Gilad Silberberg

List of Publications by Year
in descending order

58 papers	8,659 citations	126708 33 h-index	149479 56 g-index
64 all docs	64 docs citations	64 times ranked	9392 citing authors

#	Article	IF	Citations
1	Data-Driven Model of Postsynaptic Currents Mediated by NMDA or AMPA Receptors in Striatal Neurons. Frontiers in Computational Neuroscience, 2022, 16, .	1.2	2
2	A tonic nicotinic brake controls spike timing in striatal spiny projection neurons. ELife, 2022, 11, .	2.8	6
3	GABAergic interneurons expressing the Î±2 nicotinic receptor subunit are functionally integrated in the striatal microcircuit. Cell Reports, 2022, 39, 110842.	2.9	8
4	Differential Synaptic Input to External Globus Pallidus Neuronal Subpopulations InÂVivo. Neuron, 2021, 109, 516-529.e4.	3.8	53
5	Astrocyte-derived neurons provide excitatory input to the adult striatal circuitry. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	3
6	Synaptic Connectivity between the Cortex and Claustrum Is Organized into Functional Modules. Current Biology, 2020, 30, 2777-2790.e4.	1.8	47
7	Polysynaptic inhibition between striatal cholinergic interneurons shapes their network activity patterns in a dopamine-dependent manner. Nature Communications, 2020, 11, 5113.	5.8	48
8	The Functional Organization of Cortical and Thalamic Inputs onto Five Types of Striatal Neurons Is Determined by Source and Target Cell Identities. Cell Reports, 2020, 30, 1178-1194.e3.	2.9	58
9	The microcircuits of striatum in silico. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 9554-9565.	3.3	69
10	Direct pathway neurons in mouse dorsolateral striatum in vivo receive stronger synaptic input than indirect pathway neurons. Journal of Neurophysiology, 2019, 122, 2294-2303.	0.9	14
11	The Fat Mass and Obesity-Associated Protein (FTO) Regulates Locomotor Responses to Novelty via D2R Medium Spiny Neurons. Cell Reports, 2019, 27, 3182-3198.e9.	2.9	19
12	A hypothalamus-habenula circuit controls aversion. Molecular Psychiatry, 2019, 24, 1351-1368.	4.1	111
13	A New Micro-holder Device for Local Drug Delivery during In Vivo Whole-cell Recordings. Neuroscience, 2018, 381, 115-123.	1.1	8
14	Targeting VGLUT2 in Mature Dopamine Neurons Decreases Mesoaccumbal Glutamatergic Transmission and Identifies a Role for Glutamate Co-release in Synaptic Plasticity by Increasing Baseline AMPA/NMDA Ratio. Frontiers in Neural Circuits, 2018, 12, 64.	1.4	32
15	Neuronal heterogeneity and stereotyped connectivity in the auditory afferent system. Nature Communications, 2018, 9, 3691.	5.8	195
16	Basal Ganglia Neuromodulation Over Multiple Temporal and Structural Scalesâ€"Simulations of Direct Pathway MSNs Investigate the Fast Onset of Dopaminergic Effects and Predict the Role of Kv4.2. Frontiers in Neural Circuits, 2018, 12, 3.	1.4	34
17	Dopamine Depletion Impairs Bilateral Sensory Processing in the Striatum in a Pathway-Dependent Manner. Neuron, 2017, 94, 855-865.e5.	3.8	75
18	Functional properties, topological organization and sexual dimorphism of claustrum neurons projecting to anterior cingulate cortex. Claustrum, 2017, 2, 1357412.	0.2	18

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19	Distinct Corticostriatal and Intracortical Pathways Mediate Bilateral Sensory Responses in the Striatum. Cerebral Cortex, 2016, 26, 4405-4415.	1.6	36
20	Optogenetic Dissection of the Striatal Microcircuitry. Neuromethods, 2016, , 151-170.	0.2	2
21	CO2-evoked release of PGE2 modulates sighs and inspiration as demonstrated in brainstem organotypic culture. ELife, 2016, 5, .	2.8	39
22	Long-range recruitment of Martinotti cells causes surround suppression and promotes saliency in an attractor network model. Frontiers in Neural Circuits, 2015, 9, 60.	1.4	7
23	Local and afferent synaptic pathways in the striatal microcircuitry. Current Opinion in Neurobiology, 2015, 33, 182-187.	2.0	100
24	Reconstruction and Simulation of Neocortical Microcircuitry. Cell, 2015, 163, 456-492.	13.5	1,258
25	Multisensory Integration in the Mouse Striatum. Neuron, 2014, 83, 1200-1212.	3.8	197
26	A Whole-Brain Atlas of Inputs to Serotonergic Neurons of the Dorsal and Median Raphe Nuclei. Neuron, 2014, 83, 663-678.	3.8	356
27	Target Selectivity of Feedforward Inhibition by Striatal Fast-Spiking Interneurons. Journal of Neuroscience, 2013, 33, 1678-1683.	1.7	80
28	Neural progenitors organize in small-world networks to promote cell proliferation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1524-32.	3.3	85
29	Evolutionarily conserved differences in pallial and thalamic shortâ€term synaptic plasticity in striatum. Journal of Physiology, 2013, 591, 859-874.	1.3	28
30	Dopamine Differentially Modulates the Excitability of Striatal Neurons of the Direct and Indirect Pathways in Lamprey. Journal of Neuroscience, 2013, 33, 8045-8054.	1.7	54
31	Membrane Properties of Striatal Direct and Indirect Pathway Neurons in Mouse and Rat Slices and Their Modulation by Dopamine. PLoS ONE, 2013, 8, e57054.	1.1	115
32	A Cortical Attractor Network with Martinotti Cells Driven by Facilitating Synapses. PLoS ONE, 2012, 7, e30752.	1.1	20
33	Striatal Fast-Spiking Interneurons: From Firing Patterns to Postsynaptic Impact. Frontiers in Systems Neuroscience, 2011, 5, 57.	1.2	32
34	Striatal cellular properties conserved from lampreys to mammals. Journal of Physiology, 2011, 589, 2979-2992.	1.3	39
35	A cortical attractor network with dynamic synapses. BMC Neuroscience, 2011, 12, .	0.8	0
36	Critical role for hyperpolarization-activated cyclic nucleotide-gated channel 2 in the AIF-mediated apoptosis. EMBO Journal, 2010, 29, 3869-3878.	3.5	35

