

Adam E Cohen

List of Publications by Year in descending order

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79
papers

7,365
citations

101496

36
h-index

79644

73
g-index

96
all docs

96
docs citations

96
times ranked

7510
citing authors

#	ARTICLE	IF	CITATIONS
1	Optical Chirality and Its Interaction with Matter. <i>Physical Review Letters</i> , 2010, 104, 163901.	2.9	832
2	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. <i>Nature Methods</i> , 2014, 11, 825-833.	9.0	666
3	Enhanced Enantioselectivity in Excitation of Chiral Molecules by Superchiral Light. <i>Science</i> , 2011, 332, 333-336.	6.0	560
4	Optical recording of action potentials in mammalian neurons using a microbial rhodopsin. <i>Nature Methods</i> , 2012, 9, 90-95.	9.0	403
5	Electrical Spiking in <i>Escherichia coli</i> Probed with a Fluorescent Voltage-Indicating Protein. <i>Science</i> , 2011, 333, 345-348.	6.0	355
6	All-Optical Interrogation of Neural Circuits. <i>Journal of Neuroscience</i> , 2015, 35, 13917-13926.	1.7	320
7	Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. <i>Nature</i> , 2019, 569, 413-417.	13.7	255
8	Cell Membranes Resist Flow. <i>Cell</i> , 2018, 175, 1769-1779.e13.	13.5	254
9	Suppressing Brownian motion of individual biomolecules in solution. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 4362-4365.	3.3	237
10	Bright and fast multicoloured voltage reporters via electrochromic FRET. <i>Nature Communications</i> , 2014, 5, 4625.	5.8	175
11	Voltage imaging with genetically encoded indicators. <i>Current Opinion in Chemical Biology</i> , 2017, 39, 1-10.	2.8	156
12	Controlling Brownian motion of single protein molecules and single fluorophores in aqueous buffer. <i>Optics Express</i> , 2008, 16, 6941.	1.7	148
13	Control of Nanoparticles with Arbitrary Two-Dimensional Force Fields. <i>Physical Review Letters</i> , 2005, 94, 118102.	2.9	142
14	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. <i>Journal of Neuroscience</i> , 2016, 36, 2458-2472.	1.7	137
15	Electrokinetic trapping at the one nanometer limit. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 8937-8942.	3.3	129
16	Mechanism of voltage-sensitive fluorescence in a microbial rhodopsin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 5939-5944.	3.3	126
17	All-Optical Electrophysiology Reveals the Role of Lateral Inhibition in Sensory Processing in Cortical Layer 1. <i>Cell</i> , 2020, 180, 521-535.e18.	13.5	124
18	Cardiotoxicity screening with simultaneous optogenetic pacing, voltage imaging and calcium imaging. <i>Journal of Pharmacological and Toxicological Methods</i> , 2016, 81, 240-250.	0.3	122

