Hui Cao

List of Publications by Citations

140 papers	6,444 citations	38 h-index	78 g-index
180 ext. papers	8,039 ext. citations	7 avg, IF	6.36 L-index

#	Paper	IF	Citations
140	Coherent perfect absorbers: time-reversed lasers. *Physical Review Letters*, **2010**, 105, 053901	7.4	676
139	Speckle-free laser imaging using random laser illumination. *Nature Photonics*, **2012**, 6, 355-359	33.9	562
138	Time-reversed lasing and interferometric control of absorption. *Science*, **2011**, 331, 889-92	33.3	508
137	Lasing in random media. *Waves in Random and Complex Media*, **2003**, 13, R1-R39		393
136	Dielectric microcavities: Model systems for wave chaos and non-Hermitian physics. *Reviews of Modern Physics*, **2015**, 87, 61-111	40.5	363
135	Review on latest developments in random lasers with coherent feedback. *Journal of Physics A*, **2005**, 38, 10497-10535		269
134	Compact spectrometer based on a disordered photonic chip. *Nature Photonics*, **2013**, 7, 746-751	33.9	255
133	Perfect coupling of light to surface plasmons by coherent absorption. *Physical Review Letters*, **2012**, 108, 186805	7.4	128
132	All-fiber spectrometer based on speckle pattern reconstruction. *Optics Express*, **2013**, 21, 6584-600	3.3	123
131	Random lasing in closely packed resonant scatterers. *Journal of the Optical Society of America B: Optical Physics*, **2004**, 21, 159	1.7	120
130	Plasmonic Enhancement of Dye-Sensitized Solar Cells Using Core−Shell−Shell Nanostructures. *Journal of Physical Chemistry C*, **2013**, 117, 927-934	3.8	102
129	Using a multimode fiber as a high-resolution, low-loss spectrometer. *Optics Letters*, **2012**, 37, 3384-6	3	98
128	Mesoporous GaN for Photonic Engineering−Highly Reflective GaN Mirrors as an Example. *ACS Photonics*, **2015**, 2, 980-986	6.3	90
127	Low spatial coherence electrically pumped semiconductor laser for speckle-free full-field imaging. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 1304-9	11.5	84
126	Coherent control of total transmission of light through disordered media. *Physical Review Letters*, **2014**, 112, 133903	7.4	77
125	Spatial coherence of random laser emission. *Optics Letters*, **2011**, 36, 3404-6	3	77
124	Channeling chaotic rays into waveguides for efficient collection of microcavity emission. *Physical Review Letters*, **2012**, 108, 243902	7.4	76

123	Chaotic microcavity laser with high quality factor and unidirectional output. *Physical Review A*, **2009**, 80,	2.6	73
122	High-resolution and broadband all-fiber spectrometers. *Optica*, **2014**, 1, 175	8.6	70
121	A conductivity-based selective etching for next generation GaN devices. *Physica Status Solidi (B): Basic Research*, **2010**, 247, 1713-1716	1.3	68
120	Control of lasing in biomimetic structures with short-range order. *Physical Review Letters*, **2011**, 106, 183901	7.4	65
119	Active control of emission directionality of semiconductor microdisk lasers. *Applied Physics Letters*, **2014**, 104, 231108	3.4	60
118	Generating Non-Rayleigh Speckles with Tailored Intensity Statistics. *Physical Review Letters*, **2014**, 112,	7.4	53
117	Correlation-enhanced control of wave focusing in disordered media. *Nature Physics*, **2017**, 13, 497-502	16.2	52
116	Controlling Random Lasing with Three-Dimensional Plasmonic Nanorod Metamaterials. *Nano Letters*, **2016**, 16, 2471-7	11.5	50
115	Spatiotemporal Control of Light Transmission through a Multimode Fiber with Strong Mode Coupling. *Physical Review Letters*, **2016**, 117, 053901	7.4	48
114	Customizing speckle intensity statistics. *Optica*, **2018**, 5, 595	8.6	48
113	Differential Expression of Ecdysone Receptor Leads to Variation in Phenotypic Plasticity across Serial Homologs. *PLoS Genetics*, **2015**, 11, e1005529	6	48
112	Suppressing spatiotemporal lasing instabilities with wave-chaotic microcavities. *Science*, **2018**, 361, 1225-1231	33.5	46
111	Artificial selection for structural color on butterfly wings and comparison with natural evolution. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 12109-14	11.5	45
110	Transmission channels for light in absorbing random media: From diffusive to ballistic-like transport. *Physical Review B*, **2014**, 89,	3.3	45
109	Low-loss high-speed speckle reduction using a colloidal dispersion. *Applied Optics*, **2013**, 52, 1168-72	1.7	45
108	Photonic band gaps in three-dimensional network structures with short-range order. *Physical Review A*, **2011**, 84,	2.6	45
107	Evanescently coupled multimode spiral spectrometer. *Optica*, **2016**, 3, 956	8.6	44
106	Complex lasers with controllable coherence. *Nature Reviews Physics*, **2019**, 1, 156-168	23.6	40

