Mikhail A Lebedev

List of Publications by Year
in descending order

121	10,051	76326	37204
papers	citations	40 h-index	96 g-index

139	139	139	7629
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Brainâ€“machine interfaces: past, present and future. Trends in Neurosciences, 2006, 29, 536-546.	8.6	1,438
2	Learning to Control a Brainâ€“Machine Interface for Reaching and Grasping by Primates. PLoS Biology, 2003, 1, e42.	5.6	1,427
3	Active tactile exploration using a brainâ€“machineâ€“brain interface. Nature, 2011, 479, 228-231.	27.8	605
4	Spontaneous cortical activity in awake monkeys composed of neuronal avalanches. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 15921-15926.	7.1	469
5	Brain-Machine Interfaces: From Basic Science to Neuroprostheses and Neurorehabilitation. Physiological Reviews, 2017, 97, 767-837.	28.8	409
6	The Role of Spike Timing in the Coding of Stimulus Location in Rat Somatosensory Cortex. Neuron, 2001, 29, 769-777.	8.1	382
7	Principles of neural ensemble physiology underlying the operation of brainâ€“machine interfaces. Nature Reviews Neuroscience, 2009, 10, 530-540.	10.2	362
8	Chronic, wireless recordings of large-scale brain activity in freely moving rhesus monkeys. Nature Methods, 2014, 11, 670-676.	19.0	358
9	Cortical Ensemble Adaptation to Represent Velocity of an Artificial Actuator Controlled by a Brain-Machine Interface. Journal of Neuroscience, 2005, 25, 4681-4693.	3.6	266
10	Representation of Attended Versus Remembered Locations in Prefrontal Cortex. PLoS Biology, 2004, 2, e365.	5.6	232
11	Consensus on the reporting and experimental design of clinical and cognitive-behavioural neurofeedback studies (CRED-nf checklist). Brain, 2020, 143, 1674-1685.	7.6	188
12	A Brain-to-Brain Interface for Real-Time Sharing of Sensorimotor Information. Scientific Reports, 2013, 3, 1319.	3.3	173
13	Extracting kinematic parameters for monkey bipedal walking from cortical neuronal ensemble activity. Frontiers in Integrative Neuroscience, 2009, 3, 3.	2.1	166
14	Unscented Kalman Filter for Brain-Machine Interfaces. PLoS ONE, 2009, 4, e6243.	2.5	165
15	Decoding of Temporal Intervals From Cortical Ensemble Activity. Journal of Neurophysiology, 2008, 99, 166-186.	1.8	142
16	A Brain-Machine Interface Enables Bimanual Arm Movements in Monkeys. Science Translational Medicine, 2013, 5, 210ra154.	12.4	140
17	Stable Ensemble Performance with Single-Neuron Variability during Reaching Movements in Primates. Journal of Neuroscience, 2005, 25, 10712-10716.	3.6	139
18	Primate Reaching Cued by Multichannel Spatiotemporal Cortical Microstimulation. Journal of Neuroscience, 2007, 27, 5593-5602.	3.6	137

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19	A brain-machine interface instructed by direct intracortical microstimulation. Frontiers in Integrative Neuroscience, 2009, 3, 20.	2.1	136
20	Adaptive Decoding for Brain-Machine Interfaces Through Bayesian Parameter Updates. Neural Computation, 2011, 23, 3162-3204.	2.2	107
21	A comparison of optimal MIMO linear and nonlinear models for brainâ€“machine interfaces. Journal of Neural Engineering, 2006, 3, 145-161.	3.5	104
22	Somatosensory cortical neuronal population activity across states of anaesthesia. European Journal of Neuroscience, 2002, 15, 744-752.	2.6	103
23	Continuous Shared Control for Stabilizing Reaching and Grasping With Brain-Machine Interfaces. IEEE Transactions on Biomedical Engineering, 2006, 53, 1164-1173.	4.2	101
24	Future developments in brain-machine interface research. Clinics, 2011, 66, 25-32.	1.5	96
25	Ascertaining the Importance of Neurons to Develop Better Brain-Machine Interfaces. IEEE Transactions on Biomedical Engineering, 2004, 51, 943-953.	4.2	95
26	Motor Planning under Unpredictable Reward: Modulations of Movement Vigor and Primate Striatum Activity. Frontiers in Neuroscience, 2011, 5, 61.	2.8	79
27	Experience-dependent Plasticity of Rat Barrel Cortex: Redistribution of Activity across Barrel-columns. Cerebral Cortex, 2000, 10, 23-31.	2.9	78
28	Oscillations in the premotor cortex: single-unit activity from awake, behaving monkeys. Experimental Brain Research, 2000, 130, 195-215.	1.5	77
29	Tuning for the orientation of spatial attention in dorsal premotor cortex. European Journal of Neuroscience, 2001, 13, 1002-1008.	2.6	76
30	Expanding the primate body schema in sensorimotor cortex by virtual touches of an avatar. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 15121-15126.	7.1	74
31	Virtual Active Touch Using Randomly Patterned Intracortical Microstimulation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 85-93.	4.9	70
32	Brain-machine interfaces: an overview. Translational Neuroscience, 2014, 5, .	1.4	64
33	Building an organic computing device with multiple interconnected brains. Scientific Reports, 2015, 5, 11869.	3.3	63
34	Wireless Cortical Brain-Machine Interface for Whole-Body Navigation in Primates. Scientific Reports, 2016, 6, 22170.	3.3	61
35	Decoding Movement From Electrocorticographic Activity: A Review. Frontiers in Neuroinformatics, 2019, 13, 74.	2.5	61
36	Frontal and parietal cortical ensembles predict single-trial muscle activity during reaching movements in primates. European Journal of Neuroscience, 2005, 22, 1529-1540.	2.6	56

