Nicholas G Hatsopoulos

List of Publications by Year
in descending order

90	7,594	66234	69108
papers	citations	42 h-index	77 g-index

99	99	99	6062
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Instant neural control of a movement signal. Nature, 2002, 416, 141-142.	13.7	1,309
2	Neural Discharge and Local Field Potential Oscillations in Primate Motor Cortex During Voluntary Movements. Journal of Neurophysiology, 1998, 79, 159-173.	0.9	496
3	Propagating waves mediate information transfer in the motor cortex. Nature Neuroscience, 2006, 9, 1549-1557.	7.1	403
4	The Science of Neural Interface Systems. Annual Review of Neuroscience, 2009, 32, 249-266.	5.0	326
5	Spatiotemporal Tuning of Motor Cortical Neurons for Hand Position and Velocity. Journal of Neurophysiology, 2004, 91, 515-532.	0.9	315
6	Congruent Activity during Action and Action Observation in Motor Cortex. Journal of Neuroscience, 2007, 27, 13241-13250.	1.7	272
7	Estimating the directed information to infer causal relationships in ensemble neural spike train recordings. Journal of Computational Neuroscience, 2011, 30, 17-44.	0.6	245
8	Fast and Slow Oscillations in Human Primary Motor Cortex Predict Oncoming Behaviorally Relevant Cues. Neuron, 2010, 65, 461-471.	3.8	226
9	Dynamic Balance of Excitation and Inhibition in Human and Monkey Neocortex. Scientific Reports, 2016, 6, 23176.	1.6	212
10	Single-Unit Stability Using Chronically Implanted Multielectrode Arrays. Journal of Neurophysiology, 2009, 102, 1331-1339.	0.9	204
11	Incorporating Feedback from Multiple Sensory Modalities Enhances Brainâ€“Machine Interface Control. Journal of Neuroscience, 2010, 30, 16777-16787.	1.7	203
12	Decoding Continuous and Discrete Motor Behaviors Using Motor and Premotor Cortical Ensembles. Journal of Neurophysiology, 2004, 92, 1165-1174.	0.9	193
13	Encoding of Movement Fragments in the Motor Cortex. Journal of Neuroscience, 2007, 27, 5105-5114.	1.7	165
14	Sensing with the Motor Cortex. Neuron, 2011, 72, 477-487.	3.8	148
15	Conditional modeling and the jitter method of spike resampling. Journal of Neurophysiology, 2012, 107, 517-531.	0.9	111
16	Superlinear Population Encoding of Dynamic Hand Trajectory in Primary Motor Cortex. Journal of Neuroscience, 2004, 24, 8551-8561.	1.7	109
17	Robustness of neuroprosthetic decoding algorithms. Biological Cybernetics, 2003, 88, 219-228.	0.6	107
18	Excess Synchrony in Motor Cortical Neurons Provides Redundant Direction Information With That From Coarse Temporal Measures. Journal of Neurophysiology, 2001, 86, 1700-1716.	0.9	99

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19	Perspectives on classical controversies about the motor cortex. Journal of Neurophysiology, 2017, 118, 1828-1848.	0.9	92
20	Early Visuomotor Representations Revealed From Evoked Local Field Potentials in Motor and Premotor Cortical Areas. Journal of Neurophysiology, 2006, 96, 1492-1506.	0.9	91
21	Propagating Waves in Human Motor Cortex. Frontiers in Human Neuroscience, 2011, 5, 40.	1.0	91
22	Resonance Tuning in Rhythmic Arm Movements. Journal of Motor Behavior, 1996, 28, 3-14.	0.5	89
23	Large-scale spatiotemporal spike patterning consistent with wave propagation in motor cortex. Nature Communications, 2015, 6, 7169.	5.8	85
24	Local field potentials primarily reflect inhibitory neuron activity in human and monkey cortex. Scientific Reports, 2017, 7, 40211.	1.6	82
25	Coupling the Neural and Physical Dynamics in Rhythmic Movements. Neural Computation, 1996, 8, 567-581.	1.3	81
26	Similarity in Neuronal Firing Regimes across Mammalian Species. Journal of Neuroscience, 2016, 36, 5736-5747.	1.7	78
27	Primary motor and sensory cortical areas communicate via spatiotemporally coordinated networks at multiple frequencies. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5083-5088.	3.3	78
28	Statistical Encoding Model for a Primary Motor Cortical Brain-Machine Interface. IEEE Transactions on Biomedical Engineering, 2005, 52, 1312-1322.	2.5	74
29	Population decoding of motor cortical activity using a generalized linear model with hidden states. Journal of Neuroscience Methods, 2010, 189, 267-280.	1.3	74
30	Avalanche Analysis from Multielectrode Ensemble Recordings in Cat, Monkey, and Human Cerebral Cortex during Wakefulness and Sleep. Frontiers in Physiology, 2012, 3, 302.	1.3	74
31	Microelectrode Array Fabrication by Electrical Discharge Machining and Chemical Etching. IEEE Transactions on Biomedical Engineering, 2004, 51, 890-895.	2.5	73
32	Encoding of Coordinated Reach and Grasp Trajectories in Primary Motor Cortex. Journal of Neuroscience, 2012, 32, 1220-1232.	1.7	73
33	Biomimetic Brain Machine Interfaces for the Control of Movement. Journal of Neuroscience, 2007, 27, 11842-11846.	1.7	67
34	Statistical assessment of the stability of neural movement representations. Journal of Neurophysiology, 2011, 106, 764-774.	0.9	67
35	High-frequency oscillations in human and monkey neocortex during the wakeâ€“sleep cycle. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9363-9368.	3.3	67
36	Evidence against a single coordinate system representation in the motor cortex. Experimental Brain Research, 2006, 175, 197-210.	0.7	62

