

# Loren L Looger

## List of Publications by Year in descending order

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Version: 2024-02-01

84  
papers

22,574  
citations

44069

48  
h-index

58581

82  
g-index

104  
all docs

104  
docs citations

104  
times ranked

22694  
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrasensitive fluorescent proteins for imaging neuronal activity. <i>Nature</i> , 2013, 499, 295-300.	27.8	5,490
2	Imaging neural activity in worms, flies and mice with improved GCaMP calcium indicators. <i>Nature Methods</i> , 2009, 6, 875-881.	19.0	1,759
3	Shared and distinct transcriptomic cell types across neocortical areas. <i>Nature</i> , 2018, 563, 72-78.	27.8	1,323
4	Optimization of a GCaMP Calcium Indicator for Neural Activity Imaging. <i>Journal of Neuroscience</i> , 2012, 32, 13819-13840.	3.6	1,099
5	A Designer AAV Variant Permits Efficient Retrograde Access to Projection Neurons. <i>Neuron</i> , 2016, 92, 372-382.	8.1	1,007
6	High-performance calcium sensors for imaging activity in neuronal populations and microcompartments. <i>Nature Methods</i> , 2019, 16, 649-657.	19.0	843
7	An optimized fluorescent probe for visualizing glutamate neurotransmission. <i>Nature Methods</i> , 2013, 10, 162-170.	19.0	827
8	Sensitive red protein calcium indicators for imaging neural activity. <i>ELife</i> , 2016, 5, .	6.0	813
9	Functional imaging of hippocampal place cells at cellular resolution during virtual navigation. <i>Nature Neuroscience</i> , 2010, 13, 1433-1440.	14.8	742
10	Genetically encoded calcium indicators for multi-color neural activity imaging and combination with optogenetics. <i>Frontiers in Molecular Neuroscience</i> , 2013, 6, 2.	2.9	629
11	Thy1-GCaMP6 Transgenic Mice for Neuronal Population Imaging In Vivo. <i>PLoS ONE</i> , 2014, 9, e108697.	2.5	506
12	Labeling of active neural circuits in vivo with designed calcium integrators. <i>Science</i> , 2015, 347, 755-760.	12.6	377
13	A Cre-Dependent GCaMP3 Reporter Mouse for Neuronal Imaging <i>In Vivo</i> . <i>Journal of Neuroscience</i> , 2012, 32, 3131-3141.	3.6	341
14	Distinct descending motor cortex pathways and their roles in movement. <i>Nature</i> , 2018, 563, 79-84.	27.8	320
15	Real-time quantification of single RNA translation dynamics in living cells. <i>Science</i> , 2016, 352, 1425-1429.	12.6	317
16	Activity in motorâ€™sensory projections reveals distributed coding in somatosensation. <i>Nature</i> , 2012, 489, 299-303.	27.8	314
17	Stability, affinity, and chromatic variants of the glutamate sensor iGluSnFR. <i>Nature Methods</i> , 2018, 15, 936-939.	19.0	310
18	Light-sheet functional imaging in fictively behaving zebrafish. <i>Nature Methods</i> , 2014, 11, 883-884.	19.0	294

