

# Volker Steuber

## List of Publications by Citations

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84  
papers

2,217  
citations

23  
h-index

46  
g-index

101  
ext. papers

2,713  
ext. citations

4  
avg, IF

4.87  
L-index

#	Paper	IF	Citations
84	Transtibial versus anteromedial portal reaming in anterior cruciate ligament reconstruction: an anatomic and biomechanical evaluation of surgical technique. <i>Arthroscopy - Journal of Arthroscopic and Related Surgery</i> , <b>2011</b> , 27, 380-90	5.4	232
83	Synaptic depression enables neuronal gain control. <i>Nature</i> , <b>2009</b> , 457, 1015-8	50.4	166
82	neuroConstruct: a tool for modeling networks of neurons in 3D space. <i>Neuron</i> , <b>2007</b> , 54, 219-35	13.9	162
81	Cerebellar LTD and pattern recognition by Purkinje cells. <i>Neuron</i> , <b>2007</b> , 54, 121-36	13.9	136
80	Structural features of a close homologue of L1 (CHL1) in the mouse: a new member of the L1 family of neural recognition molecules. <i>European Journal of Neuroscience</i> , <b>1996</b> , 8, 1613-29	3.5	95
79	Cerebellar output controls generalized spike-and-wave discharge occurrence. <i>Annals of Neurology</i> , <b>2015</b> , 77, 1027-49	9.4	88
78	Patterns and pauses in Purkinje cell simple spike trains: experiments, modeling and theory. <i>Neuroscience</i> , <b>2009</b> , 162, 816-26	3.9	80
77	Determinants of gain modulation enabled by short-term depression at an inhibitory cerebellar synapse. <i>BMC Neuroscience</i> , <b>2014</b> , 15,	3.2	78
76	Information theoretical analysis of differences in information transmission in cerebellar Purkinje cells across species. <i>BMC Neuroscience</i> , <b>2014</b> , 15,	3.2	78
75	From evolving artificial gene regulatory networks to evolving spiking neural networks for pattern recognition. <i>BMC Neuroscience</i> , <b>2013</b> , 14,	3.2	78
74	Interoperability in the GENESIS 3.0 Software Federation: the NEURON Simulator as an Example. <i>BMC Neuroscience</i> , <b>2013</b> , 14,	3.2	78
73	Characterising the performance of balanced memory networks. <i>BMC Neuroscience</i> , <b>2013</b> , 14,	3.2	78
72	Optimization of input parameters to a CN neuron model to simulate its activity during and between epileptic absence seizures. <i>BMC Neuroscience</i> , <b>2015</b> , 16,	3.2	78
71	Animal control by spiking neural networks evolved with a genetic algorithm. <i>BMC Neuroscience</i> , <b>2015</b> , 16,	3.2	78
70	Structural plasticity and associative memory in balanced neural networks with spike-time dependent inhibitory plasticity. <i>BMC Neuroscience</i> , <b>2015</b> , 16,	3.2	78
69	Using transfer entropy to study synaptic integration in Purkinje cells. <i>BMC Neuroscience</i> , <b>2015</b> , 16,	3.2	78
68	The beneficial effects of non-specific synaptic plasticity for pattern recognition in auto-associative memory. <i>BMC Neuroscience</i> , <b>2011</b> , 12,	3.2	78

67	Evolution of bistable dynamics in spiking neural controllers for agents performing olfactory attraction and aversion. <i>BMC Neuroscience</i> , <b>2010</b> , 11,	3.2	78
66	Determinants of synaptic integration and heterogeneity in rebound firing explored with data-driven models of deep cerebellar nucleus cells. <i>Journal of Computational Neuroscience</i> , <b>2011</b> , 30, 633-58	1.4	54
65	25th Annual Computational Neuroscience Meeting: CNS-2016. <i>BMC Neuroscience</i> , <b>2016</b> , 17 Suppl 1, 54	3.2	38
64	Distinctive role of KV1.1 subunit in the biology and functions of low threshold K(+) channels with implications for neurological disease. <i>Pharmacology &amp; Therapeutics</i> , <b>2016</b> , 159, 93-101	13.9	31
63	A biophysical model of synaptic delay learning and temporal pattern recognition in a cerebellar Purkinje cell. <i>Journal of Computational Neuroscience</i> , <b>2004</b> , 17, 149-64	1.4	31
62	Modeling the generation of output by the cerebellar nuclei. <i>Neural Networks</i> , <b>2013</b> , 47, 112-9	9.1	23
61	STD-dependent and independent encoding of input irregularity as spike rate in a computational model of a cerebellar nucleus neuron. <i>Cerebellum</i> , <b>2011</b> , 10, 667-82	4.3	22
60	A defined heteromeric KV1 channel stabilizes the intrinsic pacemaking and regulates the output of deep cerebellar nuclear neurons to thalamic targets. <i>Journal of Physiology</i> , <b>2013</b> , 591, 1771-91	3.9	14
59	Dendritic morphology predicts pattern recognition performance in multi-compartmental model neurons with and without active conductances. <i>Journal of Computational Neuroscience</i> , <b>2015</b> , 38, 221-34	1.4	13
58	Passive models of neurons in the deep cerebellar nuclei: the effect of reconstruction errors. <i>Neurocomputing</i> , <b>2004</b> , 58-60, 563-568	5.4	13
57	Creating, documenting and sharing network models. <i>Network: Computation in Neural Systems</i> , <b>2012</b> , 23, 131-49	0.7	12
56	Long-term depression and recognition of parallel fibre patterns in a multi-compartmental model of a cerebellar Purkinje cell. <i>Neurocomputing</i> , <b>2001</b> , 38-40, 383-388	5.4	12
55	Review of combinations of experimental and computational techniques to identify and understand genes involved in innate immunity and effector-triggered defence. <i>Methods</i> , <b>2017</b> , 131, 120-127	4.6	11
54	The first second: models of short-term memory traces in the brain. <i>Neural Networks</i> , <b>2009</b> , 22, 1105-12	9.1	10
53	Adaptive leaky integrator models of cerebellar Purkinje cells can learn the clustering of temporal patterns. <i>Neurocomputing</i> , <b>1999</b> , 26-27, 271-276	5.4	10
52	The Open Source Brain Initiative: enabling collaborative modelling in computational neuroscience. <i>BMC Neuroscience</i> , <b>2012</b> , 13,	3.2	9
51	An integrator circuit in cerebellar cortex. <i>European Journal of Neuroscience</i> , <b>2013</b> , 38, 2917-32	3.5	9
50	Generation of time delays: simplified models of intracellular signalling in cerebellar Purkinje cells. <i>Network: Computation in Neural Systems</i> , <b>2006</b> , 17, 173-91	0.7	7

