Adam E Cohen

List of Publications by Year in Descending Order

85 papers	5,227 citations	34 h-index	72 g-index
96 ext. papers	6,557 ext. citations	11.3 avg, IF	6.14 L-index

#	Paper	IF	Citations
85	Voltage imaging identifies spinal circuits that modulate locomotor adaptation in zebrafish.. *Neuron*, **2022**,	13.9	3
84	Dendritic branch structure compartmentalizes voltage-dependent calcium influx in cortical layer 2/3 pyramidal cells.. *ELife*, **2022**, 11,	8.9	1
83	Neuronal activity drives pathway-specific depolarization of peripheral astrocyte processes.. *Nature Neuroscience*, **2022**, 25, 607-616	25.5	1
82	Linearly polarized excitation enhances signals from fluorescent voltage indicators. *Biophysical Journal*, **2021**, 120, 5333-5342	2.9	1
81	High-fidelity estimates of spikes and subthreshold waveforms from 1-photon voltage imaging in vivo. *Cell Reports*, **2021**, 35, 108954	10.6	10
80	Photoactivated voltage imaging in tissue with an archaerhodopsin-derived reporter. *Science Advances*, **2021**, 7,	14.3	13
79	Prednisolone rescues Duchenne muscular dystrophy phenotypes in human pluripotent stem cell-derived skeletal muscle in vitro. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	8
78	All-Optical Electrophysiology Reveals the Role of Lateral Inhibition in Sensory Processing in Cortical Layer 1. *Cell*, **2020**, 180, 521-535.e18	56.2	54
77	Bioelectrical domain walls in homogeneous tissues. *Nature Physics*, **2020**, 16, 357-364	16.2	22
76	Microsecond Timescale Selective Access Two-photon Targeting for Functional Measurements in Tissue **2020**,		1
75	Do Cell Membranes Flow Like Honey or Jiggle Like Jello?. *BioEssays*, **2020**, 42, e1900142	4.1	18
74	Multiplexed Optical Sensors in Arrayed Islands of Cells for multimodal recordings of cellular physiology. *Nature Communications*, **2020**, 11, 3881	17.4	12
73	Voltage imaging and optogenetics reveal behaviour-dependent changes in hippocampal dynamics. *Nature*, **2019**, 569, 413-417	50.4	130
72	Compressed Hadamard microscopy for high-speed optically sectioned neuronal activity recordings. *Journal Physics D: Applied Physics*, **2019**, 52, 144001	3	6
71	Wide-Area All-Optical Neurophysiology in Acute Brain Slices. *Journal of Neuroscience*, **2019**, 39, 4889-4908	6	11
70	Optical electrophysiology in neuroscience, disease modeling, and drug discovery. *Proceedings for Annual Meeting of the Japanese Pharmacological Society*, **2018**, WCP2018, SY2-2	0	
69	Geometry-Dependent Arrhythmias in Electrically Excitable Tissues. *Cell Systems*, **2018**, 7, 359-370.e6	10.6	20

