

# Alexey Semyanov

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

83

papers

3,746

citations

31

h-index

61

g-index

99

ext. papers

4,989

ext. citations

6.5

avg, IF

5.74

L-index

#	Paper	IF	Citations
83	K efflux through postsynaptic NMDA receptors suppresses local astrocytic glutamate uptake.. <i>Glia</i> , <b>2022</b> ,	9	1
82	Inclusive Brain: From Neuronal Doctrine to the Active Milieu.. <i>Function</i> , <b>2022</b> , 3, zqab069	6.1	0
81	Glial decline and loss of homeostatic support rather than inflammation defines cognitive aging. <i>Neural Regeneration Research</i> , <b>2022</b> , 17, 565-566	4.5	2
80	The great astroglial metabolic revolution: Mitochondria fuel astrocyte homeostatic support and neuroprotection.. <i>Cell Calcium</i> , <b>2022</b> , 104, 102583	4	0
79	Astrocyte dystrophy in ageing brain parallels impaired synaptic plasticity. <i>Aging Cell</i> , <b>2021</b> , 20, e13334	9.9	16
78	A Neural Circuit for Gut-Induced Sugar Preference. <i>Neuroscience Bulletin</i> , <b>2021</b> , 37, 754-756	4.3	
77	The anti-inflammatory astrocyte revealed: the role of the microbiome in shaping brain defences. <i>Signal Transduction and Targeted Therapy</i> , <b>2021</b> , 6, 150	21	
76	From purines to purinergic signalling: molecular functions and human diseases. <i>Signal Transduction and Targeted Therapy</i> , <b>2021</b> , 6, 162	21	41
75	Effect of Diet as a Factor of Exposome on Brain Function. <i>Journal of Evolutionary Biochemistry and Physiology</i> , <b>2021</b> , 57, 577-604	0.5	
74	Attenuation of the extracellular matrix increases the number of synapses but suppresses synaptic plasticity through upregulation of SK channels. <i>Cell Calcium</i> , <b>2021</b> , 96, 102406	4	2
73	Caloric restriction modifies spatiotemporal calcium dynamics in mouse hippocampal astrocytes. <i>Biochimica Et Biophysica Acta - Molecular Cell Research</i> , <b>2021</b> , 1868, 119034	4.9	0
72	Optical control of purinergic signaling. <i>Purinergic Signalling</i> , <b>2021</b> , 17, 385-392	3.8	0
71	Fluorescence lifetime imaging reveals regulation of presynaptic Ca by glutamate uptake and mGluRs, but not somatic voltage in cortical neurons. <i>Journal of Neurochemistry</i> , <b>2021</b> , 156, 48-58	6	2
70	Astroglial asthenia and loss of function, rather than reactivity, contribute to the ageing of the brain. <i>Pflugers Archiv European Journal of Physiology</i> , <b>2021</b> , 473, 753-774	4.6	25
69	Calcium signaling in neuroglia. <i>International Review of Cell and Molecular Biology</i> , <b>2021</b> , 362, 1-53	6	5
68	Reactive astrocyte nomenclature, definitions, and future directions. <i>Nature Neuroscience</i> , <b>2021</b> , 24, 312-325	35	298
67	Astrocytic processes: from tripartite synapses to the active milieu. <i>Trends in Neurosciences</i> , <b>2021</b> , 44, 781-792	13.3	19