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37	Cortical neurons multiplex reward-related signals along with sensory and motor information. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E4841-E4850.	7.1	55
38	Cortical Modulations Increase in Early Sessions with Brain-Machine Interface. PLoS ONE, 2007, 2, e619.	2.5	54
39	Neurofeedback Therapy for Enhancing Visual Attention: State-of-the-Art and Challenges. Frontiers in Neuroscience, 2016, 10, 352.	2.8	50
40	A Closed Loop Brain-machine Interface for Epilepsy Control Using Dorsal Column Electrical Stimulation. Scientific Reports, 2016, 6, 32814.	3.3	47
41	Human Brain/Cloud Interface. Frontiers in Neuroscience, 2019, 13, 112.	2.8	47
42	Simultaneous Top-down Modulation of the Primary Somatosensory Cortex and Thalamic Nuclei during Active Tactile Discrimination. Journal of Neuroscience, 2013, 33, 4076-4093.	3.6	46
43	Recognition of Handwriting from Electromyography. PLoS ONE, 2009, 4, e6791.	2.5	46
44	Computing Arm Movements with a Monkey Brainet. Scientific Reports, 2015, 5, 10767.	3.3	43
45	Toward a whole-body neuroprosthetic. Progress in Brain Research, 2011, 194, 47-60.	1.4	41
46	Coherence Potentials: Loss-Less, All-or-None Network Events in the Cortex. PLoS Biology, 2010, 8, e1000278.	5.6	40
47	Rhythmically firing (20â€“50 Hz) neurons in monkey primary somatosensory cortex: Activity patterns during initiation of vibratory-cued hand movements. Journal of Computational Neuroscience, 1995, 2, 313-334.	1.0	38
48	Mechatronic Wearable Exoskeletons for Bionic Bipedal Standing and Walking: A New Synthetic Approach. Frontiers in Neuroscience, 2016, 10, 343.	2.8	37
49	Insights into Seeing and Grasping: Distinguishing the Neural Correlates of Perception and Action. Behavioral and Cognitive Neuroscience Reviews, 2002, 1, 108-129.	3.9	36
50	EXiOâ€”A Brain-Controlled Lower Limb Exoskeleton for Rhesus Macaques. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 131-141.	4.9	36
51	Interfacing to the brainâ€™s motor decisions. Journal of Neurophysiology, 2017, 117, 1305-1319.	1.8	36
52	Neuroengineering challenges of fusing robotics and neuroscience. Science Robotics, 2020, 5, .	17.6	36
53	Multitasking of Attention and Memory Functions in the Primate Prefrontal Cortex. Journal of Neuroscience, 2009, 29, 5640-5653.	3.6	34
54	Subcortical Neuronal Ensembles: An Analysis of Motor Task Association, Tremor, Oscillations, and Synchrony in Human Patients. Journal of Neuroscience, 2012, 32, 8620-8632.	3.6	33