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19	Molecular Mechanism of Disease-Associated Mutations in the Pre-M1 Helix of NMDA Receptors and Potential Rescue Pharmacology. <i>PLoS Genetics</i> , 2017, 13, e1006536.	1.5	117
20	Spectroscopy in sculpted fields. <i>Nano Today</i> , 2009, 4, 269-279.	6.2	112
21	Limits on Fluorescence Detected Circular Dichroism of Single Helicene Molecules. <i>Journal of Physical Chemistry A</i> , 2009, 113, 6213-6216.	1.1	90
22	Two-Photon Lifetime Imaging of Voltage Indicating Proteins as a Probe of Absolute Membrane Voltage. <i>Biophysical Journal</i> , 2015, 109, 914-921.	0.2	87
23	Principal-components analysis of shape fluctuations of single DNA molecules. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 12622-12627.	3.3	85
24	Convex Lens-Induced Confinement for Imaging Single Molecules. <i>Analytical Chemistry</i> , 2010, 82, 6224-6229.	3.2	83
25	Screening Fluorescent Voltage Indicators with Spontaneously Spiking HEK Cells. <i>PLoS ONE</i> , 2013, 8, e85221.	1.1	77
26	Simultaneous mapping of membrane voltage and calcium in zebrafish heart in vivo reveals chamber-specific developmental transitions in ionic currents. <i>Frontiers in Physiology</i> , 2014, 5, 344.	1.3	77
27	Genetically Targeted All-Optical Electrophysiology with a Transgenic Cre-Dependent Optopatch Mouse. <i>Journal of Neuroscience</i> , 2016, 36, 11059-11073.	1.7	76
28	Bringing Bioelectricity to Light. <i>Annual Review of Biophysics</i> , 2014, 43, 211-232.	4.5	74
29	Ultrawidefield microscope for high-speed fluorescence imaging and targeted optogenetic stimulation. <i>Biomedical Optics Express</i> , 2017, 8, 5794.	1.5	71
30	Local Geometry of Electromagnetic Fields and Its Role in Molecular Multipole Transitions. <i>Journal of Physical Chemistry B</i> , 2011, 115, 5304-5311.	1.2	61
31	Optical electrophysiology for probing function and pharmacology of voltage-gated ion channels. <i>ELife</i> , 2016, 5, .	2.8	60
32	Nanomagnetic Control of Intersystem Crossing. <i>Journal of Physical Chemistry A</i> , 2009, 113, 11084-11092.	1.1	54
33	A Low Affinity GCaMP3 Variant (GCaMPer) for Imaging the Endoplasmic Reticulum Calcium Store. <i>PLoS ONE</i> , 2015, 10, e0139273.	1.1	51
34	Do Cell Membranes Flow Like Honey or Jiggle Like Jello?. <i>BioEssays</i> , 2020, 42, e1900142.	1.2	49
35	All-Optical Electrophysiology for High-Throughput Functional Characterization of a Human iPSC-Derived Motor Neuron Model of ALS. <i>Stem Cell Reports</i> , 2018, 10, 1991-2004.	2.3	48
36	Temporal Dynamics of Microbial Rhodopsin Fluorescence Reports Absolute Membrane Voltage. <i>Biophysical Journal</i> , 2014, 106, 639-648.	0.2	47

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37	Resonant Enhancement and Dissipation in Nonequilibrium van der Waals Forces. <i>Physical Review Letters</i> , 2003, 91, 233202.	2.9	44
38	Euler buckling and nonlinear kinking of double-stranded DNA. <i>Nucleic Acids Research</i> , 2013, 41, 9881-9890.	6.5	36
39	All-optical synaptic electrophysiology probes mechanism of ketamine-induced disinhibition. <i>Nature Methods</i> , 2018, 15, 823-831.	9.0	36
40	Flash Memory: Photochemical Imprinting of Neuronal Action Potentials onto a Microbial Rhodopsin. <i>Journal of the American Chemical Society</i> , 2014, 136, 2529-2537.	6.6	35
41	Imaging GFP-Based Reporters in Neurons with Multiwavelength Optogenetic Control. <i>Biophysical Journal</i> , 2014, 107, 1554-1563.	0.2	35
42	Bioelectrical domain walls in homogeneous tissues. <i>Nature Physics</i> , 2020, 16, 357-364.	6.5	35
43	Photoactivated voltage imaging in tissue with an archaerhodopsin-derived reporter. <i>Science Advances</i> , 2021, 7, .	4.7	34
44	Internal Mechanical Response of a Polymer in Solution. <i>Physical Review Letters</i> , 2007, 98, 116001.	2.9	33
45	Prednisolone rescues Duchenne muscular dystrophy phenotypes in human pluripotent stem cell-derived skeletal muscle in vitro. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	32
46	Optogenetic Approaches to Drug Discovery in Neuroscience and Beyond. <i>Trends in Biotechnology</i> , 2017, 35, 625-639.	4.9	31
47	Geometry-Dependent Arrhythmias in Electrically Excitable Tissues. <i>Cell Systems</i> , 2018, 7, 359-370.e6.	2.9	30
48	Voltage imaging identifies spinal circuits that modulate locomotor adaptation in zebrafish. <i>Neuron</i> , 2022, 110, 1211-1222.e4.	3.8	30
49	Neuronal activity drives pathway-specific depolarization of peripheral astrocyte processes. <i>Nature Neuroscience</i> , 2022, 25, 607-616.	7.1	30
50	Photostick: a method for selective isolation of target cells from culture. <i>Chemical Science</i> , 2015, 6, 1701-1705.	3.7	29
51	Multiplexed Optical Sensors in Arrayed Islands of Cells for multimodal recordings of cellular physiology. <i>Nature Communications</i> , 2020, 11, 3881.	5.8	29
52	Roadmap on neurophotonics. <i>Journal of Optics (United Kingdom)</i> , 2016, 18, 093007.	1.0	28
53	Optically Controlled Oscillators in an Engineered Bioelectric Tissue. <i>Physical Review X</i> , 2016, 6, .	2.8	28
54	Ultrasensitive Measurements of Microbial Rhodopsin Photocycles Using Photochromic FRET. <i>Photochemistry and Photobiology</i> , 2012, 88, 90-97.	1.3	26

