

David M Halliday

List of Publications by Year in descending order

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101
papers

6,341
citations

126858

33
h-index

71651

76
g-index

104
all docs

104
docs citations

104
times ranked

3722
citing authors

#	ARTICLE	IF	CITATIONS
1	Time-dependent directional intermuscular coherence analysis reveals that forward and backward arm swing equally drive the upper leg muscles during gait initiation. <i>Gait and Posture</i> , 2022, 92, 290-293.	0.6	1
2	Mind your step: Target walking task reveals gait disturbance in individuals with incomplete spinal cord injury. <i>Journal of NeuroEngineering and Rehabilitation</i> , 2022, 19, 36.	2.4	2
3	Intermuscular coherence analysis in older adults reveals that gait-related arm swing drives lower limb muscles via subcortical and cortical pathways. <i>Journal of Physiology</i> , 2021, 599, 2283-2298.	1.3	19
4	Wavelet-based method for coherence analysis with suppression of low frequency envelope modulation in non-stationary signals. , 2020, , .		2
5	Measuring directed functional connectivity using non-parametric directionality analysis: Validation and comparison with non-parametric Granger Causality. <i>NeuroImage</i> , 2020, 218, 116796.	2.1	15
6	Sex differences in auditory fear discrimination are associated with altered medial prefrontal cortex function. <i>Scientific Reports</i> , 2020, 10, 6300.	1.6	17
7	Improved functional connectivity network estimation for brain networks using multivariate partial coherence. <i>Journal of Neural Engineering</i> , 2020, 17, 026013.	1.8	4
8	Exploring Self-Repair in a Coupled Spiking Astrocyte Neural Network. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2019, 30, 865-875.	7.2	34
9	GABA Regulation of Burst Firing in Hippocampal Astrocyte Neural Circuit: A Biophysical Model. <i>Frontiers in Cellular Neuroscience</i> , 2019, 13, 335.	1.8	6
10	Using Corticomuscular and Intermuscular Coherence to Assess Cortical Contribution to Ankle Plantar Flexor Activity During Gait. <i>Journal of Motor Behavior</i> , 2019, 51, 668-680.	0.5	29
11	The development of functional and directed corticomuscular connectivity during tonic ankle muscle contraction across childhood and adolescence. <i>NeuroImage</i> , 2019, 191, 350-360.	2.1	17
12	Autonomous Learning Paradigm for Spiking Neural Networks. <i>Lecture Notes in Computer Science</i> , 2019, , 737-744.	1.0	0
13	Fault-Tolerant Learning in Spiking Astrocyte-Neural Networks on FPGAs. , 2018, , .		4
14	Adaptive spectral tracking for coherence estimation: the z-tracker. <i>Journal of Neural Engineering</i> , 2018, 15, 026004.	1.8	2
15	Homeostatic Fault Tolerance in Spiking Neural Networks: A Dynamic Hardware Perspective. <i>IEEE Transactions on Circuits and Systems I: Regular Papers</i> , 2018, 65, 687-699.	3.5	35
16	ARDebug: An Augmented Reality Tool for Analysing and Debugging Swarm Robotic Systems. <i>Frontiers in Robotics and AI</i> , 2018, 5, 87.	2.0	16
17	Bio-inspired Anomaly Detection for Low-cost Gas Sensors. , 2018, , .		1
18	Time-multiplexed System-on-Chip using Fault-tolerant Astrocyte-Neuron Networks. , 2018, , .		6

