Peter T Rakich

List of Publications by Citations

73 papers	4,258 citations	32 h-index	65 g-index
125 ext. papers	5,511 ext. citations	12.8 avg, IF	5.59 L-index

#	Paper	IF	Citations
73	A three-dimensional optical photonic crystal with designed point defects. *Nature*, **2004**, 429, 538-42	50.4	387
72	Polarization-transparent microphotonic devices in the strong confinement limit. *Nature Photonics*, **2007**, 1, 57-60	33.9	367
71	Enhanced coupling to vertical radiation using a two-dimensional photonic crystal in a semiconductor light-emitting diode. *Applied Physics Letters*, **2001**, 78, 563-565	3.4	228
70	Tailorable stimulated Brillouin scattering in nanoscale silicon waveguides. *Nature Communications*, **2013**, 4, 1944	17.4	189
69	Quantum acoustics with superconducting qubits. *Science*, **2017**, 358, 199-202	33.3	176
68	Multimaterial piezoelectric fibres. *Nature Materials*, **2010**, 9, 643-8	27	173
67	Achieving centimetre-scale supercollimation in a large-area two-dimensional photonic crystal. *Nature Materials*, **2006**, 5, 93-6	27	170
66	Microring-resonator-based add-drop filters in SiN: fabrication and analysis. *Optics Express*, **2004**, 12, 1437-42	3.3	152
65	Large Brillouin amplification in silicon. *Nature Photonics*, **2016**, 10, 463-467	33.9	136
64	Multistage high-order microring-resonator add-drop filters. *Optics Letters*, **2006**, 31, 2571-3	3	127
63	Sub-hertz fundamental linewidth photonic integrated Brillouin laser. *Nature Photonics*, **2019**, 13, 60-67	33.9	125
62	Brillouin integrated photonics. *Nature Photonics*, **2019**, 13, 664-677	33.9	124
61	A silicon Brillouin laser. *Science*, **2018**, 360, 1113-1116	33.3	121
60	Silicon photonics for compact, energy-efficient interconnects [Invited]. *Journal of Optical Networking*, **2007**, 6, 63		110
59	Giant Enhancement of Stimulated Brillouin Scattering in the Subwavelength Limit. *Physical Review X*, **2012**, 2,	9.1	106
58	Trapping, corralling and spectral bonding of optical resonances through optically induced potentials. *Nature Photonics*, **2007**, 1, 658-665	33.9	106
57	Creation and control of multi-phonon Fock states in a bulk acoustic-wave resonator. *Nature*, **2018**, 563, 666-670	50.4	100

56	Tailoring optical forces in waveguides through radiation pressure and electrostrictive forces. *Optics Express*, **2010**, 18, 14439-53	3.3	98
55	Control of coherent information via on-chip photonic-phononic emitter-receivers. *Nature Communications*, **2015**, 6, 6427	17.4	86
54	Fabrication of add-drop filters based on frequency-matched microring resonators. *Journal of Lightwave Technology*, **2006**, 24, 2207-2218	4	86
53	Non-reciprocal interband Brillouin modulation. *Nature Photonics*, **2018**, 12, 613-619	33.9	81
52	Stimulated Brillouin scattering in nanoscale silicon step-index waveguides: a general framework of selection rules and calculating SBS gain. *Optics Express*, **2013**, 21, 31402-19	3.3	77
51	On-chip inter-modal Brillouin scattering. *Nature Communications*, **2017**, 8, 15819	17.4	70
50	Strain-tunable silicon photonic band gap microcavities in optical waveguides. *Applied Physics Letters* , **2004**, 84, 1242-1244	3.4	67
49	General treatment of optical forces and potentials in mechanically variable photonic systems. *Optics Express*, **2009**, 17, 18116-35	3.3	57
48	Origin of reduction in phonon thermal conductivity of microporous solids. *Applied Physics Letters*, **2009**, 95, 161902	3.4	56
47	Guiding 1.5 μm light in photonic crystals based on dielectric rods. *Applied Physics Letters*, **2004**, 85, 6110-6112	3.4	55
46	Integrated wavelength-selective optical MEMS switching using ring resonator filters. *IEEE Photonics Technology Letters*, **2005**, 17, 1190-1192	2.2	39
45	Bulk crystalline optomechanics. *Nature Physics*, **2018**, 14, 601-607	16.2	38
44	RF-Photonic Filters via On-Chip Photonic–Phononic Emit–Receive Operations. *Journal of Lightwave Technology*, **2018**, 36, 2803-2809	4	37
43	Electrically driven acousto-optics and broadband non-reciprocity in silicon photonics. *Nature Photonics*, **2021**, 15, 43-52	33.9	35
42	422 Million intrinsic quality factor planar integrated all-waveguide resonator with sub-MHz linewidth. *Nature Communications*, **2021**, 12, 934	17.4	35
41	Resonantly enhanced nonreciprocal silicon Brillouin amplifier. *Optica*, **2019**, 6, 1117	8.6	32
40	Efficient mid-IR spectral generation via spontaneous fifth-order cascaded-Raman amplification in silica fibers. *Optics Letters*, **2008**, 33, 1690-2	3	27
39	Fundamental noise dynamics in cascaded-order Brillouin lasers. *Physical Review A*, **2018**, 98,	2.6	26

