

Miguel A L Nicolelis

List of Publications by Year in descending order

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Version: 2024-02-01

62
papers

11,280
citations

101543

36
h-index

128289

60
g-index

65
all docs

65
docs citations

65
times ranked

8149
citing authors

#	ARTICLE	IF	CITATIONS
1	Brain-machine interfaces: past, present and future. Trends in Neurosciences, 2006, 29, 536-546.	8.6	1,438
2	Learning to Control a Brain-Machine Interface for Reaching and Grasping by Primates. PLoS Biology, 2003, 1, e42.	5.6	1,427
3	Real-time control of a robot arm using simultaneously recorded neurons in the motor cortex. Nature Neuroscience, 1999, 2, 664-670.	14.8	979
4	Chronic, multisite, multielectrode recordings in macaque monkeys. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 11041-11046.	7.1	736
5	Actions from thoughts. Nature, 2001, 409, 403-407.	27.8	677
6	Active tactile exploration using a brain-machine-brain interface. Nature, 2011, 479, 228-231.	27.8	605
7	Brain-machine interfaces to restore motor function and probe neural circuits. Nature Reviews Neuroscience, 2003, 4, 417-422.	10.2	488
8	Brain-Machine Interfaces: From Basic Science to Neuroprostheses and Neurorehabilitation. Physiological Reviews, 2017, 97, 767-837.	28.8	409
9	Principles of neural ensemble physiology underlying the operation of brain-machine interfaces. Nature Reviews Neuroscience, 2009, 10, 530-540.	10.2	362
10	Chronic, wireless recordings of large-scale brain activity in freely moving rhesus monkeys. Nature Methods, 2014, 11, 670-676.	19.0	358
11	Long-Term Training with a Brain-Machine Interface-Based Gait Protocol Induces Partial Neurological Recovery in Paraplegic Patients. Scientific Reports, 2016, 6, 30383.	3.3	326
12	Behavioral Modulation of Tactile Responses in the Rat Somatosensory System. Journal of Neuroscience, 1999, 19, 7603-7616.	3.6	320
13	Spinal Cord Stimulation Restores Locomotion in Animal Models of Parkinson's Disease. Science, 2009, 323, 1578-1582.	12.6	257
14	Behavioral Properties of the Trigeminal Somatosensory System in Rats Performing Whisker-Dependent Tactile Discriminations. Journal of Neuroscience, 2001, 21, 5752-5763.	3.6	229
15	Induction of immediate spatiotemporal changes in thalamic networks by peripheral block of ascending cutaneous information. Nature, 1993, 361, 533-536.	27.8	220
16	Simultaneous encoding of tactile information by three primate cortical areas. Nature Neuroscience, 1998, 1, 621-630.	14.8	187
17	Layer-Specific Somatosensory Cortical Activation During Active Tactile Discrimination. Science, 2004, 304, 1989-1992.	12.6	186
18	Reduction of Pentylentetrazole-Induced Seizure Activity in Awake Rats by Seizure-Triggered Trigeminal Nerve Stimulation. Journal of Neuroscience, 2000, 20, 8160-8168.	3.6	180

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19	Unscented Kalman Filter for Brain-Machine Interfaces. PLoS ONE, 2009, 4, e6243.	2.5	165
20	A Brain-Machine Interface Enables Bimanual Arm Movements in Monkeys. Science Translational Medicine, 2013, 5, 210ra154.	12.4	140
21	Thalamocortical optimization of tactile processing according to behavioral state. Nature Neuroscience, 2002, 5, 517-523.	14.8	127
22	Multielectrode recordings: the next steps. Current Opinion in Neurobiology, 2002, 12, 602-606.	4.2	111
23	Comprehensive Analysis of Tissue Preservation and Recording Quality from Chronic Multielectrode Implants. PLoS ONE, 2011, 6, e27554.	2.5	94
24	Nonlinear Processing of Tactile Information in the Thalamocortical Loop. Journal of Neurophysiology, 1997, 78, 506-510.	1.8	88
25	Perceiving invisible light through a somatosensory cortical prosthesis. Nature Communications, 2013, 4, 1482.	12.8	88
26	Building an organic computing device with multiple interconnected brains. Scientific Reports, 2015, 5, 11869.	3.3	63
27	Simultaneous Reorganization in Thalamocortical Ensembles Evolves Over Several Hours After Perioral Capsaicin Injections. Journal of Neurophysiology, 1999, 82, 963-977.	1.8	61
28	Wireless Cortical Brain-Machine Interface for Whole-Body Navigation in Primates. Scientific Reports, 2016, 6, 22170.	3.3	61
29	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
30	Changes in S1 Neural Responses During Tactile Discrimination Learning. Journal of Neurophysiology, 2010, 104, 300-312.	1.8	52
31	Electrical stimulation of the dorsal columns of the spinal cord for Parkinson's disease. Movement Disorders, 2017, 32, 820-832.	3.9	51
32	The impact of super-spreader cities, highways, and intensive care availability in the early stages of the COVID-19 epidemic in Brazil. Scientific Reports, 2021, 11, 13001.	3.3	48
33	A Closed Loop Brain-machine Interface for Epilepsy Control Using Dorsal Column Electrical Stimulation. Scientific Reports, 2016, 6, 32814.	3.3	47
34	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
35	Assimilation of virtual legs and perception of floor texture by complete paraplegic patients receiving artificial tactile feedback. Scientific Reports, 2016, 6, 32293.	3.3	45
36	Chronic Spinal Cord Electrical Stimulation Protects Against 6-hydroxydopamine Lesions. Scientific Reports, 2014, 4, 3839.	3.3	43