105	Position-dependent diffusion of light in disordered waveguides. *Physical Review Letters*, **2014**, 112, 023904	7.4	39
104	Complete polarization control in multimode fibers with polarization and mode coupling. *Light: Science and Applications*, **2018**, 7, 54	16.7	38
103	Rotating optical microcavities with broken chiral symmetry. *Physical Review Letters*, **2015**, 114, 053903	7.4	38
102	Control of Energy Density inside a Disordered Medium by Coupling to Open or Closed Channels. *Physical Review Letters*, **2016**, 117, 086803	7.4	37
101	Local chirality of optical resonances in ultrasmall resonators. *Physical Review Letters*, **2012**, 108, 253902	7.4	37
100	Low-spatial-coherence high-radiance broadband fiber source for speckle free imaging. *Optics Letters*, **2015**, 40, 4607-10	3	36
99	Effects of spatially nonuniform gain on lasing modes in weakly scattering random systems. *Physical Review A*, **2010**, 81,	2.6	36
98	Photonic-band-gap effects in two-dimensional polycrystalline and amorphous structures. *Physical Review A*, **2010**, 82,	2.6	33
97	Broadband multimode fiber spectrometer. *Optics Letters*, **2016**, 41, 2029-32	3	33
96	Broadband Coherent Enhancement of Transmission and Absorption in Disordered Media. *Physical Review Letters*, **2015**, 115, 223901	7.4	30
95	Formation of long-lived resonances in hexagonal cavities by strong coupling of superscar modes. *Physical Review A*, **2013**, 88,	2.6	30
94	Cavity formation and light propagation in partially ordered and completely random one-dimensional systems. *IEEE Journal of Quantum Electronics*, **2003**, 39, 364-374	2	30
93	Perspective on speckle spectrometers. *Journal of Optics (United Kingdom)*, **2017**, 19, 060402	1.7	28
92	Principal modes in multimode fibers: exploring the crossover from weak to strong mode coupling. *Optics Express*, **2017**, 25, 2709-2724	3.3	28
91	Extreme output sensitivity to subwavelength boundary deformation in microcavities. *Physical Review A*, **2013**, 87,	2.6	28
90	Effect of local pumping on random laser modes in one dimension. *Journal of the Optical Society of America B: Optical Physics*, **2007**, 24, A26	1.7	28
89	Full-field interferometric confocal microscopy using a VCSEL array. *Optics Letters*, **2014**, 39, 4446-9	3	26
88	Photonic bandgap engineering with inverse opal multistacks of different refractive index contrasts. *Applied Physics Letters*, **2009**, 95, 091101	3.4	26