66	Tonic GABA Conductance Favors Spike-Timing-Dependent over Theta-Burst-Induced Long-Term Potentiation in the Hippocampus. <i>Journal of Neuroscience</i> , <b>2020</b> , 40, 4266-4276	6.6	7
65	Caloric restriction triggers morphofunctional remodeling of astrocytes and enhances synaptic plasticity in the mouse hippocampus. <i>Cell Death and Disease</i> , <b>2020</b> , 11, 208	9.8	19
64	TASK-3: New Target for Pain-Relief. <i>Neuroscience Bulletin</i> , <b>2020</b> , 36, 951-954	4.3	0
63	Astrocytes monitor cerebral perfusion and control systemic circulation to maintain brain blood flow. <i>Nature Communications</i> , <b>2020</b> , 11, 131	17.4	74
62	Physiology of Astroglial Excitability.. <i>Function</i> , <b>2020</b> , 1, zqaa016	6.1	21
61	Circadian Modulation of Neurons and Astrocytes Controls Synaptic Plasticity in Hippocampal Area CA1. <i>Cell Reports</i> , <b>2020</b> , 33, 108255	10.6	15
60	Purinergic Receptors in Basal Ganglia Diseases: Shared Molecular Mechanisms between Huntington's and Parkinson's Disease. <i>Neuroscience Bulletin</i> , <b>2020</b> , 36, 1299-1314	4.3	13
59	Making sense of astrocytic calcium signals - from acquisition to interpretation. <i>Nature Reviews Neuroscience</i> , <b>2020</b> , 21, 551-564	13.5	54
58	Astroglial atrophy in Alzheimer's disease. <i>Pflugers Archiv European Journal of Physiology</i> , <b>2019</b> , 471, 1247-1261	4.1	47
57	Astroglial Ca signals trigger pathological behaviour in optogenetic mouse. <i>Cell Calcium</i> , <b>2019</b> , 82, 102062	4.1	47
56	Morphological profile determines the frequency of spontaneous calcium events in astrocytic processes. <i>Glia</i> , <b>2019</b> , 67, 246-262	9	30
55	Spatiotemporal pattern of calcium activity in astrocytic network. <i>Cell Calcium</i> , <b>2019</b> , 78, 15-25	4	39
54	Activity-dependent changes in transporter and potassium currents in hippocampal astrocytes. <i>Brain Research Bulletin</i> , <b>2018</b> , 136, 37-43	3.9	16
53	Astrocytic Atrophy Following Parallels Reduced Ca Activity and Impaired Synaptic Plasticity in the Rat Hippocampus. <i>Frontiers in Molecular Neuroscience</i> , <b>2018</b> , 11, 215	6.1	42
52	CalciumCV: Computer Vision Software for Calcium Signaling in Astrocytes. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 168-179	0.9	0
51	Astrocytic Coverage of Dendritic Spines, Dendritic Shafts, and Axonal Boutons in Hippocampal Neuropil. <i>Frontiers in Cellular Neuroscience</i> , <b>2018</b> , 12, 248	6.1	47
50	Dopamine elevates and lowers astroglial Ca through distinct pathways depending on local synaptic circuitry. <i>Glia</i> , <b>2017</b> , 65, 447-459	9	46
49	Cytotoxic effects of upconversion nanoparticles in primary hippocampal cultures. <i>RSC Advances</i> , <b>2016</b> , 6, 33656-33665	3.7	12

