

Nicholas G Hatsopoulos

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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	5,876 citations	40 h-index	76 g-index
99 ext. papers	6,922 ext. citations	6.4 avg, IF	5.78 L-index

#	Paper	IF	Citations
83	Instant neural control of a movement signal. <i>Nature</i> , 2002 , 416, 141-2	50.4	1085
82	Neural discharge and local field potential oscillations in primate motor cortex during voluntary movements. <i>Journal of Neurophysiology</i> , 1998 , 79, 159-73	3.2	429
81	Propagating waves mediate information transfer in the motor cortex. <i>Nature Neuroscience</i> , 2006 , 9, 1542-53	13.3	311
80	Spatiotemporal tuning of motor cortical neurons for hand position and velocity. <i>Journal of Neurophysiology</i> , 2004 , 91, 515-32	3.2	267
79	The science of neural interface systems. <i>Annual Review of Neuroscience</i> , 2009 , 32, 249-66	17	261
78	Congruent activity during action and action observation in motor cortex. <i>Journal of Neuroscience</i> , 2007 , 27, 13241-50	6.6	243
77	Fast and slow oscillations in human primary motor cortex predict oncoming behaviorally relevant cues. <i>Neuron</i> , 2010 , 65, 461-71	13.9	172
76	Incorporating feedback from multiple sensory modalities enhances brain-machine interface control. <i>Journal of Neuroscience</i> , 2010 , 30, 16777-87	6.6	170
75	Single-unit stability using chronically implanted multielectrode arrays. <i>Journal of Neurophysiology</i> , 2009 , 102, 1331-9	3.2	170
74	Estimating the directed information to infer causal relationships in ensemble neural spike train recordings. <i>Journal of Computational Neuroscience</i> , 2011 , 30, 17-44	1.4	169
73	Decoding continuous and discrete motor behaviors using motor and premotor cortical ensembles. <i>Journal of Neurophysiology</i> , 2004 , 92, 1165-74	3.2	161
72	Dynamic Balance of Excitation and Inhibition in Human and Monkey Neocortex. <i>Scientific Reports</i> , 2016 , 6, 23176	4.9	137
71	Encoding of movement fragments in the motor cortex. <i>Journal of Neuroscience</i> , 2007 , 27, 5105-14	6.6	122
70	Sensing with the motor cortex. <i>Neuron</i> , 2011 , 72, 477-87	13.9	104
69	Superlinear population encoding of dynamic hand trajectory in primary motor cortex. <i>Journal of Neuroscience</i> , 2004 , 24, 8551-61	6.6	98
68	Excess synchrony in motor cortical neurons provides redundant direction information with that from coarse temporal measures. <i>Journal of Neurophysiology</i> , 2001 , 86, 1700-16	3.2	90
67	Conditional modeling and the jitter method of spike resampling. <i>Journal of Neurophysiology</i> , 2012 , 107, 517-31	3.2	83

