John D Joannopoulos

List of Publications by Year in Descending Order

85 papers	10,440 citations	41 h-index	102 g-index
103 ext. papers	13,108 ext. citations	16.6 avg, IF	6.53 L-index

#	Paper	IF	Citations
85	Toward 3D-Printed Inverse-Designed Metaoptics. *ACS Photonics*, **2022**, 9, 43-51	6.3	3
84	Controlling two-photon emission from superluminal and accelerating index perturbations. *Nature Physics*, **2022**, 18, 67-74	16.2	1
83	A framework for scintillation in nanophotonics.. *Science*, **2022**, 375, eabm9293	33.3	11
82	Control of quantum electrodynamical processes by shaping electron wavepackets. *Nature Communications*, **2021**, 12, 1700	17.4	7
81	Casimir Light in Dispersive Nanophotonics. *Physical Review Letters*, **2021**, 127, 053603	7.4	5
80	Quasi-normal mode theory of the scattering matrix, enforcing fundamental constraints for truncated expansions. *Physical Review Research*, **2021**, 3,	3.9	2
79	Heuristic recurrent algorithms for photonic Ising machines. *Nature Communications*, **2020**, 11, 249	17.4	31
78	Plasmonics in argentene. *Physical Review Materials*, **2020**, 4,	3.2	7
77	Predictive and generative machine learning models for photonic crystals. *Nanophotonics*, **2020**, 9, 4183-4192	6.7	20
76	Non-Abelian generalizations of the Hofstadter model: spin-orbit-coupled butterfly pairs. *Light: Science and Applications*, **2020**, 9, 177	16.7	2
75	Synthesis and observation of non-Abelian gauge fields in real space. *Science*, **2019**, 365, 1021-1025	33.3	24
74	Towards integrated tunable all-silicon free-electron light sources. *Nature Communications*, **2019**, 10, 3176	17.4	30
73	Light emission based on nanophotonic vacuum forces. *Nature Physics*, **2019**, 15, 1284-1289	16.2	17
72	Controlling spins with surface magnon polaritons. *Physical Review B*, **2019**, 100,	3.3	8
71	A general theoretical and experimental framework for nanoscale electromagnetism. *Nature*, **2019**, 576, 248-252	50.4	54
70	Observation of bulk Fermi arc and polarization half charge from paired exceptional points. *Science*, **2018**, 359, 1009-1012	33.3	276
69	Superlight inverse Doppler effect. *Nature Physics*, **2018**, 14, 1001-1005	16.2	34

68	Maximal spontaneous photon emission and energy loss from free electrons. *Nature Physics*, **2018**, 14, 894-899	16.2	52
67	Control of semiconductor emitter frequency by increasing polariton momenta. *Nature Photonics*, **2018**, 12, 423-429	33.9	24
66	A high-efficiency regime for gas-phase terahertz lasers. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 6614-6619	11.5	11
65	Nonperturbative Quantum Electrodynamics in the Cherenkov Effect. *Physical Review X*, **2018**, 8,	9.1	4
64	Nanophotonic particle simulation and inverse design using artificial neural networks. *Science Advances*, **2018**, 4, eaar4206	14.3	335
63	Controlling Cherenkov angles with resonance transition radiation. *Nature Physics*, **2018**, 14, 816-821	16.2	54
62	Splashing transients of 2D plasmons launched by swift electrons. *Science Advances*, **2017**, 3, e1601192	14.3	52
61	Low-Loss Plasmonic Dielectric Nanoresonators. *Nano Letters*, **2017**, 17, 3238-3245	11.5	84
60	Confined in-fiber solidification and structural control of silicon and silicon-germanium microparticles. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 7240-7245	11.5	29
59	All-angle negative refraction of highly squeezed plasmon and phonon polaritons in graphene-boron nitride heterostructures. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 6717-6721	11.5	107
58	Constructing Designer Atoms via Resonant Graphene-Induced Lamb Shifts. *ACS Photonics*, **2017**, 4, 3098-3105	6.3	9
57	Thermally-drawn fibers with spatially-selective porous domains. *Nature Communications*, **2017**, 8, 364	17.4	26
56	Laser-Induced Linear-Field Particle Acceleration in Free Space. *Scientific Reports*, **2017**, 7, 11159	4.9	28
55	Limits to the Optical Response of Graphene and Two-Dimensional Materials. *Nano Letters*, **2017**, 17, 5408-5415	11.5	27
54	Optoelectronic Fibers via Selective Amplification of In-Fiber Capillary Instabilities. *Advanced Materials*, **2017**, 29, 1603033	24	38
53	Making two-photon processes dominate one-photon processes using mid-IR phonon polaritons. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 13607-13612	11.5	31
52	Narrowband Metamaterial Absorber for Terahertz Secure Labeling. *Journal of Infrared, Millimeter, and Terahertz Waves*, **2017**, 38, 1120-1129	2.2	13
51	Direct imaging of isofrequency contours in photonic structures. *Science Advances*, **2016**, 2, e1601591	14.3	18