87	Lasing in localized modes of a slow light photonic crystal waveguide. *Applied Physics Letters*, **2011**, 98, 241107	3.4	26
86	Broadband subwavelength focusing of light using a passive sink. *Optics Express*, **2013**, 21, 17435-46	3.3	25
85	Coherence switching of a degenerate VECSEL for multimodality imaging. *Optica*, **2016**, 3, 403	8.6	25
84	Pump-controlled modal interactions in microdisk lasers. *Physical Review A*, **2015**, 91,	2.6	24
83	The optical frequency comb fibre spectrometer. *Nature Communications*, **2016**, 7, 12995	17.4	24
82	Numerical study of amplified spontaneous emission and lasing in random media. *Physical Review A*, **2010**, 82,	2.6	23
81	Wavelength-scale deformed microdisk lasers. *Physical Review A*, **2011**, 84,	2.6	23
80	Modification of light transmission channels by inhomogeneous absorption in random media. *Optics Express*, **2015**, 23, 11043-53	3.3	22
79	PARTIALLY PUMPED RANDOM LASERS. *International Journal of Modern Physics B*, **2014**, 28, 1430001	1.1	22
78	Finite-Difference Time-Domain Formulation of Stochastic Noise in Macroscopic Atomic Systems. *Journal of Lightwave Technology*, **2009**, 27, 4530-4535	4	22
77	Transverse localization of transmission eigenchannels. *Nature Photonics*, **2019**, 13, 352-358	33.9	21
76	Rotation-induced evolution of far-field emission patterns of deformed microdisk cavities. *Optica*, **2015**, 2, 323	8.6	21
75	Coherent Control of Photocurrent in a Strongly Scattering Photoelectrochemical System. *ACS Photonics*, **2016**, 3, 449-455	6.3	20
74	A narrow-band speckle-free light source via random Raman lasing. *Journal of Modern Optics*, **2016**, 63, 46-49	1.1	19
73	Demonstration of laser action in a pseudorandom medium. *Applied Physics Letters*, **2010**, 97, 223101	3.4	18
72	Field and intensity correlations in amplifying random media. *Physical Review B*, **2005**, 71,	3.3	18
71	Massively parallel ultrafast random bit generation with a chip-scale laser. *Science*, **2021**, 371, 948-952	33.3	18
70	Transporting the Optical Chirality through the Dynamical Barriers in Optical Microcavities. *Laser and Photonics Reviews*, **2018**, 12, 1800027	8.3	17

69	Noise analysis of spectrometers based on speckle pattern reconstruction. *Applied Optics*, **2014**, 53, 410-7	1.7	17
68	Controlling multimode coupling by boundary-wave scattering. *Physical Review A*, **2013**, 88,	2.6	16
67	Remote key establishment by random mode mixing in multimode fibers and optical reciprocity. *Optical Engineering*, **2019**, 58, 1	1.1	16
66	Cryptic iridescence in a fossil weevil generated by single diamond photonic crystals. *Journal of the Royal Society Interface*, **2014**, 11, 20140736	4.1	15
65	Morphology-induced plasmonic resonances in silver-aluminum alloy thin films. *Applied Physics Letters*, **2011**, 99, 041116	3.4	15
64	Lasing in disordered media. *Progress in Optics*, **2003**, 317-370	3.4	15
63	Long-range spatio-temporal correlations in multimode fibers for pulse delivery. *Nature Communications*, **2019**, 10, 2973	17.4	14
62	Control of mesoscopic transport by modifying transmission channels in opaque media. *Physical Review B*, **2015**, 92,	3.3	14
61	Multiscale patterning of a metallic glass using sacrificial imprint lithography. *Microsystems and Nanoengineering*, **2015**, 1,	7.7	14
60	Rotation-induced mode coupling in open wavelength-scale microcavities. *Physical Review A*, **2014**, 90,	2.6	14
59	Lasing in Thue-Morse structures with optimized aperiodicity. *Applied Physics Letters*, **2011**, 98, 201109	3.4	14
58	Effects of localization and amplification on intensity distribution of light transmitted through random media. *Physical Review E*, **2004**, 70, 037603	2.4	14
57	Relation between transmission and energy stored in random media with gain. *Physical Review B*, **2010**, 82,	3.3	13
56	Wavelength-scale microdisks as optical gyroscopes: a finite-difference time-domain simulation study. *Journal of the Optical Society of America B: Optical Physics*, **2012**, 29, 1648	1.7	13
55	Finite-difference time-domain simulation of thermal noise in open cavities. *Physical Review A*, **2008**, 77,	2.6	13
54	Controlling mode competition by tailoring the spatial pump distribution in a laser: a resonance-based approach. *Optics Express*, **2016**, 24, 26006-26015	3.3	13
53	Fluctuations and correlations of emission from random lasers. *Physical Review A*, **2016**, 93,	2.6	12
52	Directional waveguide coupling from a wavelength-scale deformed microdisk laser. *Applied Physics Letters*, **2012**, 100, 061125	3.4	12

