

Nicholas G Hatsopoulos

List of Publications by Year in Descending Order

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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 | Chronic wireless neural population recordings with common marmosets. <i>Cell Reports</i> , 2021 , 36, 109379 | 10.6 | 1 |
| 82 | A platform for semiautomated voluntary training of common marmosets for behavioral neuroscience. <i>Journal of Neurophysiology</i> , 2020 , 123, 1420-1426 | 3.2 | 6 |
| 81 | Propagating Motor Cortical Dynamics Facilitate Movement Initiation. <i>Neuron</i> , 2020 , 106, 526-536.e4 | 13.9 | 7 |
| 80 | Neural population dynamics in motor cortex are different for reach and grasp. <i>ELife</i> , 2020 , 9, | 8.9 | 12 |
| 79 | Decoding hand kinematics from population responses in sensorimotor cortex during grasping. <i>Journal of Neural Engineering</i> , 2020 , 17, 046035 | 5 | 13 |
| 78 | Integrating XMA Lab and DeepLabCut for high-throughput XROMM. <i>Journal of Experimental Biology</i> , 2020 , 223, | 3 | 5 |
| 77 | Dynamics of motor cortical activity during naturalistic feeding behavior. <i>Journal of Neural Engineering</i> , 2019 , 16, 026038 | 5 | 6 |
| 76 | Postural Representations of the Hand in the Primate Sensorimotor Cortex. <i>Neuron</i> , 2019 , 104, 1000-1009.e7 | 13.9 | 17 |
| 75 | Movement Decomposition in the Primary Motor Cortex. <i>Cerebral Cortex</i> , 2019 , 29, 1619-1633 | 5.1 | 13 |
| 74 | 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 |
| 73 | 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 |
| 72 | 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 |
| 71 | Local field potentials primarily reflect inhibitory neuron activity in human and monkey cortex. <i>Scientific Reports</i> , 2017 , 7, 40211 | 4.9 | 45 |
| 70 | Sagittal Plane Kinematics of the Jaw and Hyolingual Apparatus During Swallowing in Macaca mulatta. <i>Dysphagia</i> , 2017 , 32, 663-677 | 3.7 | 10 |
| 69 | Perspectives on classical controversies about the motor cortex. <i>Journal of Neurophysiology</i> , 2017 , 118, 1828-1848 | 3.2 | 53 |
| 68 | Spatio-Temporal Patterning in Primary Motor Cortex at Movement Onset. <i>Cerebral Cortex</i> , 2017 , 27, 1491-1500 | 5.1 | 14 |
| 67 | 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 |

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|----|--|------|-----|
| 66 | The marmoset as a model system for studying voluntary motor control. <i>Developmental Neurobiology</i> , 2017 , 77, 273-285 | 3.2 | 22 |
| 65 | Dynamic Balance of Excitation and Inhibition in Human and Monkey Neocortex. <i>Scientific Reports</i> , 2016 , 6, 23176 | 4.9 | 137 |
| 64 | Similarity in Neuronal Firing Regimes across Mammalian Species. <i>Journal of Neuroscience</i> , 2016 , 36, 5736-5747 | 4.7 | 42 |
| 63 | 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 |
| 62 | 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 |
| 61 | Neural coordination during reach-to-grasp. <i>Journal of Neurophysiology</i> , 2015 , 114, 1827-36 | 3.2 | 14 |
| 60 | Large-scale spatiotemporal spike patterning consistent with wave propagation in motor cortex. <i>Nature Communications</i> , 2015 , 6, 7169 | 17.4 | 43 |
| 59 | Comparing decoding performance between functionally defined neural populations 2015 , | | 1 |
| 58 | Dynamic interlaminar and thalamocortical interaction supported by top-down beta rhythms 2015 , | | 2 |
| 57 | Recurrence network analysis of wide band oscillations of local field potentials from the primary motor cortex reveals rich dynamics. 2015 , | | 2 |
| 56 | 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 |
| 55 | Modulation dynamics in the orofacial sensorimotor cortex during motor skill acquisition. <i>Journal of Neuroscience</i> , 2014 , 34, 5985-97 | 6.6 | 37 |
| 54 | Tracking single units in chronic, large scale, neural recordings for brain machine interface applications. <i>Frontiers in Neuroengineering</i> , 2014 , 7, 23 | | 12 |
| 53 | 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 |
| 52 | Unsupervised decoder initialization for brain-machine interfaces using neural state space dynamics 2013 , | | 9 |
| 51 | Heterogeneous neural coding of corrective movements in motor cortex. <i>Frontiers in Neural Circuits</i> , 2013 , 7, 51 | 3.5 | 9 |
| 50 | Synthesizing complex movement fragment representations from motor cortical ensembles. <i>Journal of Physiology (Paris)</i> , 2012 , 106, 112-9 | | 11 |
| 49 | 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 |