50	Efficient plasmonic emission by the quantum Čerenkov effect from hot carriers in graphene. *Nature Communications*, **2016**, 7, ncomms11880	17.4	51
49	Shrinking light to allow forbidden transitions on the atomic scale. *Science*, **2016**, 353, 263-9	33.3	134
48	Controlling Directionality and Dimensionality of Radiation by Perturbing Separable Bound States in the Continuum. *Scientific Reports*, **2016**, 6, 33394	4.9	24
47	Probing topological protection using a designer surface plasmon structure. *Nature Communications*, **2016**, 7, 11619	17.4	150
46	Bound states in the continuum. *Nature Reviews Materials*, **2016**, 1,	73.3	900
45	Digital design of multimaterial photonic particles. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 6839-44	11.5	14
44	Optically Thin Metallic Films for High-Radiative-Efficiency Plasmonics. *Nano Letters*, **2016**, 16, 4110-7	11.5	13
43	Sputtered Tantalum Photonic Crystal Coatings for High-Temperature Energy Conversion Applications. *IEEE Nanotechnology Magazine*, **2016**, 15, 303-309	2.6	17
42	Invisible metallic mesh. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 2568-72	11.5	16
41	Substrate-Independent Light Confinement in Bioinspired All-Dielectric Surface Resonators. *ACS Photonics*, **2016**, 3, 532-536	6.3	7
40	Tailoring high-temperature radiation and the resurrection of the incandescent source. *Nature Nanotechnology*, **2016**, 11, 320-4	28.7	122
39	Symmetry-protected topological photonic crystal in three dimensions. *Nature Physics*, **2016**, 12, 337-340	16.2	182
38	Towards graphene plasmon-based free-electron infrared to X-ray sources. *Nature Photonics*, **2016**, 10, 46-52	33.9	76
37	Topological magnetoplasmon. *Nature Communications*, **2016**, 7, 13486	17.4	68
36	Formation mechanism of guided resonances and bound states in the continuum in photonic crystal slabs. *Scientific Reports*, **2016**, 6, 31908	4.9	64
35	Broadband angular selectivity of light at the nanoscale: Progress, applications, and outlook. *Applied Physics Reviews*, **2016**, 3, 011103	17.3	41
34	TOPOLOGICAL MATTER. Experimental observation of Weyl points. *Science*, **2015**, 349, 622-4	33.3	609
33	Spawning rings of exceptional points out of Dirac cones. *Nature*, **2015**, 525, 354-8	50.4	392

