Weijian Yang

List of Publications by Year
in descending order

116 papers	11,977 citations	50276 46 h-index	38395 95 g-index
129 all docs	129 docs citations	129 times ranked	11393 citing authors

#	Article	IF	Citations
1	An increase in spontaneous activity mediates visual habituation. Cell Reports, 2022, 39, 110751.	6.4	5
2	Deep compressed imaging via optimized pattern scanning. Photonics Research, 2021, 9, B57.	7.0	12
3	Cortical ensembles selective for context. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	29
4	GEOMScope: Large Fieldâ€ofâ€View 3D Lensless Microscopy with Low Computational Complexity. Laser and Photonics Reviews, 2021, 15, 2100072.	8.7	11
5	Long-term stability of cortical ensembles. ELife, 2021, 10, .	6.0	40
6	Manipulating neuronal circuits, in concert. Science, 2021, 373, 635-635.	12.6	2
7	Holographic Imaging and Stimulation of Neural Circuits. Advances in Experimental Medicine and Biology, 2021, 1293, 613-639.	1.6	2
8	Tracking calcium dynamics from individual neurons in behaving animals. PLoS Computational Biology, 2021, 17, e1009432.	3.2	17
9	Time for NanoNeuro. Nature Methods, 2021, 18, 1287-1293.	19.0	17
10	Reply to â€˜Only negligible deviations from electroneutrality are expected in dendritic spinesâ€™. Nature Reviews Neuroscience, 2020, 21, 54-55.	10.2	1
11	Intracranial alternating current stimulation facilitates neurogenesis in a mouse model of Alzheimerâ€™s disease. Alzheimer's Research and Therapy, 2020, 12, 89.	6.2	15
12	A community-based transcriptomics classification and nomenclature of neocortical cell types. Nature Neuroscience, 2020, 23, 1456-1468.	14.8	183
13	Aberrant Cortical Ensembles and Schizophrenia-like Sensory Phenotypes in Setd1a+/â^’ Mice. Biological Psychiatry, 2020, 88, 215-223.	1.3	29
14	Playing the piano with the cortex: role of neuronal ensembles and pattern completion in perception and behavior. Current Opinion in Neurobiology, 2020, 64, 89-95.	4.2	56
15	Roadmap on holography. Journal of Optics (United Kingdom), 2020, 22, 123002.	2.2	54
16	Three-dimensional Imaging with a Single Layer of Random Microlens Array. , 2020, , .		1
17	Controlling Visually Guided Behavior by Holographic Recalling of Cortical Ensembles. Cell, 2019, 178, 447-457.e5.	28.9	254
18	Genetic voltage indicators. BMC Biology, 2019, 17, 71.	3.8	87

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19	Two-Color Volumetric Imaging of Neuronal Activity of Cortical Columns. Cell Reports, 2019, 27, 2229-2240.e4.	6.4	33
20	Optimal Tuning of Memristor Conductance Variation in Spiking Neural Networks for Online Unsupervised Learning. IEEE Transactions on Electron Devices, 2019, 66, 2844-2849.	3.0	14
21	Reduced Repertoire of Cortical Microstates and Neuronal Ensembles in Medically Induced Loss of Consciousness. Cell Systems, 2019, 8, 467-474.e4.	6.2	47
22	Brain maps at the nanoscale. Nature Biotechnology, 2019, 37, 378-380.	17.5	4
23	Comparative Evaluation of Genetically Encoded Voltage Indicators. Cell Reports, 2019, 26, 802-813.e4.	6.4	137
24	Holographic imaging and photostimulation of neural activity. Current Opinion in Neurobiology, 2018, 50, 211-221.	4.2	37
25	Deconvolution of Voltage Sensor Time Series and Electro-diffusion Modeling Reveal the Role of Spine Geometry in Controlling Synaptic Strength. Neuron, 2018, 97, 1126-1136.e10.	8.1	38
26	Parvalbumin-Positive Interneurons Regulate Neuronal Ensembles in Visual Cortex. Cerebral Cortex, 2018, 28, 1831-1845.	2.9	65
27	Addendum: A very large-scale microelectrode array for cellular-resolution electrophysiology. Nature Communications, 2018, 9, 4497.	12.8	1
28	Two-Photon Optogenetic Mapping of Excitatory Synaptic Connectivity and Strength. IScience, 2018, 8, 15-28.	4.1	16
29	Simultaneous two-photon imaging and two-photon optogenetics of cortical circuits in three dimensions. ELife, 2018, 7, .	6.0	167
30	Monolithic high-contrast metastructure for beam-shaping VCSELs. Optica, 2018, 5, 10.	9.3	45
31	Recent advances in high-contrast metastructures, metasurfaces, and photonic crystals. Advances in Optics and Photonics, 2018, 10, 180.	25.5	119
32	Role of inhibitory control in modulating focal seizure spread. Brain, 2018, 141, 2083-2097.	7.6	75
33	Toward a Global BRAIN Initiative. Cell, 2017, 168, 956-959.	28.9	44
34	Super-multiplex vibrational imaging. Nature, 2017, 544, 465-470.	27.8	374
35	Altered Cortical Ensembles in Mouse Models of Schizophrenia. Neuron, 2017, 94, 153-167.e8.	8.1	152
36	Non-overlapping Neural Networks in Hydra vulgaris. Current Biology, 2017, 27, 1085-1097.	3.9	162