49	Rank order decoding of temporal parallel fibre input patterns in a complex Purkinje cell model. <i>Neurocomputing</i> , <b>2002</b> , 44-46, 183-188	5.4	7
48	Clustering predicts memory performance in networks of spiking and non-spiking neurons. <i>Frontiers in Computational Neuroscience</i> , <b>2011</b> , 5, 14	3.5	6
47	Adaptive robot mediated upper limb training using electromyogram-based muscle fatigue indicators. <i>PLoS ONE</i> , <b>2020</b> , 15, e0233545	3.7	5
46	Evolution of bilateral symmetry in agents controlled by spiking neural networks <b>2009</b> ,		5
45	The Role of Parvalbumin-positive Interneurons in Auditory Steady-State Response Deficits in Schizophrenia. <i>Scientific Reports</i> , <b>2019</b> , 9, 18525	4.9	5
44	Modules for Automated Validation and Comparison of Models of Neurophysiological and Neurocognitive Biomarkers of Psychiatric Disorders: ASSRUnitA Case Study. <i>Computational Psychiatry</i> , <b>2020</b> , 2, 74	3.8	5
43	Nonspecific synaptic plasticity improves the recognition of sparse patterns degraded by local noise. <i>Scientific Reports</i> , <b>2017</b> , 7, 46550	4.9	4
42	The Effect of Different Forms of Synaptic Plasticity on Pattern Recognition in the Cerebellar Cortex. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 413-422	0.9	4
41	A potential role for the cerebellar nuclei in absence seizures. <i>BMC Neuroscience</i> , <b>2013</b> , 14,	3.2	3
40	Decoding of Purkinje cell pauses by deep cerebellar nucleus neurons. <i>BMC Neuroscience</i> , <b>2009</b> , 10,	3.2	3
39	The effect of non-specific LTD on pattern recognition in cerebellar Purkinje cells. <i>BMC Neuroscience</i> , <b>2010</b> , 11,	3.2	3
38	Influence of muscle fatigue on electromyogram-kinematic correlation during robot-assisted upper limb training. <i>Journal of Rehabilitation and Assistive Technologies Engineering</i> , <b>2020</b> , 7, 20556683209030147		2
37	Synaptic Plasticity and Pattern Recognition in Cerebellar Purkinje Cells. <i>Springer Series in Computational Neuroscience</i> , <b>2014</b> , 433-448	1.1	2
36	26th Annual Computational Neuroscience Meeting (CNS*2017): Part 3. <i>BMC Neuroscience</i> , <b>2017</b> , 18,	3.2	2
35	NeuroML <b>2012</b> , 489-517		2
34	How a single Purkinje cell could learn the adaptive timing of the classically conditioned eye-blink response. <i>Lecture Notes in Computer Science</i> , <b>1997</b> , 115-120	0.9	2
33	Computational Intelligence in Electrophysiology: Trends and Open Problems. <i>Studies in Computational Intelligence</i> , <b>2008</b> , 325-359	0.8	2
32	Binding of Filamentous Actin to CaMKII as Potential Regulation Mechanism of Bidirectional Synaptic Plasticity by CaMKII in Cerebellar Purkinje Cells. <i>Scientific Reports</i> , <b>2020</b> , 10, 9019	4.9	1

