R Angus Silver

List of Publications by Year
in descending order

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		87888	123424
68	7,305	38	61
papers	citations	h-index	g-index

75	75	75	6273
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Neurophotonic Tools for Microscopic Measurements and Manipulation: Status Report. Neurophotonics, 2022, 9, 013001.	3.3	17
2	Open Source Brain. , 2022, , 2537-2539.		0
3	NeuroML. , 2022, , 2297-2300.		0
4	Multidimensional population activity in an electrically coupled inhibitory circuit in the cerebellar cortex. Neuron, 2021, 109, 1739-1753.e8.	8.1	14
5	Cerebellar granule cell axons support high-dimensional representations. Nature Neuroscience, 2021, 24, 1142-1150.	14.8	47
6	Precompensation of 3D field distortions in remote focus two-photon microscopy. Biomedical Optics Express, 2021, 12, 3717.	2.9	0
7	Real-time 3D movement correction for two-photon imaging in behaving animals. Nature Methods, 2020, 17, 741-748.	19.0	51
8	Open Source Brain: A Collaborative Resource for Visualizing, Analyzing, Simulating, and Developing Standardized Models of Neurons and Circuits. Neuron, 2019, 103, 395-411.e5.	8.1	56
9	Re-evaluating Circuit Mechanisms Underlying Pattern Separation. Neuron, 2019, 101, 584-602.	8.1	166
10	Geppetto: a reusable modular open platform for exploring neuroscience data and models. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170380.	4.0	23
11	NeuroMatic: An Integrated Open-Source Software Toolkit for Acquisition, Analysis and Simulation of Electrophysiological Data. Frontiers in Neuroinformatics, 2018, 12, 14.	2.5	184
12	Toward standard practices for sharing computer code and programs in neuroscience. Nature Neuroscience, 2017, 20, 770-773.	14.8	87
13	Sparse synaptic connectivity is required for decorrelation and pattern separation in feedforward networks. Nature Communications, 2017, 8, 1116.	12.8	89
14	Assessing the Role of Inhibition in Stabilizing Neocortical Networks Requires Large-Scale Perturbation of the Inhibitory Population. Journal of Neuroscience, 2017, 37, 12050-12067.	3.6	37
15	A Commitment to Open Source in Neuroscience. Neuron, 2017, 96, 964-965.	8.1	77
16	Dynamic wavefront shaping with an acousto-optic lens for laser scanning microscopy. Optics Express, 2016, 24, 6283.	3.4	25
17	Random-access scanning microscopy for 3D imaging in awake behaving animals. Nature Methods, 2016, 13, 1001-1004.	19.0	113
18	Functional Properties of Dendritic Gap Junctions in Cerebellar Golgi Cells. Neuron, 2016, 90, 1043-1056.	8.1	56

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19	Extracting Quantal Properties of Transmission at Central Synapses. Neuromethods, 2016, 113, 193-211.	0.3	10
20	Physical determinants of vesicle mobility and supply at a central synapse. ELife, 2016, 5, .	6.0	47
21	Nanoscale Distribution of Presynaptic Ca2+ Channels and Its Impact on Vesicular Release during Development. Neuron, 2015, 85, 145-158.	8.1	214
22	Development and application of a ray-based model of light propagation through a spherical acousto-optic lens. Optics Express, 2015, 23, 23493.	3.4	7
23	libNeuroML and PyLEMS: using Python to combine procedural and declarative modeling approaches in computational neuroscience. Frontiers in Neuroinformatics, 2014, 8, 38.	2.5	35
24	LEMS: a language for expressing complex biological models in concise and hierarchical form and its use in underpinning NeuroML 2. Frontiers in Neuroinformatics, 2014, 8, 79.	2.5	109
25	Glutamate-Bound NMDARs Arising from In Vivo-like Network Activity Extend Spatio-temporal Integration in a L5 Cortical Pyramidal Cell Model. PLoS Computational Biology, 2014, 10, e1003590.	3.2	32
26	Data-Driven Modeling of Synaptic Transmission and Integration. Progress in Molecular Biology and Translational Science, 2014, 123, 305-350.	1.7	27
27	Monitoring synaptic and neuronal activity in 3D with synthetic and genetic indicators using a compact acousto-optic lens two-photon microscope. Journal of Neuroscience Methods, 2014, 222, 69-81.	2.5	64
28	Reading dendritic activity with gap junctions. Nature Neuroscience, 2014, 17, 1625-1627.	14.8	1
29	Network Structure within the Cerebellar Input Layer Enables Lossless Sparse Encoding. Neuron, 2014, 83, 960-974.	8.1	135
30	Open Source Brain. , 2014, , 1-3.		1
31	Advanced 3D visualisation of detailed neuronal models using the Open Source Brain repository and interaction with other neuroinformatics resources. BMC Neuroscience, 2013, 14, .	1.9	2
32	Open Source Brain. , 2013, , 1-3.		2
33	NMDA Receptors with Incomplete Mg²⁺Block Enable Low-Frequency Transmission through the Cerebellar Cortex. Journal of Neuroscience, 2012, 32, 6878-6893.	3.6	53
34	NeuroML. , 2012, , 489-517.		3
35	Gap Junctions Compensate for Sublinear Dendritic Integration in an Inhibitory Network. Science, 2012, 335, 1624-1628.	12.6	127
36	Estimation of the time course of neurotransmitter release at central synapses from the first latency of postsynaptic currents. Journal of Neuroscience Methods, 2012, 205, 49-64.	2.5	24