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37	In vivo imaging of neural activity. Nature Methods, 2017, 14, 349-359.	19.0	364
38	Imaging and Optically Manipulating Neuronal Ensembles. Annual Review of Biophysics, 2017, 46, 271-293.	10.0	90
39	A very large-scale microelectrode array for cellular-resolution electrophysiology. Nature Communications, 2017, 8, 1802.	12.8	114
40	Very high efficiency optical coupler for silicon nanophotonic waveguide and single mode optical fiber. Optics Express, 2017, 25, 18462.	3.4	45
41	Multi-scale approaches for high-speed imaging and analysis of large neural populations. PLoS Computational Biology, 2017, 13, e1005685.	3.2	35
42	moco: Fast Motion Correction for Calcium Imaging. Frontiers in Neuroinformatics, 2016, 10, 6.	2.5	156
43	Somatostatin Interneurons Control a Key Component of Mismatch Negativity in Mouse Visual Cortex. Cell Reports, 2016, 16, 597-604.	6.4	124
44	Cooperative Subnetworks of Molecularly Similar Interneurons in Mouse Neocortex. Neuron, 2016, 90, 86-100.	8.1	173
45	Compact On-Chip Optical Components Based on Multimode Interference Design Using High-Contrast Grating Hollow-Core Waveguides. IEEE Journal of Selected Topics in Quantum Electronics, 2016, 22, 279-287.	2.9	1
46	Imprinting and recalling cortical ensembles. Science, 2016, 353, 691-694.	12.6	263
47	On the Necessity of Ethical Guidelines for Novel Neurotechnologies. Cell, 2016, 167, 882-885.	28.9	61
48	Opening Holes in the Blanket of Inhibition: Localized Lateral Disinhibition by VIP Interneurons. Journal of Neuroscience, 2016, 36, 3471-3480.	3.6	199
49	Calcium imaging of neural circuits with extended depth-of-field light-sheet microscopy. Optics Letters, 2016, 41, 855.	3.3	71
50	Simultaneous Multi-plane Imaging of Neural Circuits. Neuron, 2016, 89, 269-284.	8.1	209
51	Simultaneous Denoising, Deconvolution, and Demixing of Calcium Imaging Data. Neuron, 2016, 89, 285-299.	8.1	843
52	Beam-Shaping Single-Mode VCSEL With A High-Contrast Grating Mirror. , 2016, , .		2
53	Laser optomechanics. Scientific Reports, 2015, 5, 13700.	3.3	31
54	The discovery of dendritic spines by Cajal. Frontiers in Neuroanatomy, 2015, 9, 18.	1.7	46