31	Combining machine learning and simulations of a morphologically realistic model to study modulation of neuronal activity in cerebellar nuclei during absence epilepsy. <i>BMC Neuroscience</i> , <b>2014</b> , 15,	3.2	1
30	Determinants of associative memory performance in spiking and non-spiking neural networks with different synaptic plasticity regimes. <i>BMC Neuroscience</i> , <b>2012</b> , 13,	3.2	1
29	Short-term depression of inhibitory Purkinje cell synapses enhances gain modulation in the cerebellar nuclei. <i>BMC Neuroscience</i> , <b>2013</b> , 14,	3.2	1
28	The implications of evolutionary changes in the dendritic morphology of cerebellar Purkinje cells for information processing. <i>BMC Neuroscience</i> , <b>2013</b> , 14,	3.2	1
27	Evolving spiking neural networks to control animats for temporal pattern recognition and foraging <b>2017</b> ,		1
26	Evolving small spiking neural networks to work as state machines for temporal pattern recognition. <i>BMC Neuroscience</i> , <b>2015</b> , 16,	3.2	1
25	Non-specific LTD at parallel fibre - Purkinje cell synapses in cerebellar cortex provides robustness against local spatial noise during pattern recognition. <i>BMC Neuroscience</i> , <b>2011</b> , 12,	3.2	1
24	The effect of dendritic morphology on pattern recognition in the presence of active conductances. <i>BMC Neuroscience</i> , <b>2011</b> , 12,	3.2	1
23	The Effective Calcium/Calmodulin Concentration Determines the Sensitivity of CaMKII to the Frequency of Calcium Oscillations. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 131-135	0.9	1
22	Optimization of neuronal morphologies for pattern recognition. <i>BMC Neuroscience</i> , <b>2010</b> , 11,	3.2	1
21	Connectivity graphs and the performance of sparse associative memory models <b>2008</b> ,		1
20	Using NeuroML and neuroConstruct to build neuronal network models for multiple simulators. <i>BMC Neuroscience</i> , <b>2007</b> , 8,	3.2	1
19	Adaptive Olfactory Encoding in Agents Controlled by Spiking Neural Networks. <i>Lecture Notes in Computer Science</i> , <b>2008</b> , 148-158	0.9	1
18	The Effect of Alterations of Schizophrenia-Associated Genes on Gamma Band Oscillations		1
17	Evolving Dendritic Morphology and Parameters in Biologically Realistic Model Neurons for Pattern Recognition. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 355-362	0.9	1
16	EEG Spectral Feature Modulations Associated with Fatigue in Robot-Mediated Upper Limb Gross Motor and Fine Motor Interactions		1
15	Spiking Neural Networks Evolved to Perform Multiplicative Operations. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 314-321	0.9	1
14	Computer Simulation Environments <b>2010</b> , 593-609		1

13	EEG Spectral Feature Modulations Associated With Fatigue in Robot-Mediated Upper Limb Gross and Fine Motor Interactions.. <i>Frontiers in Neurobotics</i> , <b>2021</b> , 15, 788494	3.4	○
12	The beta component of gamma-band auditory steady-state responses in patients with schizophrenia. <i>Scientific Reports</i> , <b>2021</b> , 11, 20387	4.9	○
11	Growth rules for the repair of Asynchronous Irregular neuronal networks after peripheral lesions. <i>PLoS Computational Biology</i> , <b>2021</b> , 17, e1008996	5	○
10	Connection Strategies in Associative Memory Models with Spiking and Non-spiking Neurons. <i>Lecture Notes in Computer Science</i> , <b>2009</b> , 42-51	0.9	
9	Using Neuroconstruct to Develop and Modify Biologically Detailed 3D Neuronal Network Models in Health and Disease <b>2008</b> , 48-V		
8	A European Collaboration on Cerebellar LTD and Pattern Recognition <b>2008</b> , 19-22		
7	Spiking Neural Network Controllers Evolved for Animat Foraging Based on Temporal Pattern Recognition in the Presence of Noise on Input. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 304-313	0.9	
6	Hand Gesture Based Gameplay with a Smoothie Maker Game Using Myo Armband. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 388-398	0.9	
5	The Importance of Self-excitation in Spiking Neural Networks Evolved to Recognize Temporal Patterns. <i>Lecture Notes in Computer Science</i> , <b>2019</b> , 758-771	0.9	
4	Modeling the Generation of Cerebellar Nuclear Spike Output <b>2016</b> , 117-133		
3	The Effect of Different Types of Synaptic Plasticity on the Performance of Associative Memory Networks with Excitatory and Inhibitory Sub-populations. <i>Lecture Notes in Computer Science</i> , <b>2012</b> , 136-142	0.9	
2	Evolution of Dendritic Morphologies Using Deterministic and Nondeterministic Genotype to Phenotype Mapping. <i>Lecture Notes in Computer Science</i> , <b>2013</b> , 319-326	0.9	
1	Embodiment and Its Influence on Informational Costs of Decision Density-Atomic Actions vs. Scripted Sequences. <i>Frontiers in Robotics and AI</i> , <b>2021</b> , 8, 535158	2.8	