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55	Training with brain-machine interfaces, visuo-tactile feedback and assisted locomotion improves sensorimotor, visceral, and psychological signs in chronic paraplegic patients. PLoS ONE, 2018, 13, e0206464.	2.5	32
56	Decoding Movements from Cortical Ensemble Activity Using a Long Short-Term Memory Recurrent Network. Neural Computation, 2019, 31, 1085-1113.	2.2	30
57	Stochastic Facilitation of Artificial Tactile Sensation in Primates. Journal of Neuroscience, 2012, 32, 14271-14275.	3.6	27
58	Analysis of neuronal ensemble activity reveals the pitfalls and shortcomings of rotation dynamics. Scientific Reports, 2019, 9, 18978.	3.3	26
59	Three-dimensional, automated, real-time video system for tracking limb motion in brainâ€“machine interface studies. Journal of Neuroscience Methods, 2009, 180, 224-233.	2.5	24
60	Creating a neuroprosthesis for active tactile exploration of textures. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 21821-21827.	7.1	24
61	Reprogramming movements: extraction of motor intentions from cortical ensemble activity when movement goals change. Frontiers in Neuroengineering, 2012, 5, 16.	4.8	21
62	How to read neuron-dropping curves?. Frontiers in Systems Neuroscience, 2014, 8, 102.	2.5	21
63	Analysis of surface EMG of human soleus muscle subjected to vibration. Journal of Electromyography and Kinesiology, 1992, 2, 26-35.	1.7	20
64	Neurofeedback learning modifies the incidence rate of alpha spindles, but not their duration and amplitude. Scientific Reports, 2017, 7, 3772.	3.3	20
65	Interbrain cortical synchronization encodes multiple aspects of social interactions in monkey pairs. Scientific Reports, 2018, 8, 4699.	3.3	20
66	Cortical Correlates of Fittsâ€™ Law. Frontiers in Integrative Neuroscience, 2011, 5, 85.	2.1	19
67	Short-delay neurofeedback facilitates training of the parietal alpha rhythm. Journal of Neural Engineering, 2020, 17, 066012.	3.5	17
68	Cortical and thalamic contributions to response dynamics across layers of the primary somatosensory cortex during tactile discrimination. Journal of Neurophysiology, 2015, 114, 1652-1676.	1.8	16
69	Prefrontal Cortex Neurons Reflecting Reports of a Visual Illusion. Journal of Neurophysiology, 2001, 85, 1395-1411.	1.8	15
70	High-Side Digitally Current Controlled Biphasic Bipolar Microstimulator. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 331-340.	4.9	15
71	NFBLabâ€”A Versatile Software for Neurofeedback and Brain-Computer Interface Research. Frontiers in Neuroinformatics, 2018, 12, 100.	2.5	15
72	Simultaneus prediction of four kinematic variables for a brain-machine interface using a single recurrent neural network. , 2004, 2004, 5321-4.		14

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73	A dynamical model improves reconstruction of handwriting from multichannel electromyographic recordings. Frontiers in Neuroscience, 2015, 9, 389.	2.8	14
74	Decoding and interpreting cortical signals with a compact convolutional neural network. Journal of Neural Engineering, 2021, 18, 026019.	3.5	12
75	Generating artificial sensations with spinal cord stimulation in primates and rodents. Brain Stimulation, 2021, 14, 825-836.	1.6	12
76	A P300 Brain-Computer Interface With a Reduced Visual Field. Frontiers in Neuroscience, 2020, 14, 604629.	2.8	11
77	Editorial: Nanotechnologies in Neuroscience and Neuroengineering. Frontiers in Neuroscience, 2020, 14, 33.	2.8	11
78	Digital filters for low-latency quantification of brain rhythms in real time. Journal of Neural Engineering, 2020, 17, 046022.	3.5	11
79	Joint cross-correlation analysis reveals complex, time-dependent functional relationship between cortical neurons and arm electromyograms. Journal of Neurophysiology, 2014, 112, 2865-2887.	1.8	10
80	Editorial: Augmentation of Brain Function: Facts, Fiction and Controversy. Frontiers in Systems Neuroscience, 2018, 12, 45.	2.5	10
81	Neuronal Variability during Handwriting: Lognormal Distribution. PLoS ONE, 2012, 7, e34759.	2.5	9
82	Navigation Patterns and Scent Marking: Underappreciated Contributors to Hippocampal and Entorhinal Spatial Representations?. Frontiers in Behavioral Neuroscience, 2018, 12, 98.	2.0	9
83	Time-Dependent Statistical and Correlation Properties of Neural Signals during Handwriting. PLoS ONE, 2012, 7, e43945.	2.5	9
84	Editorial: Application of Neural Technology to Neuro-Management and Neuro-Marketing. Frontiers in Neuroscience, 2020, 14, 53.	2.8	8
85	A novel food-delivery device for neurophysiological and neuropsychological studies in monkeys. Journal of Neuroscience Methods, 2001, 109, 129-135.	2.5	7
86	Commentary: Spatial Olfactory Learning Contributes to Place Field Formation in the Hippocampus. Frontiers in Systems Neuroscience, 2018, 12, 8.	2.5	7
87	Coding of stimulus location by spike timing in rat somatosensory cortex. Neurocomputing, 2002, 44-46, 573-578.	5.9	6
88	Robust satisficing linear regression: Performance/robustness trade-off and consistency criterion. Mechanical Systems and Signal Processing, 2009, 23, 1954-1964.	8.0	6
89	A novel paraplegia model in awake behaving macaques. Journal of Neurophysiology, 2017, 118, 1800-1808.	1.8	6
90	Commentary: Injecting Instructions into Premotor Cortex. Frontiers in Cellular Neuroscience, 2018, 12, 65.	3.7	6