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37	Neural Decoding of Hand Motion Using a Linear State-Space Model With Hidden States. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 370-378.	2.7	62
38	Functional Connectivity and Tuning Curves in Populations of Simultaneously Recorded Neurons. PLoS Computational Biology, 2012, 8, e1002775.	1.5	58
39	Encoding of Coordinated Grasp Trajectories in Primary Motor Cortex. Journal of Neuroscience, 2010, 30, 17079-17090.	1.7	51
40	Periodicity and Evoked Responses in Motor Cortex. Journal of Neuroscience, 2010, 30, 11506-11515.	1.7	50
41	Is a virtual trajectory necessary in reaching movements?. Biological Cybernetics, 1994, 70, 541-551.	0.6	48
42	Encoding of Both Reaching and Grasping Kinematics in Dorsal and Ventral Premotor Cortices. Journal of Neuroscience, 2017, 37, 1733-1746.	1.7	47
43	Modulation Dynamics in the Orofacial Sensorimotor Cortex during Motor Skill Acquisition. Journal of Neuroscience, 2014, 34, 5985-5997.	1.7	46
44	Neural population dynamics in motor cortex are different for reach and grasp. ELife, 2020, 9, .	2.8	46
45	Observation-based learning for brainâ€“machine interfaces. Current Opinion in Neurobiology, 2008, 18, 589-594.	2.0	45
46	Postural Representations of the Hand in the Primate Sensorimotor Cortex. Neuron, 2019, 104, 1000-1009.e7.	3.8	40
47	The marmoset as a model system for studying voluntary motor control. Developmental Neurobiology, 2017, 77, 273-285.	1.5	39
48	Sequential movement representations based on correlated neuronal activity. Experimental Brain Research, 2003, 149, 478-486.	0.7	35
49	Coordinate system representations of movement direction in the premotor cortex. Experimental Brain Research, 2007, 176, 652-657.	0.7	28
50	Movement Decomposition in the Primary Motor Cortex. Cerebral Cortex, 2019, 29, 1619-1633.	1.6	28
51	Propagating Motor Cortical Dynamics Facilitate Movement Initiation. Neuron, 2020, 106, 526-536.e4.	3.8	26
52	Decoding hand kinematics from population responses in sensorimotor cortex during grasping. Journal of Neural Engineering, 2020, 17, 046035.	1.8	26
53	Template-Based Spike Pattern Identification With Linear Convolution and Dynamic Time Warping. Journal of Neurophysiology, 2007, 97, 1221-1235.	0.9	21
54	Neural coordination during reach-to-grasp. Journal of Neurophysiology, 2015, 114, 1827-1836.	0.9	21