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37	Non-invasive, Brain-controlled Functional Electrical Stimulation for Locomotion Rehabilitation in Individuals with Paraplegia. <i>Scientific Reports</i> , 2019, 9, 6782.	3.3	38
38	Neonatal Whisker Removal Reduces the Discrimination of Tactile Stimuli by Thalamic Ensembles in Adult Rats. <i>Journal of Neurophysiology</i> , 1997, 78, 1691-1706.	1.8	37
39	IV. There is more to taste than meets the tongue. <i>American Journal of Physiology - Renal Physiology</i> , 2000, 278, G6-G9.	3.4	36
40	Neuroengineering challenges of fusing robotics and neuroscience. <i>Science Robotics</i> , 2020, 5, .	17.6	36
41	Training with brain-machine interfaces, visuo-tactile feedback and assisted locomotion improves sensorimotor, visceral, and psychological signs in chronic paraplegic patients. <i>PLoS ONE</i> , 2018, 13, e0206464.	2.5	32
42	Decoding Movements from Cortical Ensemble Activity Using a Long Short-Term Memory Recurrent Network. <i>Neural Computation</i> , 2019, 31, 1085-1113.	2.2	30
43	Computing with thalamocortical ensembles during different behavioural states. <i>Journal of Physiology</i> , 2005, 566, 37-47.	2.9	27
44	Embedding a Panoramic Representation of Infrared Light in the Adult Rat Somatosensory Cortex through a Sensory Neuroprosthesis. <i>Journal of Neuroscience</i> , 2016, 36, 2406-2424.	3.6	26
45	Analysis of neuronal ensemble activity reveals the pitfalls and shortcomings of rotation dynamics. <i>Scientific Reports</i> , 2019, 9, 18978.	3.3	26
46	Dynamic shifting in thalamocortical processing during different behavioural states. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2002, 357, 1753-1758.	4.0	25
47	Ontogeny of Corticocortical Projections of Rat Somatosensory Cortex. <i>Somatosensory & Motor Research</i> , 1991, 8, 193-200.	0.9	24
48	Three-dimensional, automated, real-time video system for tracking limb motion in brain-machine interface studies. <i>Journal of Neuroscience Methods</i> , 2009, 180, 224-233.	2.5	24
49	Creating a neuroprosthesis for active tactile exploration of textures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 21821-21827.	7.1	24
50	Interbrain cortical synchronization encodes multiple aspects of social interactions in monkey pairs. <i>Scientific Reports</i> , 2018, 8, 4699.	3.3	20
51	Persistent Hyperdopaminergia Decreases the Peak Frequency of Hippocampal Theta Oscillations during Quiet Waking and REM Sleep. <i>PLoS ONE</i> , 2009, 4, e5238.	2.5	19
52	Cortical and thalamic contributions to response dynamics across layers of the primary somatosensory cortex during tactile discrimination. <i>Journal of Neurophysiology</i> , 2015, 114, 1652-1676.	1.8	16
53	High-Side Digitally Current Controlled Biphasic Bipolar Microstimulator. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2012, 20, 331-340.	4.9	15
54	A Brain to Spine Interface for Transferring Artificial Sensory Information. <i>Scientific Reports</i> , 2020, 10, 900.	3.3	15

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55	Generating artificial sensations with spinal cord stimulation in primates and rodents. <i>Brain Stimulation</i> , 2021, 14, 825-836.	1.6	12
56	Joint cross-correlation analysis reveals complex, time-dependent functional relationship between cortical neurons and arm electromyograms. <i>Journal of Neurophysiology</i> , 2014, 112, 2865-2887.	1.8	10
57	Depression at Thalamocortical Synapses. <i>Neuron</i> , 2002, 34, 331-332.	8.1	7
58	Brain-machine-brain interfaces as the foundation for the next generation of neuroprostheses. <i>National Science Review</i> , 0, , .	9.5	6
59	Cortical Neuroprosthesis Merges Visible and Invisible Light Without Impairing Native Sensory Function. <i>ENeuro</i> , 2017, 4, ENEURO.0262-17.2017.	1.9	4
60	GABAergic Pathway from Zona Incerta to Neocortex: Clarification. <i>Science</i> , 1991, 251, 1162-1162.	12.6	1
61	Erratum. <i>Science</i> , 1991, 251, 1162-1162.	12.6	0
62	An automatic experimental apparatus to study arm reaching in New World monkeys. <i>Journal of Neuroscience Methods</i> , 2016, 264, 57-64.	2.5	0