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19	Mapping brain activity at scale with cluster computing. <i>Nature Methods</i> , 2014, 11, 941-950.	19.0	257
20	A genetically encoded fluorescent sensor for in vivo imaging of GABA. <i>Nature Methods</i> , 2019, 16, 763-770.	19.0	242
21	Construction and optimization of a family of genetically encoded metabolite sensors by semirational protein engineering. <i>Protein Science</i> , 2005, 14, 2304-2314.	7.6	229
22	Crystal Structures of the GCaMP Calcium Sensor Reveal the Mechanism of Fluorescence Signal Change and Aid Rational Design. <i>Journal of Biological Chemistry</i> , 2009, 284, 6455-6464.	3.4	226
23	Glia Accumulate Evidence that Actions Are Futile and Suppress Unsuccessful Behavior. <i>Cell</i> , 2019, 178, 27-43.e19.	28.9	226
24	High-performance probes for light and electron microscopy. <i>Nature Methods</i> , 2015, 12, 568-576.	19.0	225
25	High-density genotyping of immune-related loci identifies new SLE risk variants in individuals with Asian ancestry. <i>Nature Genetics</i> , 2016, 48, 323-330.	21.4	219
26	Conditions and Constraints for Astrocyte Calcium Signaling in the Hippocampal Mossy Fiber Pathway. <i>Neuron</i> , 2014, 82, 413-429.	8.1	206
27	Dysfunctional Calcium and Glutamate Signaling in Striatal Astrocytes from Huntington's Disease Model Mice. <i>Journal of Neuroscience</i> , 2016, 36, 3453-3470.	3.6	185
28	A genetically encoded single-wavelength sensor for imaging cytosolic and cell surface ATP. <i>Nature Communications</i> , 2019, 10, 711.	12.8	185
29	Fixation-resistant photoactivatable fluorescent proteins for CLEM. <i>Nature Methods</i> , 2015, 12, 215-218.	19.0	173
30	Genetically encoded neural activity indicators. <i>Current Opinion in Neurobiology</i> , 2012, 22, 18-23.	4.2	164
31	Dynamics of Ionic Shifts in Cortical Spreading Depression. <i>Cerebral Cortex</i> , 2015, 25, 4469-4476.	2.9	142
32	Extant fold-switching proteins are widespread. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5968-5973.	7.1	129
33	Kilohertz frame-rate two-photon tomography. <i>Nature Methods</i> , 2019, 16, 778-786.	19.0	122
34	Neural signatures of dynamic stimulus selection in <i>Drosophila</i> . <i>Nature Neuroscience</i> , 2017, 20, 1104-1113.	14.8	113
35	Directed Evolution of a Selective and Sensitive Serotonin Sensor via Machine Learning. <i>Cell</i> , 2020, 183, 1986-2002.e26.	28.9	104
36	Excitation Spectra and Brightness Optimization of Two-Photon Excited Probes. <i>Biophysical Journal</i> , 2012, 102, 934-944.	0.5	100