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91	Cortical and autonomic responses during staged Taoist meditation: Two distinct meditation strategies. PLoS ONE, 2021, 16, e0260626.	2.5	6
92	Analysis of the interference electromyogram of the human soleus muscle under vibrational stimulation. Neurophysiology, 1991, 23, 47-54.	0.3	5
93	Impairment of human soleus motor units during ischemia. Journal of Electromyography and Kinesiology, 1991, 1, 244-249.	1.7	3
94	Neostriatal Neuronal Activity Correlates Better with Movement Kinematics under Certain Rewards. Frontiers in Neuroscience, 2016, 10, 336.	2.8	3
95	Insights Into Seeing and Grasping: Distinguishing the Neural Correlates of Perception and Action. Behavioral and Cognitive Neuroscience Reviews, 2002, 1, 108-129.	3.9	3
96	Signal-independent timescale analysis (SITA) and its application for neural coding during reaching and walking. Frontiers in Computational Neuroscience, 2014, 8, 91.	2.1	2
97	Dazzled by the Mystery of Mentalism: The Cognitive Neuroscience of Mental Athletes. Frontiers in Human Neuroscience, 2017, 11, 287.	2.0	2
98	Commentary: Cortical activity in the null space: permitting preparation without movement. Frontiers in Neuroscience, 2017, 11, 502.	2.8	2
99	Capturing spike train temporal pattern with wavelet average coefficient for brain machine interface. Scientific Reports, 2021, 11, 19020.	3.3	2
100	Recent Advances in Brain-Computer Interface Researchâ€"A Summary of the BCI Award 2016 and BCI Research Trends. Springer Briefs in Electrical and Computer Engineering, 2017, , 127-134.	0.5	2
101	Brain-Machine Interfaces: From Macro- to Microcircuits. , 2015, , 407-428.		1
102	Controlling Attention with Neurofeedback. Springer Series in Cognitive and Neural Systems, 2017, , 545-572.	0.1	1
103	Editorial: Neuromodulatory Control of Brainstem Function in Health and Disease. Frontiers in Neuroscience, 2020, 14, 86.	2.8	1
104	Bidirectional Neural Interfaces. , 2018, , 701-720.		1
105	Building Brainâ€"Machine Interfaces to Restore Neurological Functions. Frontiers in Neuroscience, 2007, , 219-239.	0.0	1
106	Prefrontal Cortical Microcircuits Support the Emergence of Mind. Springer Series in Cognitive and Neural Systems, 2017, , 69-94.	0.1	1
107	Further observations on ischaemic suppression of motor units in human soleus muscle: A single case study. Journal of Electromyography and Kinesiology, 1993, 3, 183-186.	1.7	0
108	Bin-width selected for Brain-Machine Interfaces optimizes rate decoding. BMC Neuroscience, 2008, 9, .	1.9	0

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109	Enhanced neural modulations during BMI experiments: control perspective. BMC Neuroscience, 2009, 10, .	1.9	0
110	Signal-to-noise ratio of binned spike-counts and the timescales of neural coding. BMC Neuroscience, 2010, 11, .	1.9	0
111	Health, pathology, and rehabilitation of the sensoryâ€“motor loop. Neuropsychologia, 2015, 79, 173-174.	1.6	0
112	An automatic experimental apparatus to study arm reaching in New World monkeys. Journal of Neuroscience Methods, 2016, 264, 57-64.	2.5	0
113	Commentary: Emergence of a Stable Cortical Map for Neuroprosthetic Control. Frontiers in Neuroscience, 2017, 11, 642.	2.8	0
114	Towards a versatile brain-machine interface: Neural decoding of multiple behavioral variables and delivering sensory feedback versatile brain-machine interface. , 2018, , .		0
115	Cognitive Augmentation Via a Brain/Cloud Interface. Contemporary Clinical Neuroscience, 2021, , 357-386.	0.3	0
116	Augmentation Through Interconnection: Brain-Nets and Telemedicine. Contemporary Clinical Neuroscience, 2021, , 343-355.	0.3	0
117	Modern Approaches to Augmenting the Brain Functions. Contemporary Clinical Neuroscience, 2021, , 57-89.	0.3	0
118	Augmentation of Brain Functions byÂNanotechnology. Contemporary Clinical Neuroscience, 2021, , 233-259.	0.3	0
119	Exploration of Cortical Dynamics in the Center-Out with Stylus Paradigm. , 2021, , .		0
120	Exploring time interval estimation for familiar and unfamiliar musical pieces. , 2021, , .		0
121	Unscented Kalman Filter for Brain-Machine Interfaces. , 2009, 4, e6243.		0