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19	A Unified Framework of Third Order Time and Frequency Domain Analysis for Neural Spike Trains. , 2018, , .		0
20	FPGA-based Fault-injection and Data Acquisition of Self-repairing Spiking Neural Network Hardware. , 2018, , .		7
21	Propagation of beta/gamma rhythms in the cortico-basal ganglia circuits of the parkinsonian rat. Journal of Neurophysiology, 2018, 119, 1608-1628.	0.9	62
22	Assessing Self-Repair on FPGAs with Biologically Realistic Astrocyte-Neuron Networks. , 2017, , .		11
23	Homeostatic fault tolerance in spiking neural networks utilizing dynamic partial reconfiguration of FPGAs. , 2017, , .		2
24	The Pi-puck extension board: A raspberry Pi interface for the e-puck robot platform. , 2017, , .		17
25	Time-frequency based Coherence and Phase Locking Value Analysis of Human Locomotion Data using Generalized Morse Wavelets. , 2017, , .		7
26	Self-repairing Learning Rule for Spiking Astrocyte-Neuron Networks. Lecture Notes in Computer Science, 2017, , 384-392.	1.0	3
27	Sex differences in learned fear expression and extinction involve altered gamma oscillations in medial prefrontal cortex. Neurobiology of Learning and Memory, 2016, 135, 66-72.	1.0	54
28	An FPGA-based hardware-efficient fault-tolerant astrocyte-neuron network. , 2016, , .		18
29	Mapping spatio-temporally encoded patterns by reward-modulated STDP in Spiking neurons. , 2016, , .		0
30	Self-repairing mobile robotic car using astrocyte-neuron networks. , 2016, , .		20
31	Non-parametric directionality analysis " Extension for removal of a single common predictor and application to time series. Journal of Neuroscience Methods, 2016, 268, 87-97.	1.3	16
32	Partially filled aperture interferometric telescopes: achieving large aperture and coronagraphic performance. Proceedings of SPIE, 2016, , .	0.8	0
33	Nonparametric directionality measures for time series and point process data. Journal of Integrative Neuroscience, 2015, 14, 253-277.	0.8	24
34	Multivariate partial coherence analysis for identification of neuronal connectivity from multiple electrode array recordings. , 2014, , .		2
35	Persistent prelimbic cortex activity contributes to enhanced learned fear expression in females. Learning and Memory, 2014, 21, 55-60.	0.5	90
36	Medial prefrontal cortex circuit function during retrieval and extinction of associative learning under anesthesia. Neuroscience, 2014, 265, 204-216.	1.1	23

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37	Reply to McClelland et al.: EMG rectification and coherence analysis. Journal of Neurophysiology, 2014, 111, 1151-1152.	0.9	6
38	Basolateral amygdala activity during the retrieval of associative learning under anesthesia. Neuroscience, 2013, 233, 146-156.	1.1	19
39	Reducing the effect of correlated brain sources in MEG using a linearly constrained spatial filter based on Minimum Norm. , 2013, , .		0
40	Rectification of EMG in low force contractions improves detection of motor unit coherence in the beta-frequency band. Journal of Neurophysiology, 2013, 110, 1744-1750.	0.9	65
41	Volume conduction effects in brain network inference from electroencephalographic recordings using phase lag index. Journal of Neuroscience Methods, 2012, 207, 189-199.	1.3	84
42	Evolution of Cartesian Genetic Programs for Development of Learning Neural Architecture. Evolutionary Computation, 2011, 19, 469-523.	2.3	22
43	Optimal spectral trackingâ€”Adapting to dynamic regime change. Journal of Neuroscience Methods, 2011, 195, 111-115.	1.3	1
44	On the Need for Rectification of Surface EMG. Journal of Neurophysiology, 2010, 103, 3547-3547.	0.9	80
45	Optimal spectral trackingâ€”With application to speed dependent neural modulation of tibialis anterior during human treadmill walking. Journal of Neuroscience Methods, 2009, 177, 334-347.	1.3	7
46	A periodogram-based test for weak stationarity and consistency between sections in time series. Journal of Neuroscience Methods, 2009, 180, 138-146.	1.3	8
47	In search of intelligent genes: The cartesian genetic programming computational neuron (CGPCN). , 2009, , .		5
48	On the development of human corticospinal oscillations: ageâ€”related changes in EEGâ€”EMG coherence and cumulant. European Journal of Neuroscience, 2008, 27, 3369-3379.	1.2	49
49	Reduction of common motoneuronal drive on the affected side during walking in hemiplegic stroke patients. Clinical Neurophysiology, 2008, 119, 2813-2818.	0.7	64
50	Early life programming of hemispheric lateralization and synchronization in the adult medial prefrontal cortex. Neuroscience, 2008, 155, 852-863.	1.1	29
51	Developing neural structure of two agents that play checkers using cartesian genetic programming. , 2008, , .		4
52	Coevolution of Neuro-developmental Programs That Play Checkers. Lecture Notes in Computer Science, 2008, , 352-361.	1.0	7
53	Hippocampus-Inspired Spiking Neural Network on FPGA. Lecture Notes in Computer Science, 2008, , 362-371.	1.0	13
54	A developmental model of neural computation using cartesian genetic programming. , 2007, , .		4