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37	A genetically encoded, high signal-to-noise maltose sensor. <i>Proteins: Structure, Function and Bioinformatics</i> , 2011, 79, 3025-3036.	2.6	96
38	Functional Imaging and Optogenetics in <i>Drosophila</i> . <i>Genetics</i> , 2018, 208, 1291-1309.	2.9	94
39	A timecourse analysis of systemic and gonadal effects of temperature on sexual development of the red-eared slider turtle <i>Trachemys scripta elegans</i> . <i>Developmental Biology</i> , 2016, 420, 166-177.	2.0	91
40	Imaging Light Responses of Targeted Neuron Populations in the Rodent Retina. <i>Journal of Neuroscience</i> , 2011, 31, 2855-2867.	3.6	80
41	Temperature-dependent sex determination is mediated by pSTAT3 repression of <i>Kdm6b</i> . <i>Science</i> , 2020, 368, 303-306.	12.6	78
42	Integrated action of pheromone signals in promoting courtship behavior in male mice. <i>ELife</i> , 2014, 3, e03025.	6.0	77
43	Excitatory Synaptic Inputs to Mouse On-Off Direction-Selective Retinal Ganglion Cells Lack Direction Tuning. <i>Journal of Neuroscience</i> , 2014, 34, 3976-3981.	3.6	75
44	Single-Cell Reconstruction of Emerging Population Activity in an Entire Developing Circuit. <i>Cell</i> , 2019, 179, 355-372.e23.	28.9	72
45	Quantitative <i>in vivo</i> imaging of neuronal glucose concentrations with a genetically encoded fluorescence lifetime sensor. <i>Journal of Neuroscience Research</i> , 2019, 97, 946-960.	2.9	67
46	Diverse protocols for correlative super-resolution fluorescence imaging and electron microscopy of chemically fixed samples. <i>Nature Protocols</i> , 2017, 12, 916-946.	12.0	66
47	Multiplex imaging relates quantal glutamate release to presynaptic Ca <sup>2+</sup> homeostasis at multiple synapses <i>in situ</i> . <i>Nature Communications</i> , 2019, 10, 1414.	12.8	66
48	A Neuron-Based Screening Platform for Optimizing Genetically-Encoded Calcium Indicators. <i>PLoS ONE</i> , 2013, 8, e77728.	2.5	66
49	Structure of the <i>Escherichia coli</i> Phosphonate Binding Protein PhnD and Rationally Optimized Phosphonate Biosensors. <i>Journal of Molecular Biology</i> , 2011, 414, 356-369.	4.2	60
50	Stimulation-Evoked Ca <sup>2+</sup> Signals in Astrocytic Processes at Hippocampal CA3-CA1 Synapses of Adult Mice Are Modulated by Glutamate and ATP. <i>Journal of Neuroscience</i> , 2015, 35, 3016-3021.	3.6	56
51	Molecularly Defined Subplate Neurons Project Both to Thalamocortical Recipient Layers and Thalamus. <i>Cerebral Cortex</i> , 2017, 27, 4759-4768.	2.9	55
52	A Low Affinity GCaMP3 Variant (GCaMPer) for Imaging the Endoplasmic Reticulum Calcium Store. <i>PLoS ONE</i> , 2015, 10, e0139273.	2.5	51
53	Determining the pharmacokinetics of nicotinic drugs in the endoplasmic reticulum using biosensors. <i>Journal of General Physiology</i> , 2019, 151, 738-757.	1.9	50
54	Confirmation of five novel susceptibility loci for Systemic Lupus Erythematosus (SLE) and integrated network analysis of 82 SLE susceptibility loci. <i>Human Molecular Genetics</i> , 2017, 26, ddx026.	2.9	47

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55	Receptive field properties of bipolar cell axon terminals in direction-selective sublaminae of the mouse retina. <i>Journal of Neurophysiology</i> , 2014, 112, 1950-1962.	1.8	46
56	Direct In Vivo Manipulation and Imaging of Calcium Transients in Neutrophils Identify a Critical Role for Leading-Edge Calcium Flux. <i>Cell Reports</i> , 2015, 13, 2107-2117.	6.4	45
57	jRCaMP: an optimized calcium indicator for two-photon imaging at fiber laser wavelengths. <i>Nature Methods</i> , 2020, 17, 694-697.	19.0	45
58	All-optical functional synaptic connectivity mapping in acute brain slices using the calcium integrator CaMPARI. <i>Journal of Physiology</i> , 2017, 595, 1465-1477.	2.9	42
59	Aberrant Calcium Signaling in Astrocytes Inhibits Neuronal Excitability in a Human Down Syndrome Stem Cell Model. <i>Cell Reports</i> , 2018, 24, 355-365.	6.4	39
60	Optimized Vivid-derived Magnets photodimerizers for subcellular optogenetics in mammalian cells. <i>ELife</i> , 2020, 9, .	6.0	37
61	Amino acid signatures of HLA Class-I and II molecules are strongly associated with SLE susceptibility and autoantibody production in Eastern Asians. <i>PLoS Genetics</i> , 2019, 15, e1008092.	3.5	36
62	The neuropeptide Drosulfakinin regulates social isolation-induced aggression in <i>Drosophila</i> . <i>Journal of Experimental Biology</i> , 2020, 223, .	1.7	33
63	Inaccurate secondary structure predictions often indicate protein fold switching. <i>Protein Science</i> , 2019, 28, 1487-1493.	7.6	31
64	GFP-Aequorin Protein Sensor for Ex Vivo and In Vivo Imaging of Ca <sup>2+</sup> Dynamics in High-Ca <sup>2+</sup> Organelles. <i>Cell Chemical Biology</i> , 2016, 23, 738-745.	5.2	30
65	Combined protein- and nucleic acid-level effects of rs1143679 (R77H), a lupus-predisposing variant within ITGAM. <i>Human Molecular Genetics</i> , 2014, 23, 4161-4176.	2.9	25
66	In Vivo glucose imaging in multiple model organisms with an engineered single-wavelength sensor. <i>Cell Reports</i> , 2021, 35, 109284.	6.4	24
67	The functional organization of excitatory synaptic input to place cells. <i>Nature Communications</i> , 2021, 12, 3558.	12.8	22
68	Nanoscope Visualization of Restricted Nonvolume Cholinergic and Monoaminergic Transmission with Genetically Encoded Sensors. <i>Nano Letters</i> , 2020, 20, 4073-4083.	9.1	18
69	A high-throughput predictive method for sequence-similar fold switchers. <i>Biopolymers</i> , 2021, 112, e23416.	2.4	17
70	Green-to-Red Photoconversion of GCaMP. <i>PLoS ONE</i> , 2015, 10, e0138127.	2.5	17
71	Biosensors Show the Pharmacokinetics of S-Ketamine in the Endoplasmic Reticulum. <i>Frontiers in Cellular Neuroscience</i> , 2019, 13, 499.	3.7	14
72	Fluorescence activation mechanism and imaging of drug permeation with new sensors for smoking-cessation ligands. <i>ELife</i> , 2022, 11, .	6.0	14