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55	Spatio-Temporal Patterning in Primary Motor Cortex at Movement Onset. Cerebral Cortex, 2016, 27, 1491-1500.	1.6	20
56	Changes in cortical network connectivity with long-term brain-machine interface exposure after chronic amputation. Nature Communications, 2017, 8, 1796.	5.8	19
57	Encoding in the Motor Cortex: Was Evarts Right After All? Focus on â€œMotor Cortex Neural Correlates of Output Kinematics and Kinetics During Isometric-Force and Arm-Reaching Tasksâ€. Journal of Neurophysiology, 2005, 94, 2261-2262.	0.9	17
58	Tracking single units in chronic, large scale, neural recordings for brain machine interface applications. Frontiers in Neuroengineering, 2014, 7, 23.	4.8	17
59	A platform for semiautomated voluntary training of common marmosets for behavioral neuroscience. Journal of Neurophysiology, 2020, 123, 1420-1426.	0.9	17
60	Columnar organization in the motor cortex. Cortex, 2010, 46, 270-271.	1.1	16
61	Temporal evolution of both premotor and motor cortical tuning properties reflect changes in limb biomechanics. Journal of Neurophysiology, 2015, 113, 2812-2823.	0.9	16
62	Nonmonotonic spatial structure of interneuronal correlations in prefrontal microcircuits. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3539-E3548.	3.3	16
63	Heterogeneous neural coding of corrective movements in motor cortex. Frontiers in Neural Circuits, 2013, 7, 51.	1.4	15
64	The many ways of building collision-sensitive neurons. Trends in Neurosciences, 1999, 22, 437-438.	4.2	14
65	Unsupervised decoder initialization for brain-machine interfaces using neural state space dynamics. , 2013, , .		14
66	Integrating XMALab and DeepLabCut for high-throughput XROMM. Journal of Experimental Biology, 2020, 223, .	0.8	14
67	Longevity and reliability of chronic unit recordings using the Utah, intracortical multi-electrode arrays. Journal of Neural Engineering, 2021, 18, 066044.	1.8	14
68	Chapter 15 Representations based on neuronal interactions in motor cortex. Progress in Brain Research, 2001, 130, 233-244.	0.9	13
69	Synthesizing complex movement fragment representations from motor cortical ensembles. Journal of Physiology (Paris), 2012, 106, 112-119.	2.1	13
70	Sagittal Plane Kinematics of the Jaw and Hyolingual Apparatus During Swallowing in Macaca mulatta. Dysphagia, 2017, 32, 663-677.	1.0	13
71	Dynamics of motor cortical activity during naturalistic feeding behavior. Journal of Neural Engineering, 2019, 16, 026038.	1.8	13
72	Chronic wireless neural population recordings with common marmosets. Cell Reports, 2021, 36, 109379.	2.9	11

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73	Motor cortex microcircuits. Frontiers in Neural Circuits, 2013, 7, 196.	1.4	10
74	Emergent coordination underlying learning to reach to grasp with a brain-machine interface. Journal of Neurophysiology, 2018, 119, 1291-1304.	0.9	8
75	Validating markerless pose estimation with 3D X-ray radiography. Journal of Experimental Biology, 2022, 225, .	0.8	6
76	Loss of oral sensation impairs feeding performance and consistency of tongueâ€“jaw coordination. Journal of Oral Rehabilitation, 2022, 49, 806-816.	1.3	6
77	Coupling time decoding and trajectory decoding using a target-included model in the motor cortex. Neurocomputing, 2012, 82, 117-126.	3.5	5
78	Extension of Mutual Subspace Method for Low Dimensional Feature Projection. , 2007, , .		3
79	Target-included model and hybrid decoding of stereotyped hand movement in the motor cortex. , 2008, , .		2
80	Granger causality analysis of state dependent functional connectivity of neurons in orofacial motor cortex during chewing and swallowing. , 2012, , .		2
81	Consideration of the functional relationship between cortex and motor periphery improves offline decoding performance. , 2014, 2014, 4868-71.		2
82	Dynamic interlaminar and thalamocortical interaction supported by top-down beta rhythms. , 2015, , .		2
83	Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics.. , 2015, , .		2
84	Erratum to Kinetic Trajectory Decoding Using Motor Cortical Ensembles. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2009, 17, 606-606.	2.7	1
85	Comparing decoding performance between functionally defined neural populations. , 2015, , .		1
86	Do control variables exist?. Behavioral and Brain Sciences, 1995, 18, 762-762.	0.4	0
87	Exploring and Organizing Spatiotemporal Features such as Waves in High Throughput Brain Recordings by Lifting to Feature Space. , 2007, , .		0
88	Integrating neural spiking and LFP activity to decode kinematics of the arm and hand during unconstrained reach to grasp movements. , 2013, , .		0
89	Latent variable models for uncovering motor cortical ensemble dynamics. , 2017, , .		0
90	The importance of volitional behavior in neuroplasticity. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	0