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55	Coevolution of intelligent agents using cartesian genetic programming. , 2007, , .		19
56	Hippocampus Neurons and Place Cells/Place Field Representation to Provide Path Navigation. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	4
57	A novel computer-based technique for the assessment of tremor in Parkinson's disease. Age and Ageing, 2007, 36, 395-399.	0.7	45
58	Fault Tolerance Using Dynamic Reconfiguration on the POEtic Tissue. IEEE Transactions on Evolutionary Computation, 2007, 11, 666-684.	7.5	42
59	Autonomous Navigational Controller Inspired by the Hippocampus. Neural Networks (IJCNN), International Joint Conference on, 2007, , .	0.0	5
60	Temporal sub units in dendritic trees. BioSystems, 2007, 87, 172-178.	0.9	0
61	Systemic administration of the benzodiazepine receptor partial inverse agonist FG-7142 disrupts corticolimbic network interactions. Synapse, 2007, 61, 646-663.	0.6	21
62	Changes in EMG coherence between long and short thumb abductor muscles during human development. Journal of Physiology, 2007, 579, 389-402.	1.3	75
63	On the Use of Low-Cost Computer Peripherals for the Assessment of Motor Dysfunction in Parkinson's Diseaseâ€”Quantification of Bradykinesia Using Target Tracking Tasks. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2007, 15, 286-294.	2.7	34
64	Single-Trial Multiwavelet Coherence in Application to Neurophysiological Time Series. IEEE Transactions on Biomedical Engineering, 2007, 54, 854-862.	2.5	37
65	Diagnosis of Parkinsonâ€™s disease using evolutionary algorithms. Genetic Programming and Evolvable Machines, 2007, 8, 433-447.	1.5	27
66	Detecting time-dependent coherence between non-stationary electrophysiological signalsâ€”A combined statistical and timeâ€”frequency approach. Journal of Neuroscience Methods, 2006, 156, 322-332.	1.3	108
67	Neural Spike Train Synchronization Indices: Definitions, Interpretations, and Applications. IEEE Transactions on Biomedical Engineering, 2006, 53, 1056-1066.	2.5	11
68	Organization of common synaptic drive to motoneurons during fictive locomotion in the spinal cat. Journal of Physiology, 2005, 569, 291-304.	1.3	26
69	Reduction of Common Synaptic Drive to Ankle Dorsiflexor Motoneurons During Walking in Patients With Spinal Cord Lesion. Journal of Neurophysiology, 2005, 94, 934-942.	0.9	113
70	Neuronal Dynamics of Dynamic Synapses. , 2005, 2005, 3636-9.		2
71	Coexistence of gamma and high-frequency oscillations in rat medial entorhinal cortex in vitro. Journal of Physiology, 2004, 559, 347-353.	1.3	67
72	Axial current reversal promotes synchronous correlation between dendritic membrane potentials during large-scale synaptic input. Neurocomputing, 2004, 58-60, 423-430.	3.5	1