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55	Chiroptical hot spots in twisted nanowire plasmonic oscillators. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	25
56	Wide-Area All-Optical Neurophysiology in Acute Brain Slices. <i>Journal of Neuroscience</i> , 2019, 39, 4889-4908.	1.7	25
57	High-fidelity estimates of spikes and subthreshold waveforms from 1-photon voltage imaging inÂvivo. <i>Cell Reports</i> , 2021, 35, 108954.	2.9	24
58	Force-Extension Curve of a Polymer in a High-Frequency Electric Field. <i>Physical Review Letters</i> , 2003, 91, 235506.	2.9	23
59	Geometry-dependent functional changes in iPSC-derived cardiomyocytes probed by functional imaging and RNA sequencing. <i>PLoS ONE</i> , 2017, 12, e0172671.	1.1	23
60	Anti-Brownian Traps for Studies on Single Molecules. <i>Methods in Enzymology</i> , 2010, 475, 149-174.	0.4	22
61	Hardware-based anti-Brownian electrokinetic trap (ABEL trap) for single molecules: control loop simulations and application to ATP binding stoichiometry in multi-subunit enzymes. <i>Proceedings of SPIE</i> , 2008, 7038, 1-12.	0.8	18
62	Dendritic branch structure compartmentalizes voltage-dependent calcium influx in cortical layer 2/3 pyramidal cells. <i>ELife</i> , 2022, 11, .	2.8	16
63	Optogenetics: Turning the Microscope on Its Head. <i>Biophysical Journal</i> , 2016, 110, 997-1003.	0.2	15
64	The Cat That Caught the Canary: What To Do with Single-Molecule Trapping. <i>ACS Nano</i> , 2011, 5, 5296-5299.	7.3	14
65	Painting with Rainbows: Patterning Light in Space, Time, and Wavelength for Multiphoton Optogenetic Sensing and Control. <i>Accounts of Chemical Research</i> , 2016, 49, 2518-2526.	7.6	12
66	Nano-mechanical measurements of protein-DNA interactions with a silicon nitride pulley. <i>Nucleic Acids Research</i> , 2016, 44, e7-e7.	6.5	11
67	Compressed Hadamard microscopy for high-speed optically sectioned neuronal activity recordings. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 144001.	1.3	11
68	Two-photon imaging of a magneto-fluorescent indicator for 3D optical magnetometry. <i>Optics Express</i> , 2015, 23, 28022.	1.7	6
69	Motion induced by asymmetric enzymatic degradation of hydrogels. <i>Soft Matter</i> , 2012, 8, 4616.	1.2	3
70	Measuring Membrane Voltage with Microbial Rhodopsins. <i>Methods in Molecular Biology</i> , 2014, 1071, 97-108.	0.4	3
71	Anti-Brownian Traps. , 2018, , 1-8.		3
72	Sculpting light to reveal brain function. <i>Nature Neuroscience</i> , 2018, 21, 776-778.	7.1	3

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73	Microsecond Timescale Selective Access Two-photon Targeting for Functional Measurements in Tissue. , 2020, , .		3
74	Linearly polarized excitation enhances signals from fluorescent voltage indicators. Biophysical Journal, 2021, 120, 5333-5342.	0.2	3
75	Which Way Does Stimulated Emission Go?. Journal of Physical Chemistry A, 2021, , .	1.1	1
76	Optical Chirality and Superchiral Fields. , 2010, , .		0
77	Adam Cohen: Visualizing cellular voltage. Journal of Cell Biology, 2014, 205, 610-611.	2.3	0
78	Determining Single-Molecule ATP Binding Stoichiometry in a Multi-Subunit Enzyme with a Hardware-Based Anti-Brownian Electrokinetic Trap. , 2009, , .		0
79	Optical electrophysiology in neuroscience, disease modeling, and drug discovery. Proceedings for Annual Meeting of the Japanese Pharmacological Society, 2018, WCP2018, SY2-2.	0.0	0