66	Resonance Tuning in Rhythmic Arm Movements. <i>Journal of Motor Behavior</i> , 1996 , 28, 3-14	1.4	79
65	Robustness of neuroprosthetic decoding algorithms. <i>Biological Cybernetics</i> , 2003 , 88, 219-28	2.8	71
64	Coupling the neural and physical dynamics in rhythmic movements. <i>Neural Computation</i> , 1996 , 8, 567-81	2.9	70
63	Statistical encoding model for a primary motor cortical brain-machine interface. <i>IEEE Transactions on Biomedical Engineering</i> , 2005 , 52, 1312-22	5	68
62	Microelectrode array fabrication by electrical discharge machining and chemical etching. <i>IEEE Transactions on Biomedical Engineering</i> , 2004 , 51, 890-5	5	65
61	Propagating waves in human motor cortex. <i>Frontiers in Human Neuroscience</i> , 2011 , 5, 40	3.3	63
60	Early visuomotor representations revealed from evoked local field potentials in motor and premotor cortical areas. <i>Journal of Neurophysiology</i> , 2006 , 96, 1492-506	3.2	63
59	Avalanche Analysis from Multielectrode Ensemble Recordings in Cat, Monkey, and Human Cerebral Cortex during Wakefulness and Sleep. <i>Frontiers in Physiology</i> , 2012 , 3, 302	4.6	61
58	Biomimetic brain machine interfaces for the control of movement. <i>Journal of Neuroscience</i> , 2007 , 27, 11842-6	6.6	61
57	Population decoding of motor cortical activity using a generalized linear model with hidden states. <i>Journal of Neuroscience Methods</i> , 2010 , 189, 267-80	3	60
56	Encoding of coordinated reach and grasp trajectories in primary motor cortex. <i>Journal of Neuroscience</i> , 2012 , 32, 1220-32	6.6	59
55	Evidence against a single coordinate system representation in the motor cortex. <i>Experimental Brain Research</i> , 2006 , 175, 197-210	2.3	59
54	Perspectives on classical controversies about the motor cortex. <i>Journal of Neurophysiology</i> , 2017 , 118, 1828-1848	3.2	53
53	Statistical assessment of the stability of neural movement representations. <i>Journal of Neurophysiology</i> , 2011 , 106, 764-74	3.2	50
52	Is a virtual trajectory necessary in reaching movements?. <i>Biological Cybernetics</i> , 1994 , 70, 541-51	2.8	48
51	High-frequency oscillations in human and monkey neocortex during the wake-sleep cycle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 9363-8	11.5	48
50	Neural decoding of hand motion using a linear state-space model with hidden states. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2009 , 17, 370-8	4.8	47
49	Primary motor and sensory cortical areas communicate via spatiotemporally coordinated networks at multiple frequencies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 5083-8	11.5	47

48	Local field potentials primarily reflect inhibitory neuron activity in human and monkey cortex. <i>Scientific Reports</i> , 2017 , 7, 40211	4.9	45
47	Encoding of coordinated grasp trajectories in primary motor cortex. <i>Journal of Neuroscience</i> , 2010 , 30, 17079-90	6.6	44
46	Large-scale spatiotemporal spike patterning consistent with wave propagation in motor cortex. <i>Nature Communications</i> , 2015 , 6, 7169	17.4	43
45	Functional connectivity and tuning curves in populations of simultaneously recorded neurons. <i>PLoS Computational Biology</i> , 2012 , 8, e1002775	5	43
44	Similarity in Neuronal Firing Regimes across Mammalian Species. <i>Journal of Neuroscience</i> , 2016 , 36, 5736-47	6.47	42
43	Observation-based learning for brain-machine interfaces. <i>Current Opinion in Neurobiology</i> , 2008 , 18, 589-94	7.4	39
42	Modulation dynamics in the orofacial sensorimotor cortex during motor skill acquisition. <i>Journal of Neuroscience</i> , 2014 , 34, 5985-97	6.6	37
41	Periodicity and evoked responses in motor cortex. <i>Journal of Neuroscience</i> , 2010 , 30, 11506-15	6.6	37
40	Encoding of Both Reaching and Grasping Kinematics in Dorsal and Ventral Premotor Cortices. <i>Journal of Neuroscience</i> , 2017 , 37, 1733-1746	6.6	35
39	Sequential movement representations based on correlated neuronal activity. <i>Experimental Brain Research</i> , 2003 , 149, 478-86	2.3	31
38	Coordinate system representations of movement direction in the premotor cortex. <i>Experimental Brain Research</i> , 2007 , 176, 652-7	2.3	27
37	The marmoset as a model system for studying voluntary motor control. <i>Developmental Neurobiology</i> , 2017 , 77, 273-285	3.2	22
36	Template-based spike pattern identification with linear convolution and dynamic time warping. <i>Journal of Neurophysiology</i> , 2007 , 97, 1221-35	3.2	20
35	Postural Representations of the Hand in the Primate Sensorimotor Cortex. <i>Neuron</i> , 2019 , 104, 1000-1009	13.97	17
34	Neural coordination during reach-to-grasp. <i>Journal of Neurophysiology</i> , 2015 , 114, 1827-36	3.2	14
33	Spatio-Temporal Patterning in Primary Motor Cortex at Movement Onset. <i>Cerebral Cortex</i> , 2017 , 27, 1491-1500	5.1	14
32	Encoding in the motor cortex: was evarts right after all? Focus on "motor cortex neural correlates of output kinematics and kinetics during isometric-force and arm-reaching tasks". <i>Journal of Neurophysiology</i> , 2005 , 94, 2261-2	3.2	14
31	Decoding hand kinematics from population responses in sensorimotor cortex during grasping. <i>Journal of Neural Engineering</i> , 2020 , 17, 046035	5	13