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73	Low Frequency Cortico-Muscular Coherence During Voluntary Rapid Movements of the Wrist Joint. <i>Brain Topography</i> , 2003, 16, 221-224.	0.8	11
74	Functional Coupling of Motor Units Is Modulated During Walking in Human Subjects. <i>Journal of Neurophysiology</i> , 2003, 89, 960-968.	0.9	104
75	Spiking Neural Networks for Reconfigurable POetic Tissue. <i>Lecture Notes in Computer Science</i> , 2003, , 165-173.	1.0	16
76	Magnetoencephalography and stereopsis: rhythmic cortical activity in humans recorded over the parieto-occipital cortex. <i>Neuroscience Letters</i> , 2001, 315, 154-158.	1.0	4
77	Temporal Coding in Neuronal Populations in the Presence of Axonal and Dendritic Conduction Time Delays. <i>Lecture Notes in Computer Science</i> , 2001, , 285-295.	1.0	1
78	On the application, estimation and interpretation of coherence and pooled coherence. <i>Journal of Neuroscience Methods</i> , 2000, 100, 173-174.	1.3	61
79	Weak, Stochastic Temporal Correlation of Large-Scale Synaptic Input Is a Major Determinant of Neuronal Bandwidth. <i>Neural Computation</i> , 2000, 12, 693-707.	1.3	26
80	Coherence between low-frequency activation of the motor cortex and tremor in patients with essential tremor. <i>Lancet, The</i> , 2000, 355, 1149-1153.	6.3	98
81	Load-Independent Contributions From Motor-Unit Synchronization to Human Physiological Tremor. <i>Journal of Neurophysiology</i> , 1999, 82, 664-675.	0.9	175
82	Coherent cortical and muscle discharge in cortical myoclonus. <i>Brain</i> , 1999, 122, 461-472.	3.7	150
83	The unilateral and bilateral control of motor unit pairs in the first dorsal interosseous and paraspinal muscles in man. <i>Journal of Physiology</i> , 1999, 521, 553-564.	1.3	54
84	The origin of ocular microtremor in man. <i>Experimental Brain Research</i> , 1999, 126, 556-562.	0.7	59
85	Time and Frequency Domain Analysis of Spike Train and Time Series Data. , 1999, , 503-543.		37
86	Generation and characterization of correlated spike trains. <i>Computers in Biology and Medicine</i> , 1998, 28, 143-152.	3.9	15
87	Physiological tremor in human jaw-muscle system. <i>Archives of Oral Biology</i> , 1998, 43, 45-54.	0.8	17
88	Identification of patterns of neuronal connectivityâ€™partial spectra, partial coherence, and neuronal interactions. <i>Journal of Neuroscience Methods</i> , 1998, 83, 57-72.	1.3	109
89	Using electroencephalography to study functional coupling between cortical activity and electromyograms during voluntary contractions in humans. <i>Neuroscience Letters</i> , 1998, 241, 5-8.	1.0	333
90	Abnormal motor unit synchronization of antagonist muscles underlies pathological co-contraction in upper limb dystonia. <i>Brain</i> , 1998, 121, 801-814.	3.7	89

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91	An extended difference of coherence test for comparing and combining several independent coherence estimates: theory and application to the study of motor units and physiological tremor. <i>Journal of Neuroscience Methods</i> , 1997, 73, 69-79.	1.3	264
92	A review of recent applications of cross-correlation methodologies to human motor unit recording. <i>Journal of Neuroscience Methods</i> , 1997, 74, 175-187.	1.3	97
93	Synchronization between motor cortex and spinal motoneuronal pool during the performance of a maintained motor task in man.. <i>Journal of Physiology</i> , 1995, 489, 917-924.	1.3	761
94	A framework for the analysis of mixed time series/point process dataâ€”Theory and application to the study of physiological tremor, single motor unit discharges and electromyograms. <i>Progress in Biophysics and Molecular Biology</i> , 1995, 64, 237-278.	1.4	958
95	The frequency content of common synaptic inputs to motoneurons studied during voluntary isometric contraction in man.. <i>Journal of Physiology</i> , 1993, 470, 127-155.	1.3	405
96	Detection of weak synaptic interactions between single Ia afferent and motorâ€™unit spike trains in the decerebrate cat.. <i>Journal of Physiology</i> , 1993, 471, 379-409.	1.3	21
97	A frequency-domain identification approach to the study of neuromuscular systems- a combined experimental and modelling study. <i>Transactions of the Institute of Measurement and Control</i> , 1992, 14, 79-90.	1.1	4
98	Fourier analysis of the relation between the discharge of quadriceps motor units and periodic mechanical stimulation of cat knee joint receptors. <i>Experimental Physiology</i> , 1990, 75, 739-750.	0.9	9
99	The Fourier approach to the identification of functional coupling between neuronal spike trains. <i>Progress in Biophysics and Molecular Biology</i> , 1989, 53, 1-31.	1.4	769
100	Chapter 20 A framework for the analysis of neuronal networks. <i>Progress in Brain Research</i> , 1989, 80, 243-255.	0.9	11
101	A Hybrid Bio-inspired System: Hardware Spiking Neural Network Incorporating Hebbian Learning with Microprocessor Based Evolutionary Control Algorithm. , 0, , .		1