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37	Dynamics of Synaptic Transmission between Fast-Spiking Interneurons and Striatal Projection Neurons of the Direct and Indirect Pathways. Journal of Neuroscience, 2010, 30, 3499-3507.	1.7	187
38	Brief Bursts Self-Inhibit and Correlate the Pyramidal Network. PLoS Biology, 2010, 8, e1000473.	2.6	86
39	Multiquantal release underlies the distribution of synaptic efficacies in the neocortex. Frontiers in Computational Neuroscience, 2009, 3, 27.	1.2	50
40	Frequencyâ€dependent disynaptic inhibition in the pyramidal network: a ubiquitous pathway in the developing rat neocortex. Journal of Physiology, 2009, 587, 5411-5425.	1.3	82
41	Input Specificity and Dependence of Spike Timingâ€"Dependent Plasticity on Preceding Postsynaptic Activity at Unitary Connections between Neocortical Layer 2/3 Pyramidal Cells. Cerebral Cortex, 2009, 19, 2308-2320.	1.6	34
42	Slow oscillations in neural networks with facilitating synapses. Journal of Computational Neuroscience, 2008, 25, 308-316.	0.6	46
43	Polysynaptic subcircuits in the neocortex: spatial and temporal diversity. Current Opinion in Neurobiology, 2008, 18, 332-337.	2.0	47
44	Hyperconnectivity of Local Neocortical Microcircuitry Induced by Prenatal Exposure to Valproic Acid. Cerebral Cortex, 2008, 18, 763-770.	1.6	191
45	Locomotor Deficiencies and Aberrant Development of Subtype-Specific GABAergic Interneurons Caused by an Unliganded Thyroid Hormone Receptor Î±1. Journal of Neuroscience, 2008, 28, 1904-1915.	1.7	112
46	Measurement and Analysis of Postsynaptic Potentials Using a Novel Voltage-Deconvolution Method. Journal of Neurophysiology, 2008, 99, 1020-1031.	0.9	30
47	Morphological, Electrophysiological, and Synaptic Properties of Corticocallosal Pyramidal Cells in the Neonatal Rat Neocortex. Cerebral Cortex, 2007, 17, 2204-2213.	1.6	132
48	Disynaptic Inhibition between Neocortical Pyramidal Cells Mediated by Martinotti Cells. Neuron, 2007, 53, 735-746.	3.8	696
49	Subthreshold cross-correlations between cortical neurons: A reference model with static synapses. Neurocomputing, 2005, 65-66, 685-690.	3.5	2
50	Short-Term Synaptic Plasticity Orchestrates the Response of Pyramidal Cells and Interneurons to Population Bursts. Journal of Computational Neuroscience, 2005, 18, 323-331.	0.6	25
51	The neocortical microcircuit as a tabula rasa. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 880-885.	3.3	173
52	Microcircuits in action â€" from CPGs to neocortex. Trends in Neurosciences, 2005, 28, 525-533.	4.2	189
53	Synaptic pathways in neural microcircuits. Trends in Neurosciences, 2005, 28, 541-551.	4.2	113
54	Interneurons of the neocortical inhibitory system. Nature Reviews Neuroscience, 2004, 5, 793-807.	4.9	2,532

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55	Synaptic dynamics control the timing of neuronal excitation in the activated neocortical microcircuit. Journal of Physiology, 2004, 556, 19-27.	1.3	66
56	Anatomical, physiological and molecular properties of Martinotti cells in the somatosensory cortex of the juvenile rat. Journal of Physiology, 2004, 561, 65-90.	1.3	413
57	Deriving physical connectivity from neuronal morphology. Biological Cybernetics, 2003, 88, 210-218.	0.6	68
58	Stereotypy in neocortical microcircuits. Trends in Neurosciences, 2002, 25, 227-230.	4.2	97