32	Broadband surface-wave transformation cloak. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 7635-8	11.5	47
31	Structural Colors from Fano Resonances. *ACS Photonics*, **2015**, 2, 27-32	6.3	88
30	Crystalline silicon core fibres from aluminium core preforms. *Nature Communications*, **2015**, 6, 6248	17.4	53
29	Transparent displays enabled by resonant nanoparticle scattering. *Nature Communications*, **2014**, 5, 3152	17.4	143
28	Topological photonics. *Nature Photonics*, **2014**, 8, 821-829	33.9	1659
27	Metallic Photonic Crystal Absorber-Emitter for Efficient Spectral Control in High-Temperature Solar Thermophotovoltaics. *Advanced Energy Materials*, **2014**, 4, 1400334	21.8	171
26	Metamaterial broadband angular selectivity. *Physical Review B*, **2014**, 90,	3.3	29
25	An animal-to-human scaling law for blast-induced traumatic brain injury risk assessment. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 15310-5	11.5	44
24	Weyl points and line nodes in gyroid photonic crystals. *Nature Photonics*, **2013**, 7, 294-299	33.9	418
23	Bloch surface eigenstates within the radiation continuum. *Light: Science and Applications*, **2013**, 2, e84-e84	16.7	117
22	Fabrication and characterization of thermally drawn fiber capacitors. *Applied Physics Letters*, **2013**, 102, 152908	3.4	17
21	Recent developments in high-temperature photonic crystals for energy conversion. *Energy and Environmental Science*, **2012**, 5, 8815	35.4	106
20	Acoustics: Piezoelectric Fibers for Conformal Acoustics (Adv. Mater. 39/2012). *Advanced Materials*, **2012**, 24, 5400-5400	24	
19	Microfluidic directional emission control of an azimuthally polarized radial fibre laser. *Nature Photonics*, **2012**, 6, 229-233	33.9	69
18	Near-field thermal radiation transfer controlled by plasmons in graphene. *Physical Review B*, **2012**, 85,	3.3	159
17	Fabrication and characterization of fibers with built-in liquid crystal channels and electrodes for transverse incident-light modulation. *Applied Physics Letters*, **2012**, 101, 011108	3.4	25
16	Structural anisotropy and orientation-induced Casimir repulsion in fluids. *Physical Review A*, **2011**, 83,	2.6	9
15	Ovonic Memory Switching in Multimaterial Fibers. *Advanced Functional Materials*, **2011**, 21, 1095-1101	15.6	24

14	Photonic Crystals **2011**,		536
13	Casimir forces in the time domain: Applications. *Physical Review A*, **2010**, 81,	2.6	39
12	Microstructure effects for Casimir forces in chiral metamaterials. *Physical Review B*, **2010**, 82,	3.3	25
11	Casimir forces in the time domain: Theory. *Physical Review A*, **2009**, 80,	2.6	52
10	Kilometer-Long Ordered Nanophotonic Devices by Preform-to-Fiber Fabrication. *IEEE Journal of Selected Topics in Quantum Electronics*, **2006**, 12, 1202-1213	3.8	30
9	Negative Refraction and Subwavelength Imaging in Photonic Crystals **2005**, 269-312		
8	Integrated fibres for self-monitored optical transport. *Nature Materials*, **2005**, 4, 820-825	27	58
7	First-principles Calculation of Electron Mobilities in Ultrathin SOI MOSFETs. *Materials Research Society Symposia Proceedings*, **2004**, 829, 326		
6	Guiding 1.5 μm light in photonic crystals based on dielectric rods. *Applied Physics Letters*, **2004**, 85, 6110-6112	3.4	55
5	Negative effective permeability in polaritonic photonic crystals. *Applied Physics Letters*, **2004**, 85, 543-545	3.4	94
4	Structural and Mechanical Properties of Boron Nanotubes. *Materials Research Society Symposia Proceedings*, **2003**, 791, 346		
3	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
2	Enhanced Emission from a Light-Emitting Diode Modified by a Photonic Crystal. *Materials Research Society Symposia Proceedings*, **2000**, 637, E2.8.1		
1	A dielectric omnidirectional reflector. *Science*, **1998**, 282, 1679-82	33.3	952