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37	The Open Source Brain Initiative: enabling collaborative modelling in computational neuroscience. BMC Neuroscience, 2012, 13, .	1.9	18
38	A declarative model specification system allowing NeuroML to be extended with user-defined component types. BMC Neuroscience, 2012, 13, .	1.9	1
39	Impact of wavefront distortion and scattering on 2-photon microscopy in mammalian brain tissue. Optics Express, 2011, 19, 22755.	3.4	52
40	Determinants of synaptic integration and heterogeneity in rebound firing explored with data-driven models of deep cerebellar nucleus cells. Journal of Computational Neuroscience, 2011, 30, 633-658.	1.0	61
41	Development of NeuroML version 2.0: greater extensibility, support for abstract neuronal models and interaction with Systems Biology languages. BMC Neuroscience, 2011, 12, .	1.9	3
42	Neuronal arithmetic. Nature Reviews Neuroscience, 2010, 11, 474-489.	10.2	449
43	NeuroML: A Language for Describing Data Driven Models of Neurons and Networks with a High Degree of Biological Detail. PLoS Computational Biology, 2010, 6, e1000815.	3.2	294
44	A compact acousto-optic lens for 2D and 3D femtosecond based 2-photon microscopy. Optics Express, 2010, 18, 13720.	3.4	117
45	Rapid Desynchronization of an Electrically Coupled Interneuron Network with Sparse Excitatory Synaptic Input. Neuron, 2010, 67, 435-451.	8.1	214
46	Bassoon Speeds Vesicle Reloading at a Central Excitatory Synapse. Neuron, 2010, 68, 710-723.	8.1	184
47	Synaptic depression enables neuronal gain control. Nature, 2009, 457, 1015-1018.	27.8	210
48	The Contribution of Single Synapses to Sensory Representation in Vivo. Science, 2008, 321, 977-980.	12.6	195
49	Synaptic and Cellular Properties of the Feedforward Inhibitory Circuit within the Input Layer of the Cerebellar Cortex. Journal of Neuroscience, 2008, 28, 8955-8967.	3.6	138
50	Refreshing Connections. Science, 2008, 320, 183-184.	12.6	8
51	Desensitization Properties of AMPA Receptors at the Cerebellar Mossy Fiberâ€“Granule Cell Synapse. Journal of Neuroscience, 2007, 27, 8344-8357.	3.6	92
52	Cerebellar LTD and Pattern Recognition by Purkinje Cells. Neuron, 2007, 54, 121-136.	8.1	161
53	neuroConstruct: A Tool for Modeling Networks of Neurons in 3D Space. Neuron, 2007, 54, 219-235.	8.1	198
54	MorphML: Level 1 of the NeuroML Standards for Neuronal Morphology Data and Model Specification. Neuroinformatics, 2007, 5, 96-104.	2.8	73

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55	Estimation of Quantal Parameters With Multiple-Probability Fluctuation Analysis. Methods in Molecular Biology, 2007, 403, 303-317.	0.9	18
56	Fast vesicle reloading and a large pool sustain high bandwidth transmission at a central synapse. Nature, 2006, 439, 983-987.	27.8	223
57	Errors in the estimation of the variance: Implications for multiple-probability fluctuation analysis. Journal of Neuroscience Methods, 2006, 153, 250-260.	2.5	32
58	Rapid Vesicular Release, Quantal Variability, and Spillover Contribute to the Precision and Reliability of Transmission at a Glomerular Synapse. Journal of Neuroscience, 2005, 25, 8173-8187.	3.6	101
59	Modulation of Glutamate Mobility Reveals the Mechanism Underlying Slow-Rising AMPAR EPSCs and the Diffusion Coefficient in the Synaptic Cleft. Neuron, 2004, 42, 757-771.	8.1	196
60	Estimation of nonuniform quantal parameters with multiple-probability fluctuation analysis: theory, application and limitations. Journal of Neuroscience Methods, 2003, 130, 127-141.	2.5	149
61	Shunting Inhibition Modulates Neuronal Gain during Synaptic Excitation. Neuron, 2003, 38, 433-445.	8.1	522
62	High-Probability Uniquantal Transmission at Excitatory Synapses in Barrel Cortex. Science, 2003, 302, 1981-1984.	12.6	219
63	Spillover of Glutamate onto Synaptic AMPA Receptors Enhances Fast Transmission at a Cerebellar Synapse. Neuron, 2002, 35, 521-533.	8.1	212
64	Synaptic connections between layer 4 spiny neuroneâ€•layer 2/3 pyramidal cell pairs in juvenile rat barrel cortex: physiology and anatomy of interlaminar signalling within a cortical column. Journal of Physiology, 2002, 538, 803-822.	2.9	428
65	Synaptic connections between layer 4 spiny neurone- layer 2/3 pyramidal cell pairs in juvenile rat barrel cortex: physiology and anatomy of interlaminar signalling within a cortical column. , 2002, 538, 803.		2
66	Glutamate spillover suppresses inhibition by activating presynaptic mGluRs. Nature, 2000, 404, 498-502.	27.8	233
67	Rapid-time-course miniature and evoked excitatory currents at cerebellar synapses in situ. Nature, 1992, 355, 163-166.	27.8	365
68	Calcium hotspots caused by L-channel clustering promote morphological changes in neuronal growth cones. Nature, 1990, 343, 751-754.	27.8	168