48	Model of self-oscillations in a neuron generator under the action of an active medium. <i>JETP Letters</i> , <b>2015</b> , 102, 624-627	1.2	3
47	The Role of Energy Substrates in Astrocyte Calcium Activity of Rat Hippocampus in Early Postnatal Ontogenesis. <i>Sovremennye Tehnologii V Medicine</i> , <b>2015</b> , 7, 14-19	1.2	3
46	Dendrite and Axon Specific Geometrical Transformation in Neurite Development. <i>Frontiers in Computational Neuroscience</i> , <b>2015</b> , 9, 156	3.5	2
45	Denosing of two-photon fluorescence images with block-matching 3D filtering. <i>Methods</i> , <b>2014</b> , 68, 308-316	16	15
44	Spatiotemporal calcium dynamics in single astrocytes and its modulation by neuronal activity. <i>Cell Calcium</i> , <b>2014</b> , 55, 119-29	4	44
43	Tonic GABAA conductance bidirectionally controls interneuron firing pattern and synchronization in the CA3 hippocampal network. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2014</b> , 111, 504-9	11.5	38
42	Astrocytic Ca <sup>2+</sup> signals are required for the functional integrity of tripartite synapses. <i>Molecular Brain</i> , <b>2013</b> , 6, 6	4.5	86
41	Retrograde synaptic signaling mediated by K <sup>+</sup> efflux through postsynaptic NMDA receptors. <i>Cell Reports</i> , <b>2013</b> , 5, 941-51	10.6	47
40	Subcellular location of astrocytic calcium stores favors extrasynaptic neuron-astrocyte communication. <i>Cell Calcium</i> , <b>2013</b> , 54, 343-9	4	81
39	GABA-independent GABAA receptor openings maintain tonic currents. <i>Journal of Neuroscience</i> , <b>2013</b> , 33, 3905-14	6.6	75
38	A functional role for both -aminobutyric acid (GABA) transporter-1 and GABA transporter-3 in the modulation of extracellular GABA and GABAergic tonic conductances in the rat hippocampus. <i>Journal of Physiology</i> , <b>2013</b> , 591, 2429-41	3.9	96
37	Different transporter systems regulate extracellular GABA from vesicular and non-vesicular sources. <i>Frontiers in Cellular Neuroscience</i> , <b>2013</b> , 7, 23	6.1	37
36	Low micromolar Ba(2+) potentiates glutamate transporter current in hippocampal astrocytes. <i>Frontiers in Cellular Neuroscience</i> , <b>2013</b> , 7, 135	6.1	11
35	Tonic GABAA conductance decreases membrane time constant and increases EPSP-spike precision in hippocampal pyramidal neurons. <i>Frontiers in Neural Circuits</i> , <b>2013</b> , 7, 205	3.5	18
34	Backpropagating action potentials enable detection of extrasynaptic glutamate by NMDA receptors. <i>Cell Reports</i> , <b>2012</b> , 1, 495-505	10.6	37
33	Bi-directional astrocytic regulation of neuronal activity within a network. <i>Frontiers in Computational Neuroscience</i> , <b>2012</b> , 6, 92	3.5	34
32	Modulation of Oscillatory Synchronization in an Interneuronal Network under the Influence of Tonic GABA-ergic Inhibition: a Model Study. <i>Neurophysiology</i> , <b>2011</b> , 42, 318-324	0.6	2
31	Network with shunting synapses as a non-linear frequency modulator. <i>Neural Networks</i> , <b>2011</b> , 24, 407-16	16	4

30	Tonic excitation or inhibition is set by GABA(A) conductance in hippocampal interneurons. <i>Nature Communications</i> , <b>2011</b> , 2, 376	17.4	97
29	Neural cell adhesion molecule-associated polysialic acid regulates synaptic plasticity and learning by restraining the signaling through GluN2B-containing NMDA receptors. <i>Journal of Neuroscience</i> , <b>2010</b> , 30, 4171-83	6.6	94
28	State and parameter estimation for canonic models of neural oscillators. <i>International Journal of Neural Systems</i> , <b>2010</b> , 20, 193-207	6.2	13
27	Second-harmonic generation voltage imaging at subcellular resolution in rat hippocampal slices. <i>Journal of Biophotonics</i> , <b>2010</b> , 3, 784-90	3.1	7
26	Outwardly rectifying tonically active GABAA receptors in pyramidal cells modulate neuronal offset, not gain. <i>Journal of Neuroscience</i> , <b>2009</b> , 29, 15341-50	6.6	96
25	Regulation of excitability by extrasynaptic GABA(A) receptors. <i>Results and Problems in Cell Differentiation</i> , <b>2008</b> , 44, 29-48	1.4	84
24	Can diffuse extrasynaptic signaling form a guiding template?. <i>Neurochemistry International</i> , <b>2008</b> , 52, 31-3	4.4	20
23	Cholinergic axons modulate GABAergic signaling among hippocampal interneurons via postsynaptic alpha 7 nicotinic receptors. <i>Journal of Neuroscience</i> , <b>2007</b> , 27, 5683-93	6.6	65
22	Presynaptic, extrasynaptic and axonal GABAA receptors in the CNS: where and why?. <i>Progress in Biophysics and Molecular Biology</i> , <b>2005</b> , 87, 33-46	4.7	178
21	Diffusional extrasynaptic neurotransmission via glutamate and GABA. <i>Neuroscience and Behavioral Physiology</i> , <b>2005</b> , 35, 253-266	0.3	29
20	Multiple and plastic receptors mediate tonic GABAA receptor currents in the hippocampus. <i>Journal of Neuroscience</i> , <b>2005</b> , 25, 10016-24	6.6	192
19	The effects of activation of kainate receptors on tonic and phasic gabaergic inhibition in interneurons in field CA1 of guinea pig hippocampus slices. <i>Neuroscience and Behavioral Physiology</i> , <b>2004</b> , 34, 123-30	0.3	2
18	Tonically active GABA A receptors: modulating gain and maintaining the tone. <i>Trends in Neurosciences</i> , <b>2004</b> , 27, 262-9	13.3	604
17	GABA uptake regulates cortical excitability via cell type-specific tonic inhibition. <i>Nature Neuroscience</i> , <b>2003</b> , 6, 484-90	25.5	336
16	Cell type specificity of GABA(A) receptor mediated signaling in the hippocampus. <i>CNS and Neurological Disorders</i> , <b>2003</b> , 2, 240-7		16
15	Glutamatergic modulation of GABAergic signaling among hippocampal interneurons: novel mechanisms regulating hippocampal excitability. <i>Epilepsia</i> , <b>2002</b> , 43 Suppl 5, 174-8	6.4	33
14	GABA-ergic Inhibition in the CNS: Types of GABA Receptors and Mechanisms of Tonic GABA-Mediated Inhibitory Action. <i>Neurophysiology</i> , <b>2002</b> , 34, 71-80	0.6	13
13	Relative picrotoxin insensitivity distinguishes ionotropic GABA receptor-mediated IPSCs in hippocampal interneurons. <i>Neuropharmacology</i> , <b>2002</b> , 43, 726-36	5.5	23