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|----|--|------|-----|
| 48 | Conditional modeling and the jitter method of spike resampling. <i>Journal of Neurophysiology</i> , 2012 , 107, 517-31 | 3.2 | 83 |
| 47 | Functional connectivity and tuning curves in populations of simultaneously recorded neurons. <i>PLoS Computational Biology</i> , 2012 , 8, e1002775 | 5 | 43 |
| 46 | 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 |
| 45 | Granger causality analysis of state dependent functional connectivity of neurons in orofacial motor cortex during chewing and swallowing 2012 , | | 2 |
| 44 | Encoding of coordinated reach and grasp trajectories in primary motor cortex. <i>Journal of Neuroscience</i> , 2012 , 32, 1220-32 | 6.6 | 59 |
| 43 | Sensing with the motor cortex. <i>Neuron</i> , 2011 , 72, 477-87 | 13.9 | 104 |
| 42 | Propagating waves in human motor cortex. <i>Frontiers in Human Neuroscience</i> , 2011 , 5, 40 | 3.3 | 63 |
| 41 | Statistical assessment of the stability of neural movement representations. <i>Journal of Neurophysiology</i> , 2011 , 106, 764-74 | 3.2 | 50 |
| 40 | 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 |
| 39 | Encoding of coordinated grasp trajectories in primary motor cortex. <i>Journal of Neuroscience</i> , 2010 , 30, 17079-90 | 6.6 | 44 |
| 38 | Incorporating feedback from multiple sensory modalities enhances brain-machine interface control. <i>Journal of Neuroscience</i> , 2010 , 30, 16777-87 | 6.6 | 170 |
| 37 | Periodicity and evoked responses in motor cortex. <i>Journal of Neuroscience</i> , 2010 , 30, 11506-15 | 6.6 | 37 |
| 36 | Columnar organization in the motor cortex. <i>Cortex</i> , 2010 , 46, 270-1 | 3.8 | 8 |
| 35 | Fast and slow oscillations in human primary motor cortex predict oncoming behaviorally relevant cues. <i>Neuron</i> , 2010 , 65, 461-71 | 13.9 | 172 |
| 34 | 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 |
| 33 | Single-unit stability using chronically implanted multielectrode arrays. <i>Journal of Neurophysiology</i> , 2009 , 102, 1331-9 | 3.2 | 170 |
| 32 | 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 |
| 31 | 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 |