38	Phonon considerations in the reduction of thermal conductivity in phononic crystals. *Applied Physics A: Materials Science and Processing*, **2011**, 103, 575-579	2.6	22
37	Strong THz and Infrared Optical Forces on a Suspended Single-Layer Graphene Sheet. *ACS Photonics*, **2014**, 1, 1107-1115	6.3	21
36	High-frequency cavity optomechanics using bulk acoustic phonons. *Science Advances*, **2019**, 5, eaav0582	14.3	20
35	Scaling of optical forces in dielectric waveguides: rigorous connection between radiation pressure and dispersion. *Optics Letters*, **2011**, 36, 217-9	3	20
34	Ultrawide tuning of photonic microcavities via evanescent field perturbation. *Optics Letters*, **2006**, 31, 1241-3	3	19
33	Air trench bends and splitters for dense optical integration in low index contrast. *Journal of Lightwave Technology*, **2005**, 23, 2271-2277	4	18
32	Tunable microwave-photonic filtering with high out-of-band rejection in silicon. *APL Photonics*, **2020**, 5, 096103	5.2	18
31	Efficient low-power terahertz generation via on-chip triply-resonant nonlinear frequency mixing. *Applied Physics Letters*, **2010**, 96, 101110	3.4	17
30	Ultra-high-Q phononic resonators on-chip at cryogenic temperatures. *APL Photonics*, **2018**, 3, 066101	5.2	17
29	Quantum theory of continuum optomechanics. *New Journal of Physics*, **2018**, 20, 045005	2.9	16
28	Guided-wave Brillouin scattering in air. *Optica*, **2016**, 3, 1316	8.6	16
27	Microwave Filtering Using Forward Brillouin Scattering in Photonic-Phononic Emit-Receive Devices. *Journal of Lightwave Technology*, **2020**, 38, 5248-5261	4	12
26	Closed-form solutions and scaling laws for Kerr frequency combs. *Scientific Reports*, **2016**, 6, 24742	4.9	12
25	. *Journal of Lightwave Technology*, **2020**, 38, 3376-3386	4	11
24	Response theory of optical forces in two-port photonics systems: a simplified framework for examining conservative and non-conservative forces. *Optics Express*, **2011**, 19, 22322-36	3.3	11
23	Visible light photonic integrated Brillouin laser. *Nature Communications*, **2021**, 12, 4685	17.4	11
22	Reconfigurable silicon photonic circuits for telecommunication applications **2008**,		9
21	Optomechanical Cooling in a Continuous System. *Physical Review X*, **2018**, 8,	9.1	9

20	Low-loss low thermo-optic coefficient Ta2O5 on crystal quartz planar optical waveguides. *APL Photonics*, **2020**, 5, 116103	5.2	7
19	Shaping nonlinear optical response using nonlocal forward Brillouin interactions. *New Journal of Physics*, **2020**, 22, 043017	2.9	7
18	Hitless-Reconfigurable and Bandwidth-Scalable Silicon Photonic Circuits for Telecom and Interconnect Applications **2008**,		7
17	Engineering dissipation with phononic spectral hole burning. *Nature Materials*, **2017**, 16, 315-321	27	6
16	Nano-scale photonic crystal microcavity characterization with an all-fiber based 1.2 - 2.0 mum supercontinuum. *Optics Express*, **2005**, 13, 821-5	3.3	6
15	Backscatter-Immune Injection-Locked Brillouin Laser in Silicon. *Physical Review Applied*, **2020**, 14,	4.3	6
14	Optical loss in silicon microphotonic waveguides induced by metallic contamination. *Applied Physics Letters*, **2008**, 92, 131108	3.4	5
13	Experimental demonstration of loop-coupled microring resonators for optimally sharp optical filters **2008**,		4
12	Ultralow 0.034 dB/m loss wafer-scale integrated photonics realizing 720 million Q and 380 ￼W threshold Brillouin lasing.. *Optics Letters*, **2022**, 47, 1855-1858	3	4
11	Narrowband microwave-photonic notch filters using Brillouin-based signal transduction in silicon.. *Nature Communications*, **2022**, 13, 1947	17.4	4
10	Optomechanics: photons that pivot and shuttle. *Nature Nanotechnology*, **2014**, 9, 878-80	28.7	3
9	Traveling-wave photon-phonon coupling as the basis for new signal processing technologies **2014**,		2
8	Guide-wave Photonic Pulling Force Using One-way Photonic Chiral Edge States **2015**,		2
7	Strong-Confinement Microring Resonator Photonic Circuits. *Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS*, **2007**,		2
6	Engineering optical forces in waveguides and cavities based on optical response **2010**,		1
5	Low-loss D-shape Silicon Nitride Waveguides Using a Dielectric Lift-off Fabrication Process **2020**,		1
4	Narrowband microwave-photonic notch filtering using Brillouin interactions in silicon **2021**,		1
3	Narrow Linewidth Stimulated Brillouin Scattering (SBS) Lasers **2018**,		1

2	Corrections to "RF-Photonic Filters via On-Chip Photonic-Phononic Emit–Receive Operations" *Journal of Lightwave Technology*, **2019**, 37, 3434-3434	4
1	Nonreciprocal Frequency Domain Beam Splitter.. *Physical Review Letters*, **2021**, 127, 253603	7.4