51	Electrically pumped semiconductor laser with low spatial coherence and directional emission. *Applied Physics Letters*, **2019**, 115, 071101	3.4	11
50	Creating and controlling complex light. *APL Photonics*, **2019**, 4, 110806	5.2	11
49	Probing long-range intensity correlations inside disordered photonic nanostructures. *Physical Review B*, **2014**, 90,	3.3	10
48	Giant resonances near the split band edges of two-dimensional photonic crystals. *Physical Review A*, **2010**, 82,	2.6	10
47	Deep learning of ultrafast pulses with a multimode fiber. *APL Photonics*, **2020**, 5, 096106	5.2	10
46	Interaction-induced mode switching in steady-state microlasers. *Optics Express*, **2016**, 24, 41-54	3.3	9
45	Angular Memory Effect of Transmission Eigenchannels. *Physical Review Letters*, **2019**, 123, 203901	7.4	9
44	Direct time-domain observation of transition from strong to weak coupling in a semiconductor microcavity. *Applied Physics Letters*, **1998**, 73, 3031-3033	3.4	9
43	Enabling time resolved microscopy with random Raman lasing. *Scientific Reports*, **2017**, 7, 44572	4.9	8
42	Super- and Anti-Principal-Modes in Multimode Waveguides. *Physical Review X*, **2017**, 7,	9.1	8
41	Noise properties of coherent perfect absorbers and critically coupled resonators. *Physical Review A*, **2013**, 87,	2.6	8
40	Lasing modes in polycrystalline and amorphous photonic structures. *Physical Review A*, **2011**, 84,	2.6	8
39	Introducing non-local correlations into laser speckles. *Optics Express*, **2019**, 27, 6057-6067	3.3	8
38	Suppressing meta-holographic artifacts by laser coherence tuning. *Light: Science and Applications*, **2021**, 10, 104	16.7	8
37	Circumventing the optical diffraction limit with customized speckles. *Optica*, **2021**, 8, 122	8.6	8
36	Topological defect lasers. *Journal of Optics (United Kingdom)*, **2016**, 18, 014005	1.7	7
35	The illumination characteristics of operative microscopes. *American Journal of Otolaryngology - Head and Neck Medicine and Surgery*, **2015**, 36, 356-60	2.8	7
34	Control of light diffusion in a disordered photonic waveguide. *Applied Physics Letters*, **2014**, 105, 041104	3.4	7

