Real-time optical reflectometry enabled by amplified dispersive Fourier transformation. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 031106	3.4	27
51	Time-warp correction and calibration in photonic time-stretch analog-to-digital converter. <i>Optics Letters</i> , <b>2008</b> , 33, 2674-6	3	44
50	Noise Figure of Silicon Raman Amplifiers. <i>Journal of Lightwave Technology</i> , <b>2008</b> , 26, 847-852	4	21
49	All-dielectric photonic-assisted wireless receiver. <i>Optics Express</i> , <b>2008</b> , 16, 1742-7	3.3	12
48	Electrical control of parametric processes in silicon waveguides. <i>Optics Express</i> , <b>2008</b> , 16, 9838-43	3.3	12
47	Gain Enhancement in Cladding-Pumped Silicon Raman Amplifiers. <i>IEEE Journal of Quantum Electronics</i> , <b>2008</b> , 44, 692-704	2	18
46	150 GS/s real-time oscilloscope using a photonic front end <b>2008</b> ,		12
45	Broadband Raman amplification in silicon. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 191105	3.4	10

44	Amplified dispersive Fourier-transform imaging for ultrafast displacement sensing and barcode reading. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 131109	3-4	61
43	Real-time spectroscopy with subgigahertz resolution using amplified dispersive Fourier transformation. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 111102	3-4	43
42	Can silicon change photonics?. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2008</b> , 205, 213-224		37
41	Mid-infrared silicon Raman amplifier <b>2008</b> ,		1
40	All-Dielectric Photonic-Assisted Wireless Receiver. <i>Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS</i> , <b>2007</b> ,		1
39	All-dielectric photonic-assisted radio front-end technology. <i>Nature Photonics</i> , <b>2007</b> , 1, 535-538	33-9	32
38	Broadband Raman amplification in silicon. <i>Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS</i> , <b>2007</b> ,		1
37	Femtosecond real-time single-shot digitizer. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 161105	3-4	92
36	Multilayer 3-D Photonics in Silicon <b>2007</b> ,		2
35	Multilayer 3-D photonics in silicon. <i>Optics Express</i> , <b>2007</b> , 15, 12686-91	3-3	44
34	Demonstration of a Mid-infrared silicon Raman amplifier. <i>Optics Express</i> , <b>2007</b> , 15, 14355-62	3-3	97
33	Two-Dimensional Spatio-Temporal Signal Processing for Dispersion Compensation in Time-Stretched ADC. <i>Journal of Lightwave Technology</i> , <b>2007</b> , 25, 1580-1587	4	3
32	Distortion Cancellation in Time-Stretch Analog-to-Digital Converter. <i>Journal of Lightwave Technology</i> , <b>2007</b> , 25, 3716-3721	4	35
31	Two-Photon Photovoltaic Effect in Silicon. <i>IEEE Journal of Quantum Electronics</i> , <b>2007</b> , 43, 1211-1217	2	27
30	Continuum generation and carving on a silicon chip. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 061111	3-4	14
29	A self-imaging silicon waveguide Raman amplifier <b>2007</b> ,		2
28	Raman scattering from acoustic modes in Si/Ge superlattice waveguides. <i>Superlattices and Microstructures</i> , <b>2006</b> , 39, 501-516	2.8	2
27	Multi-mode Mid-IR Silicon Raman Amplifiers. <i>Materials Research Society Symposia Proceedings</i> , <b>2006</b> , 958, 1		0



26	Demonstration of CW Raman gain with zero electrical power dissipation in p-i-n silicon waveguides <b>2006,</b>		2
25	Stress-induced phase matching in Silicon waveguides <b>2006,</b>		3
24	Three-dimensional integration of metal-oxide-semiconductor transistor with subterranean photonics in silicon. <i>Applied Physics Letters</i> , <b>2006</b> , 88, 121108	3-4	6
23	Prospects for Silicon Mid-IR Raman Lasers. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , <b>2006</b> , 12, 1618-1627	3.8	69
22	Energy harvesting in silicon wavelength converters. <i>Optics Express</i> , <b>2006</b> , 14, 12327-33	3-3	48
21	Silicon Photonics. <i>Journal of Lightwave Technology</i> , <b>2006</b> , 24, 4600-4615	4	933
20	Nonlinear absorption in silicon and the prospects of mid-infrared silicon Raman lasers. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2006</b> , 203, R38-R40	1.6	40
19	Tera-sample per second real-time waveform digitizer. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 241116	3-4	23
18	Demonstration of directly modulated silicon Raman laser. <i>Optics Express</i> , <b>2005</b> , 13, 796-800	3-3	75
17	Raman amplification and lasing in SiGe waveguides. <i>Optics Express</i> , <b>2005</b> , 13, 2459-66	3-3	31
16	Silicon Raman laser, amplifier, and wavelength converter (Keynote Paper) <b>2005,</b>		1
15	Scaling laws of nonlinear silicon nanophotonics <b>2005,</b>		5
14	Optical continuum generation on a silicon chip <b>2005,</b>		1
13	Subterranean silicon photonics: Demonstration of buried waveguide-coupled microresonators. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 081114	3-4	8
12	Add-drop filters utilizing vertically coupled microdisk resonators in silicon. <i>Applied Physics Letters</i> , <b>2005</b> , 86, 091102	3-4	36
11	Vertically-coupled micro-resonators realized using three-dimensional sculpting in silicon. <i>Applied Physics Letters</i> , <b>2004</b> , 85, 1018-1020	3-4	23
10	Self-phase-modulation induced spectral broadening in silicon waveguides. <i>Optics Express</i> , <b>2004</b> , 12, 829-34		111
9	All optical switching and continuum generation in silicon waveguides. <i>Optics Express</i> , <b>2004</b> , 12, 4094-1023		181

8	Demonstration of a silicon Raman laser. <i>Optics Express</i> , <b>2004</b> , 12, 5269-73	3.3	548
7	Light Generation, Amplification, and Wavelength Conversion via Stimulated Raman Scattering in Silicon Microstructures. <i>Topics in Applied Physics</i> , <b>2004</b> , 199-238	0.5	10
6	Raman induced wavelength conversion in scaled Silicon waveguides. <i>IEICE Electronics Express</i> , <b>2004</b> , 1, 298-304	0.5	4
5	Demonstration of 11dB fiber-to-fiber gain in a silicon Raman amplifier. <i>IEICE Electronics Express</i> , <b>2004</b> , 1, 429-434	0.5	36
4	Observation of simultaneous Stokes and anti-Stokes emission in a silicon Raman laser. <i>IEICE Electronics Express</i> , <b>2004</b> , 1, 435-441	0.5	4
3	Nonlinear optics in silicon waveguides: stimulated Raman scattering and two-photon absorption <b>2003</b> , 4987, 140		2
2	Observation of Raman emission in silicon waveguides at 1.54 microm. <i>Optics Express</i> , <b>2002</b> , 10, 1305-13	3.3	132
1	Silicon Lasers 147-189		