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|----|---|-----|-----|
| 30 | The science of neural interface systems. <i>Annual Review of Neuroscience</i> , 2009 , 32, 249-66 | 17 | 261 |
| 29 | Observation-based learning for brain-machine interfaces. <i>Current Opinion in Neurobiology</i> , 2008 , 18, 589-94 | 9.6 | 39 |
| 28 | Target-included model and hybrid decoding of stereotyped hand movement in the motor cortex 2008 , | | 2 |
| 27 | Congruent activity during action and action observation in motor cortex. <i>Journal of Neuroscience</i> , 2007 , 27, 13241-50 | 6.6 | 243 |
| 26 | Coordinate system representations of movement direction in the premotor cortex. <i>Experimental Brain Research</i> , 2007 , 176, 652-7 | 2.3 | 27 |
| 25 | Extension of Mutual Subspace Method for Low Dimensional Feature Projection 2007 , | | 1 |
| 24 | Encoding of movement fragments in the motor cortex. <i>Journal of Neuroscience</i> , 2007 , 27, 5105-14 | 6.6 | 122 |
| 23 | Biomimetic brain machine interfaces for the control of movement. <i>Journal of Neuroscience</i> , 2007 , 27, 11842-6 | 6.6 | 61 |
| 22 | Template-based spike pattern identification with linear convolution and dynamic time warping. <i>Journal of Neurophysiology</i> , 2007 , 97, 1221-35 | 3.2 | 20 |
| 21 | Evidence against a single coordinate system representation in the motor cortex. <i>Experimental Brain Research</i> , 2006 , 175, 197-210 | 2.3 | 59 |
| 20 | 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 |
| 19 | Propagating waves mediate information transfer in the motor cortex. <i>Nature Neuroscience</i> , 2006 , 9, 1549-57 | 2.5 | 311 |
| 18 | Statistical encoding model for a primary motor cortical brain-machine interface. <i>IEEE Transactions on Biomedical Engineering</i> , 2005 , 52, 1312-22 | 5 | 68 |
| 17 | Encoding in the motor cortex: was everts 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 |
| 16 | Spatiotemporal tuning of motor cortical neurons for hand position and velocity. <i>Journal of Neurophysiology</i> , 2004 , 91, 515-32 | 3.2 | 267 |
| 15 | Superlinear population encoding of dynamic hand trajectory in primary motor cortex. <i>Journal of Neuroscience</i> , 2004 , 24, 8551-61 | 6.6 | 98 |
| 14 | Microelectrode array fabrication by electrical discharge machining and chemical etching. <i>IEEE Transactions on Biomedical Engineering</i> , 2004 , 51, 890-5 | 5 | 65 |
| 13 | Decoding continuous and discrete motor behaviors using motor and premotor cortical ensembles. <i>Journal of Neurophysiology</i> , 2004 , 92, 1165-74 | 3.2 | 161 |

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| 12 | Sequential movement representations based on correlated neuronal activity. <i>Experimental Brain Research</i> , 2003 , 149, 478-86 | 2.3 | 31 |
| 11 | Robustness of neuroprosthetic decoding algorithms. <i>Biological Cybernetics</i> , 2003 , 88, 219-28 | 2.8 | 71 |
| 10 | Instant neural control of a movement signal. <i>Nature</i> , 2002 , 416, 141-2 | 50.4 | 1085 |
| 9 | Representations based on neuronal interactions in motor cortex. <i>Progress in Brain Research</i> , 2001 , 130, 233-44 | 2.9 | 9 |
| 8 | 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 |
| 7 | The many ways of building collision-sensitive neurons. <i>Trends in Neurosciences</i> , 1999 , 22, 437-8 | 13.3 | 11 |
| 6 | 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 |
| 5 | Coupling the neural and physical dynamics in rhythmic movements. <i>Neural Computation</i> , 1996 , 8, 567-81 | 2.9 | 70 |
| 4 | Resonance Tuning in Rhythmic Arm Movements. <i>Journal of Motor Behavior</i> , 1996 , 28, 3-14 | 1.4 | 79 |
| 3 | Do control variables exist?. <i>Behavioral and Brain Sciences</i> , 1995 , 18, 762-762 | 0.9 | |
| 2 | Is a virtual trajectory necessary in reaching movements?. <i>Biological Cybernetics</i> , 1994 , 70, 541-51 | 2.8 | 48 |
| 1 | Postural Representations of the Hand in Primate Sensorimotor Cortex | | 2 |