33	Effect of amplification on conductance distribution of a disordered waveguide. *Physical Review E*, **2006**, 74, 056609	2.4	7
32	Spatial structure of lasing modes in wave-chaotic semiconductor microcavities. *New Journal of Physics*, **2020**, 22, 083002	2.9	7
31	Enhancing light transmission through a disordered waveguide with inhomogeneous scattering and loss. *Applied Physics Letters*, **2017**, 110, 021103	3.4	6
30	Optical resonances in rotating dielectric microcavities of deformed shape. *Journal of the Optical Society of America B: Optical Physics*, **2015**, 32, 1736	1.7	6
29	Enhanced coupling of light into a turbid medium through microscopic interface engineering. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 7941-7946	11.5	6
28	Using geometry to manipulate long-range correlation of light inside disordered media. *Physical Review B*, **2015**, 92,	3.3	6
27	Intracavity frequency-doubled degenerate laser. *Optics Letters*, **2017**, 42, 411-414	3	5
26	Photonic crystals with topological defects. *Physical Review A*, **2015**, 91,	2.6	5
25	Manipulation of high-order scattering processes in ultrasmall optical resonators to control far-field emission. *Physical Review Letters*, **2014**, 112, 163902	7.4	5
24	Multimode-fiber-based single-shot full-field measurement of optical pulses. *Optics Letters*, **2020**, 45, 2462-2465	3	5
23	Random-laser dynamics with temporally modulated pump. *Physical Review A*, **2019**, 99,	2.6	5
22	Statistical description of transport in multimode fibers with mode-dependent loss. *New Journal of Physics*, **2018**, 20, 113028	2.9	5
21	Enhanced optical coupling and Raman scattering via microscopic interface engineering. *Applied Physics Letters*, **2017**, 111, 201105	3.4	4
20	Lasing in localized mode at optimized photonic amorphous structure. *Applied Physics Letters*, **2012**, 101, 091101	3.4	4
19	Fast laser speckle suppression with an intracavity diffuser. *Nanophotonics*, **2020**, 10, 129-136	6.3	4
18	Ultrahigh-speed, phase-sensitive full-field interferometric confocal microscopy for quantitative microscale physiology. *Biomedical Optics Express*, **2016**, 7, 4674-4684	3.5	4
17	Multimode lasing in wave-chaotic semiconductor microlasers. *Physical Review A*, **2019**, 100,	2.6	4
16	Fluctuations and Correlations of Transmission Eigenchannels in Diffusive Media. *Physical Review Letters*, **2020**, 125, 165901	7.4	3

15	Coherent artifact suppression in line-field reflection confocal microscopy using a low spatial coherence light source. *Optics Letters*, **2016**, 41, 4775-4778	3	3
14	Controlling a microdisk laser by local refractive index perturbation. *Applied Physics Letters*, **2016**, 108, 051105	3.4	3
13	Condensation of thresholds in multimode microlasers. *Physical Review A*, **2017**, 95,	2.6	2
12	Collective electronic states in inhomogeneous media at critical and subcritical metal concentrations. *Physical Review B*, **2007**, 75,	3.3	2
11	Minimum reflection channel in amplifying random media. *Physical Review B*, **2015**, 92,	3.3	1
10	Structural Color: How Noniridescent Colors Are Generated by Quasi-ordered Structures of Bird Feathers (Adv. Mater. 2627/2010). *Advanced Materials*, **2010**, 22, n/a-n/a	24	1
9	Harnessing disorder for photonic device applications. *Applied Physics Reviews*, **2022**, 9, 011309	17.3	1
8	LASING IN RANDOM MEDIA. *Advanced Series in Applied Physics*, **2010**, 205-251		1
7	Customizing Speckle Statistics **2017**,		1
6	Coherent injection of light into an absorbing scattering medium with a microscopic pore. *Optics Letters*, **2018**, 43, 2189-2192	3	1
5	Nanoscale Coherent Perfect Absorber of Light **2011**,		1
4	Secure Optical Communication Using Random Mode Mixing and Time-Reversal Symmetry in Multimode Fibers **2014**,		1
3	High-Speed Random-Channel Cryptography in Multimode Fibers. *IEEE Photonics Journal*, **2021**, 13, 1-9	1.8	0
2	Controlling Nonlinear Interaction in a Many-Mode Laser by Tuning Disorder.. *Physical Review Letters* , **2022**, 128, 143901	7.4	0
1	Sensitive control of broad-area semiconductor lasers by cavity shape. *APL Photonics*, **2022**, 7, 056106	5.2	0