68	All-optical synaptic electrophysiology probes mechanism of ketamine-induced disinhibition. *Nature Methods*, **2018**, 15, 823-831	21.6	22
67	Cell Membranes Resist Flow. *Cell*, **2018**, 175, 1769-1779.e13	56.2	140
66	All-Optical Electrophysiology for High-Throughput Functional Characterization of a Human iPSC-Derived Motor Neuron Model of ALS. *Stem Cell Reports*, **2018**, 10, 1991-2004	8	34
65	Sculpting light to reveal brain function. *Nature Neuroscience*, **2018**, 21, 776-778	25.5	3
64	Voltage imaging with genetically encoded indicators. *Current Opinion in Chemical Biology*, **2017**, 39, 1-10	9.7	111
63	Optogenetic Approaches to Drug Discovery in Neuroscience and Beyond. *Trends in Biotechnology*, **2017**, 35, 625-639	15.1	22
62	Geometry-dependent functional changes in iPSC-derived cardiomyocytes probed by functional imaging and RNA sequencing. *PLoS ONE*, **2017**, 12, e0172671	3.7	14
61	Molecular Mechanism of Disease-Associated Mutations in the Pre-M1 Helix of NMDA Receptors and Potential Rescue Pharmacology. *PLoS Genetics*, **2017**, 13, e1006536	6	80
60	Ultrawidefield microscope for high-speed fluorescence imaging and targeted optogenetic stimulation. *Biomedical Optics Express*, **2017**, 8, 5794-5813	3.5	32
59	Optically Controlled Oscillators in an Engineered Bioelectric Tissue. *Physical Review X*, **2016**, 6,	9.1	19
58	Painting with Rainbows: Patterning Light in Space, Time, and Wavelength for Multiphoton Optogenetic Sensing and Control. *Accounts of Chemical Research*, **2016**, 49, 2518-2526	24.3	9
57	Genetically Targeted All-Optical Electrophysiology with a Transgenic Cre-Dependent Optopatch Mouse. *Journal of Neuroscience*, **2016**, 36, 11059-11073	6.6	61
56	A Bright and Fast Red Fluorescent Protein Voltage Indicator That Reports Neuronal Activity in Organotypic Brain Slices. *Journal of Neuroscience*, **2016**, 36, 2458-72	6.6	115
55	Optogenetics: Turning the Microscope on Its Head. *Biophysical Journal*, **2016**, 110, 997-1003	2.9	13
54	Nano-mechanical measurements of protein-DNA interactions with a silicon nitride pulley. *Nucleic Acids Research*, **2016**, 44, e7	20.1	9
53	Optical electrophysiology for probing function and pharmacology of voltage-gated ion channels. *ELife*, **2016**, 5,	8.9	43
52	Roadmap on neurophotonics. *Journal of Optics (United Kingdom)*, **2016**, 18,	1.7	16
51	Cardiotoxicity screening with simultaneous optogenetic pacing, voltage imaging and calcium imaging. *Journal of Pharmacological and Toxicological Methods*, **2016**, 81, 240-50	1.7	87

50	All-Optical Interrogation of Neural Circuits. *Journal of Neuroscience*, **2015**, 35, 13917-26	6.6	217
49	Two-Photon Lifetime Imaging of Voltage Indicating Proteins as a Probe of Absolute Membrane Voltage. *Biophysical Journal*, **2015**, 109, 914-21	2.9	57
48	Two-photon imaging of a magneto-fluorescent indicator for 3D optical magnetometry. *Optics Express*, **2015**, 23, 28022-30	3.3	6
47	A Low Affinity GCaMP3 Variant (GCaMPer) for Imaging the Endoplasmic Reticulum Calcium Store. *PLoS ONE*, **2015**, 10, e0139273	3.7	40
46	Photostick: a method for selective isolation of target cells from culture. *Chemical Science*, **2015**, 6, 1701-1705	9.4	17
45	Bringing bioelectricity to light. *Annual Review of Biophysics*, **2014**, 43, 211-32	21.1	34
44	Flash memory: photochemical imprinting of neuronal action potentials onto a microbial rhodopsin. *Journal of the American Chemical Society*, **2014**, 136, 2529-37	16.4	29
43	Bright and fast multicoloured voltage reporters via electrochromic FRET. *Nature Communications*, **2014**, 5, 4625	17.4	142
42	Imaging GFP-based reporters in neurons with multiwavelength optogenetic control. *Biophysical Journal*, **2014**, 107, 1554-63	2.9	27
41	All-optical electrophysiology in mammalian neurons using engineered microbial rhodopsins. *Nature Methods*, **2014**, 11, 825-33	21.6	487
40	Temporal dynamics of microbial rhodopsin fluorescence reports absolute membrane voltage. *Biophysical Journal*, **2014**, 106, 639-48	2.9	39
39	Simultaneous mapping of membrane voltage and calcium in zebrafish heart in vivo reveals chamber-specific developmental transitions in ionic currents. *Frontiers in Physiology*, **2014**, 5, 344	4.6	61
38	Measuring membrane voltage with microbial rhodopsins. *Methods in Molecular Biology*, **2014**, 1071, 97-108	1.4	3
37	Adam Cohen: visualizing cellular voltage. *Journal of Cell Biology*, **2014**, 205, 610-1	7.3	
36	Euler buckling and nonlinear kinking of double-stranded DNA. *Nucleic Acids Research*, **2013**, 41, 9881-90	20.1	27
35	Chiroptical hot spots in twisted nanowire plasmonic oscillators. *Applied Physics Letters*, **2013**, 102, 043103	3.4	24
34	Mechanism of voltage-sensitive fluorescence in a microbial rhodopsin. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 5939-44	11.5	97
33	Screening fluorescent voltage indicators with spontaneously spiking HEK cells. *PLoS ONE*, **2013**, 8, e85221	3.7	48