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55	Endogenous Sequential Cortical Activity Evoked by Visual Stimuli. Journal of Neuroscience, 2015, 35, 8813-8828.	3.6	110
56	Surface-normal coupled four-wave mixing in a high contrast gratings resonator. Optics Express, 2015, 23, 29565.	3.4	17
57	Heterogeneously-integrated VCSEL using high-contrast grating on silicon. , 2015, , .		1
58	From the neuron doctrine to neural networks. Nature Reviews Neuroscience, 2015, 16, 487-497.	10.2	547
59	Temporal dynamics in fMRI resting-state activity. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 5263-5264.	7.1	9
60	Heterogeneously integrated long-wavelength VCSEL using silicon high contrast grating on an SOI substrate. Optics Express, 2015, 23, 2512.	3.4	67
61	On testing neural network models. Nature Reviews Neuroscience, 2015, 16, 767-767.	10.2	4
62	A National Network of Neurotechnology Centers for the BRAIN Initiative. Neuron, 2015, 88, 445-448.	8.1	15
63	The new nanophysiology: regulation of ionic flow in neuronal subcompartments. Nature Reviews Neuroscience, 2015, 16, 685-692.	10.2	65
64	Broadband Self-Swept High Contrast Grating VCSEL. , 2015, , .		0
65	Simultaneous imaging of neural activity in three dimensions. Frontiers in Neural Circuits, 2014, 8, 29.	2.8	79
66	A 32 Ã— 32 optical phased array using polysilicon sub-wavelength high-contrast-grating mirrors. Optics Express, 2014, 22, 19029.	3.4	40
67	High speed optical phased array using high contrast grating all-pass filters. Optics Express, 2014, 22, 20038.	3.4	49
68	Heterogeneously Integrated Long-Wavelength VCSEL using High-Contrast Grating on Silicon. , 2014, , .		1
69	Visual stimuli recruit intrinsically generated cortical ensembles. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E4053-61.	7.1	263
70	High-contrast grating MEMS optical phase-shifters for two-dimensional free-space beam steering. Proceedings of SPIE, 2014, , .	0.8	0
71	High-speed 32Ã—32 MEMS optical phased array. Proceedings of SPIE, 2014, , .	0.8	0
72	A blanket of inhibition: functional inferences from dense inhibitory connectivity. Current Opinion in Neurobiology, 2014, 26, 96-102.	4.2	148

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73	Long-Wavelength Tunable Detector Using High-Contrast Grating. IEEE Journal of Selected Topics in Quantum Electronics, 2014, 20, 178-185.	2.9	7
74	Bifunctional 1550-nm Tunable Device and Its Transmission Characteristics. , 2014, , .		1
75	Optical phased array using high contrast gratings for two dimensional beamforming and beamsteering. Optics Express, 2013, 21, 12238.	3.4	66
76	High speed, ultra-compact spectrometer using high contrast grating swept-wavelength detector. , 2013, , .		3
77	Surface-normal second harmonic emission from AlGaAs high-contrast gratings. Applied Physics Letters, 2013, 102, 021102.	3.3	9
78	Experimental and theoretical study of wide hysteresis cycles in 1550 nm VCSELs under optical injection. Optics Express, 2013, 21, 3125.	3.4	24
79	Long-Wavelength VCSEL Using High-Contrast Grating. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1701311-1701311.	2.9	84
80	Electrical Compartmentalization in Dendritic Spines. Annual Review of Neuroscience, 2013, 36, 429-449.	10.7	157
81	Optical phase modulation based on directly modulated reflection-mode OIL-VCSEL. Optics Express, 2013, 21, 22114.	3.4	11
82	Instantaneous three-dimensional sensing using spatial light modulator illumination with extended depth of field imaging. Optics Express, 2013, 21, 16007.	3.4	90
83	Tunable 1550-nm High Contrast Grating VCSEL Detector. , 2013, , .		1
84	Optical phased array using high-contrast grating all-pass filters for fast beam steering. , 2013, , .		0
85	Ultra-compact Optical Switch Using High Contrast Grating Hollow-core Waveguide. , 2013, , .		1
86	Linewidth Measurement of 1550 nm High Contrast Grating MEMS-VCSELs. , 2013, , .		1
87	Low loss hollow-core waveguide on a silicon substrate. Nanophotonics, 2012, 1, 23-29.	6.0	31
88	High-contrast gratings for integrated optoelectronics. Advances in Optics and Photonics, 2012, 4, 379.	25.5	443
89	An ellipse model for cavity mode behavior of optically injection-locked VCSELs. Optics Express, 2012, 20, 6980.	3.4	8
90	Three-Dimensional Chirped High-Contrast Grating Hollow-Core Waveguide. IEEE Photonics Journal, 2012, 4, 1372-1380.	2.0	2