30	Movement Decomposition in the Primary Motor Cortex. <i>Cerebral Cortex</i> , 2019 , 29, 1619-1633	5.1	13
29	Changes in cortical network connectivity with long-term brain-machine interface exposure after chronic amputation. <i>Nature Communications</i> , 2017 , 8, 1796	17.4	12
28	Tracking single units in chronic, large scale, neural recordings for brain machine interface applications. <i>Frontiers in Neuroengineering</i> , 2014 , 7, 23		12
27	Neural population dynamics in motor cortex are different for reach and grasp. <i>ELife</i> , 2020 , 9,	8.9	12
26	Synthesizing complex movement fragment representations from motor cortical ensembles. <i>Journal of Physiology (Paris)</i> , 2012 , 106, 112-9		11
25	Temporal evolution of both premotor and motor cortical tuning properties reflect changes in limb biomechanics. <i>Journal of Neurophysiology</i> , 2015 , 113, 2812-23	3.2	11
24	The many ways of building collision-sensitive neurons. <i>Trends in Neurosciences</i> , 1999 , 22, 437-8	13.3	11
23	Sagittal Plane Kinematics of the Jaw and Hyolingual Apparatus During Swallowing in Macaca mulatta. <i>Dysphagia</i> , 2017 , 32, 663-677	3.7	10
22	Unsupervised decoder initialization for brain-machine interfaces using neural state space dynamics 2013 ,		9
21	Heterogeneous neural coding of corrective movements in motor cortex. <i>Frontiers in Neural Circuits</i> , 2013 , 7, 51	3.5	9
20	Representations based on neuronal interactions in motor cortex. <i>Progress in Brain Research</i> , 2001 , 130, 233-44	2.9	9
19	Columnar organization in the motor cortex. <i>Cortex</i> , 2010 , 46, 270-1	3.8	8
18	Propagating Motor Cortical Dynamics Facilitate Movement Initiation. <i>Neuron</i> , 2020 , 106, 526-536.e4	13.9	7
17	Dynamics of motor cortical activity during naturalistic feeding behavior. <i>Journal of Neural Engineering</i> , 2019 , 16, 026038	5	6
16	A platform for semiautomated voluntary training of common marmosets for behavioral neuroscience. <i>Journal of Neurophysiology</i> , 2020 , 123, 1420-1426	3.2	6
15	Nonmonotonic spatial structure of interneuronal correlations in prefrontal microcircuits. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E3539-E3548	11.5	6
14	Emergent coordination underlying learning to reach to grasp with a brain-machine interface. <i>Journal of Neurophysiology</i> , 2018 , 119, 1291-1304	3.2	6
13	Integrating XMA Lab and DeepLabCut for high-throughput XROMM. <i>Journal of Experimental Biology</i> , 2020 , 223,	3	5

12	Coupling Time Decoding and Trajectory Decoding using a Target-Included Model in the Motor Cortex. <i>Neurocomputing</i> , 2012 , 82, 117-126	5.4	4
11	Dynamic interlaminar and thalamocortical interaction supported by top-down beta rhythms 2015 ,		2
10	Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics. 2015 ,		2
9	Consideration of the functional relationship between cortex and motor periphery improves offline decoding performance. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2014, 2014, 4868-71	0.9	2
8	Granger causality analysis of state dependent functional connectivity of neurons in orofacial motor cortex during chewing and swallowing 2012 ,		2
7	Target-included model and hybrid decoding of stereotyped hand movement in the motor cortex 2008 ,		2
6	Postural Representations of the Hand in Primate Sensorimotor Cortex		2
5	Comparing decoding performance between functionally defined neural populations 2015 ,		1
4	Erratum to Kinetic Trajectory Decoding Using Motor Cortical Ensembles <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2009 , 17, 606-606	4.8	1
3	Extension of Mutual Subspace Method for Low Dimensional Feature Projection 2007 ,		1
2	Chronic wireless neural population recordings with common marmosets. <i>Cell Reports</i> , 2021 , 36, 109379	10.6	1
1	Do control variables exist?. <i>Behavioral and Brain Sciences</i> , 1995 , 18, 762-762	0.9	