32	Ultrasensitive measurements of microbial rhodopsin photocycles using photochromic FRET. *Photochemistry and Photobiology*, **2012**, 88, 90-7	3.6	23
31	Motion induced by asymmetric enzymatic degradation of hydrogels. *Soft Matter*, **2012**, 8, 4616	3.6	3
30	Optical recording of action potentials in mammalian neurons using a microbial rhodopsin. *Nature Methods*, **2011**, 9, 90-5	21.6	339
29	Enhanced enantioselectivity in excitation of chiral molecules by superchiral light. *Science*, **2011**, 332, 333-6	33.3	433
28	Local geometry of electromagnetic fields and its role in molecular multipole transitions. *Journal of Physical Chemistry B*, **2011**, 115, 5304-11	3.4	47
27	Electrical spiking in Escherichia coli probed with a fluorescent voltage-indicating protein. *Science*, **2011**, 333, 345-8	33.3	250
26	The cat that caught the canary: what to do with single-molecule trapping. *ACS Nano*, **2011**, 5, 5296-9	16.7	13
25	Electrokinetic trapping at the one nanometer limit. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 8937-42	11.5	97
24	Optical chirality and its interaction with matter. *Physical Review Letters*, **2010**, 104, 163901	7.4	597
23	Convex lens-induced confinement for imaging single molecules. *Analytical Chemistry*, **2010**, 82, 6224-9	7.8	67
22	Anti-Brownian traps for studies on single molecules. *Methods in Enzymology*, **2010**, 475, 149-74	1.7	16
21	Spectroscopy in sculpted fields. *Nano Today*, **2009**, 4, 269-279	17.9	101
20	Nanomagnetic control of intersystem crossing. *Journal of Physical Chemistry A*, **2009**, 113, 11084-92	2.8	47
19	Limits on fluorescence detected circular dichroism of single helicene molecules. *Journal of Physical Chemistry A*, **2009**, 113, 6213-6	2.8	81
18	Controlling Brownian motion of single protein molecules and single fluorophores in aqueous buffer. *Optics Express*, **2008**, 16, 6941-56	3.3	103
17	Hardware-based anti-Brownian electrokinetic trap (ABEL trap) for single molecules: Control loop simulations and application to ATP binding stoichiometry in multi-subunit enzymes. *Proceedings of SPIE*, **2008**, 7038, 1-12	1.7	13
16	Internal mechanical response of a polymer in solution. *Physical Review Letters*, **2007**, 98, 116001	7.4	29
15	Principal-components analysis of shape fluctuations of single DNA molecules. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 12622-7	11.5	66

14	Suppressing Brownian motion of individual biomolecules in solution. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 4362-5	11.5	192
13	Control of nanoparticles with arbitrary two-dimensional force fields. *Physical Review Letters*, **2005**, 94, 118102	7.4	116
12	Resonant enhancement and dissipation in nonequilibrium van der Waals forces. *Physical Review Letters*, **2003**, 91, 233202	7.4	42
11	Force-extension curve of a polymer in a high-frequency electric field. *Physical Review Letters*, **2003**, 91, 235506	7.4	22
10	High fidelity estimates of spikes and subthreshold waveforms from 1-photon voltage imaging in vivo		1
9	All-optical electrophysiology with improved genetically encoded voltage indicators reveals interneuron network dynamics in vivo		2
8	Time-tagged ticker tapes for intracellular recordings		1
7	All-optical electrophysiology reveals excitation, inhibition, and neuromodulation in cortical layer 1		1
6	Two-photon photoactivated voltage imaging in tissue with an Archaerhodopsin-derived reporter		4
5	All-optical electrophysiology reveals brain-state dependent changes in hippocampal subthreshold dynamics and excitability		14
4	Cell membranes resist flow		3
3	Bioelectrical signaling via domain wall migration		4
2	Neuronal activity drives pathway-specific depolarization of astrocyte distal processes		1
1	Voltage imaging identifies spinal circuits that modulate locomotor adaptation in zebrafish		1