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91	Two-photon optogenetics of dendritic spines and neural circuits. Nature Methods, 2012, 9, 1202-1205.	19.0	255
92	Two-photon optogenetic toolbox for fast inhibition, excitation and bistable modulation. Nature Methods, 2012, 9, 1171-1179.	19.0	299
93	Experimental characterization on high contrast grating reflectivity. , 2012, , .		1
94	Low-loss slow light inside high contrast grating waveguide. Proceedings of SPIE, 2012, , .	0.8	5
95	RF Down-Conversion Based on Optically Injection-locked VCSEL. , 2012, , .		0
96	Dense Inhibitory Connectivity in Neocortex. Neuron, 2011, 69, 1188-1203.	8.1	491
97	Novel Three-dimensional Hollow-core Waveguide Using High-contrast Sub-wavelength Grating. , 2011, , .		3
98	Two-photon microscopy with diffractive optical elements and spatial light modulators. Frontiers in Neuroscience, 2010, 4, .	2.8	24
99	Fast Nonnegative Deconvolution for Spike Train Inference From Population Calcium Imaging. Journal of Neurophysiology, 2010, 104, 3691-3704.	1.8	404
100	Reflection-mode optical injection locking. Optics Express, 2010, 18, 20887.	3.4	14
101	Performance of a Multi-Gb/s 60 GHz Radio Over Fiber System Employing a Directly Modulated Optically Injection-Locked VCSEL. Journal of Lightwave Technology, 2010, 28, 2436-2444.	4.6	35
102	Wavelet-transform analysis for group delay extraction of white light spectral interferograms. Optics Express, 2009, 17, 6038.	3.4	19
103	Novel Ring Cavity for Ytterbium-Doped Mode-Locked Fiber Laser Incorporated With Both SESAM and Grating Pair. IEEE Photonics Technology Letters, 2009, 21, 3-5.	2.5	6
104	Systematic approach of FinFET based SRAM bitcell design for 32nm node and below. , 2009, , .		4
105	Chromatic dispersion characterization of a chirped mirror with wavelet analysis of white-light spectral interferograms. , 2009, , .		0
106	Group delay dispersion measurement of Yb3+:YAl3(BO3)4 crystal with white-light interferometry. Optics Communications, 2008, 281, 679-682.	2.1	2
107	Direct measurement of group delay with joint time-frequency analysis of a white-light spectral interferogram. Optics Letters, 2008, 33, 2855.	3.3	14
108	SLM microscopy: scanless two-photon imaging and photostimulation using spatial light modulators. Frontiers in Neural Circuits, 2008, 2, 5.	2.8	297

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109	Group delay dispersion measurement of Yb:YAB crystal with white-light interferometry. , 2007, , .		0
110	Group delay dispersion measurement of Yb:Gd_2SiO_5, Yb:GdYSiO_5 and Yb:LuYSiO_5crystal with white-light interferometry. Optics Express, 2007, 15, 8486.	3.4	8
111	Two-photon photostimulation and imaging of neural circuits. Nature Methods, 2007, 4, 943-950.	19.0	240
112	Attractor dynamics of network UP states in the neocortex. Nature, 2003, 423, 283-288.	27.8	581
113	Detecting Action Potentials in Neuronal Populations with Calcium Imaging. Methods, 1999, 18, 215-221.	3.8	271
114	Dendritic spines as basic functional units of neuronal integration. Nature, 1995, 375, 682-684.	27.8	873
115	Control of postsynaptic Ca2+ influx in developing neocortex by excitatory and inhibitory neurotransmitters. Neuron, 1991, 6, 333-344.	8.1	564
116	Hot carriers induced degradation in thin gate oxide MOSFETs. , 1983, , .		11