12	Kainate receptor-dependent axonal depolarization and action potential initiation in interneurons. <i>Nature Neuroscience</i> , <b>2001</b> , 4, 718-23	25.5	107
11	Epileptiform activity and EPSP-spike potentiation induced in rat hippocampal CA1 slices by repeated high-K(+): involvement of ionotropic glutamate receptors and Ca(2+)/calmodulin-dependent protein kinase II. <i>Neuropharmacology</i> , <b>2001</b> , 40, 203-11	5.5	14
10	Modulation of GABAergic signaling among interneurons by metabotropic glutamate receptors. <i>Neuron</i> , <b>2000</b> , 25, 663-72	13.9	153
9	In vivo hippocampal kindling occludes the development of in vitro kindling-like state in CA1 area of rat hippocampal slices. <i>Epilepsy Research</i> , <b>2000</b> , 38, 75-85	3	5
8	Increases in the threshold for the development of epileptiform activity in field CA1 of Krushinskii-Molodnika rat hippocampal slices as an adaptive protective mechanism. <i>Neuroscience and Behavioral Physiology</i> , <b>1999</b> , 29, 467-74	0.3	2
7	Kindling-like state occurring on periodic increases in the extracellular K+ concentration in field CA1 in rat hippocampal slices. <i>Neuroscience and Behavioral Physiology</i> , <b>1998</b> , 28, 504-12	0.3	1
6	The decreased susceptibility to the development of in vitro kindling-like state in hippocampal CA1 slices of rats sensitive to audiogenic seizures. <i>Neuroscience Letters</i> , <b>1997</b> , 230, 187-90	3.3	12
5	Kindling-like state in rat hippocampal CA1 slices induced by the repeated short-term extracellular K+ increases: the role of L-type Ca(2+)-channels. <i>Neuroscience Letters</i> , <b>1997</b> , 223, 177-80	3.3	15
4	An astrocytic basis of caloric restriction action on the brain plasticity		1
3	Circadian modulation of neurons and astrocytes controls synaptic plasticity in hippocampal area CA1		1
2	Astrocytes dystrophy in ageing brain parallels impaired synaptic plasticity		4
1	Morphological profile determines the frequency of spontaneous calcium events in astrocytic processes		2