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73	Mechanistic Characterization of RASGRP1 Variants Identifies an hnRNP-K-Regulated Transcriptional Enhancer Contributing to SLE Susceptibility. <i>Frontiers in Immunology</i> , 2019, 10, 1066.	4.8	13
74	The Oscillating Stimulus Transporter Assay, OSTA: Quantitative Functional Imaging of Transporter Protein Activity in Time and Frequency Domains. <i>Molecular Cell</i> , 2016, 64, 199-212.	9.7	12
75	Lupus Susceptibility Region Containing <i>CDKN1B</i> rs34330 Mechanistically Influences Expression and Function of Multiple Target Genes, Also Linked to Proliferation and Apoptosis. <i>Arthritis and Rheumatology</i> , 2021, 73, 2303-2313.	5.6	11
76	A sequence-based method for predicting extant fold switchers that undergo "helix" strand transitions. <i>Biopolymers</i> , 2021, 112, e23471.	2.4	11
77	Three Mutations Convert the Selectivity of a Protein Sensor from Nicotinic Agonists to S-Methadone for Use in Cells, Organelles, and Biofluids. <i>Journal of the American Chemical Society</i> , 2022, 144, 8480-8486.	13.7	6
78	Voices in methods development. <i>Nature Methods</i> , 2019, 16, 945-951.	19.0	5
79	Evaluation of multi-color genetically encoded Ca <sup>2+</sup> indicators in filamentous fungi. <i>Fungal Genetics and Biology</i> , 2021, 149, 103540.	2.1	2
80	<i>In Vivo</i> Glucose Imaging in Multiple Model Organisms with an Engineered Single-Wavelength Sensor. <i>SSRN Electronic Journal</i> , 0, , .	0.4	2
81	Optogenetics. , 2021, , 283-302.		1
82	Development and Applications of Fluorescent Proteins for Correlative Light and Electron Microscopy. <i>Microscopy and Microanalysis</i> , 2018, 24, 2318-2319.	0.4	0
83	Crystal structures of the GCaMP calcium sensor protein reveal the mechanism of fluorescence signal change and aid rational design. <i>FASEB Journal</i> , 2009, 23, 517.1.	0.5	0
84	Falling apart. <i>ELife</i> , 2016, 5, .	6.0	0