

Tonio Ball

List of Publications by Year in descending order

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Version: 2024-02-01

71
papers

5,738
citations

136950

32
h-index

98798

67
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76
all docs

76
docs citations

76
times ranked

6614
citing authors

#	ARTICLE	IF	CITATIONS
1	Interpretable functional specialization emerges in deep convolutional networks trained on brain signals. <i>Journal of Neural Engineering</i> , 2022, 19, 036006.	3.5	3
2	Towards a Governance Framework for Brain Data. <i>Neuroethics</i> , 2022, 15, .	2.8	21
3	Blink- and saccade-related suppression effects in early visual areas of the human brain: Intracranial EEG investigations during natural viewing conditions. <i>NeuroImage</i> , 2021, 230, 117788.	4.2	10
4	A Structured Approach to Test the Signal Quality of Electroencephalography Measurements During Use of Head-Mounted Displays for Virtual Reality Applications. <i>Frontiers in Neuroscience</i> , 2021, 15, 733673.	2.8	8
5	A Study of Word Complexity Under Conditions of Non-experimental, Natural Overt Speech Production Using ECoG. <i>Frontiers in Human Neuroscience</i> , 2021, 15, 711886.	2.0	1
6	Machine-learning-based diagnostics of EEG pathology. <i>NeuroImage</i> , 2020, 220, 117021.	4.2	119
7	Modulating dream experience: Noninvasive brain stimulation over the sensorimotor cortex reduces dream movement. <i>Scientific Reports</i> , 2020, 10, 6735.	3.3	9
8	Brain Activity in Virtual Reality: Assessing Signal Quality of High-Resolution EEG While Using Head-Mounted Displays. , 2019, , .		22
9	Large-scale cortical travelling waves predict localized future cortical signals. <i>PLoS Computational Biology</i> , 2019, 15, e1007316.	3.2	15
10	Probabilistic neuroanatomical assignment of intracranial electrodes using the ELAS toolbox. <i>Journal of Neuroscience Methods</i> , 2019, 327, 108396.	2.5	3
11	Hybrid Brain-Computer-Interfacing for Human-Compliant Robots: Inferring Continuous Subjective Ratings With Deep Regression. <i>Frontiers in Neurorobotics</i> , 2019, 13, 76.	2.8	3
12	A service assistant combining autonomous robotics, flexible goal formulation, and deep-learning-based brain-computer interfacing. <i>Robotics and Autonomous Systems</i> , 2019, 116, 98-113.	5.1	38
13	Human motor cortex relies on sparse and action-specific activation during laughing, smiling and speech production. <i>Communications Biology</i> , 2019, 2, 118.	4.4	15
14	The dynamics of error processing in the human brain as reflected by high-gamma activity in noninvasive and intracranial EEG. <i>NeuroImage</i> , 2018, 173, 564-579.	4.2	31
15	Electrophysiological correlates of neurodegeneration in motor and non-motor brain regions in amyotrophic lateral sclerosis—implications for brain-computer interfacing. <i>Journal of Neural Engineering</i> , 2018, 15, 041003.	3.5	14
16	Hierarchical internal representation of spectral features in deep convolutional networks trained for EEG decoding. , 2018, , .		21
17	Computationally optimized ECoG stimulation with local safety constraints. <i>NeuroImage</i> , 2018, 173, 35-48.	4.2	11
18	Spectral bandwidth of interictal fast epileptic activity characterizes the seizure onset zone. <i>NeuroImage: Clinical</i> , 2018, 17, 865-872.	2.7	8

#	ARTICLE	IF	CITATIONS
19	Deep transfer learning for error decoding from non-invasive EEG. , 2018, , .		28
20	Intracranial Error Detection via Deep Learning. , 2018, , .		5
21	A Large-Scale Evaluation Framework for EEG Deep Learning Architectures. , 2018, , .		7
22	Cross-Paradigm Pretraining of Convolutional Networks Improves Intracranial EEG Decoding. , 2018, , .		7
23	Real-life speech production and perception have a shared premotor-cortical substrate. Scientific Reports, 2018, 8, 8898.	3.3	30
24	Closed-loop interaction with the cerebral cortex using a novel micro-ECoG-based implant: the impact of beta vs. gamma stimulation frequencies on cortico-cortical spectral responses. Brain-Computer Interfaces, 2017, 4, 214-224.	1.8	8
25	Mapping the fine structure of cortical activity with different micro-ECoG electrode array geometries. Journal of Neural Engineering, 2017, 14, 056004.	3.5	28
26	Neurolinguistic and machine-learning perspectives on direct speech BCIs for restoration of naturalistic communication. Brain-Computer Interfaces, 2017, 4, 186-199.	1.8	23
27	Closed-loop interaction with the cerebral cortex: a review of wireless implant technology. Brain-Computer Interfaces, 2017, 4, 146-154.	1.8	44
28	Deep learning with convolutional neural networks for EEG decoding and visualization. Human Brain Mapping, 2017, 38, 5391-5420.	3.6	1,656
29	An interspecies comparative study of invasive electrophysiological functional connectivity. Brain and Behavior, 2017, 7, e00863.	2.2	3
30	The Effects of Closed-Loop Medical Devices on the Autonomy and Accountability of Persons and Systems. Cambridge Quarterly of Healthcare Ethics, 2016, 25, 623-633.	0.8	61
31	New Perspectives on Neuroengineering and Neurotechnologies: NSF-DFG Workshop Report. IEEE Transactions on Biomedical Engineering, 2016, 63, 1354-1367.	4.2	23
32	Electrical Stimulation of the Human Cerebral Cortex by Extracranial Muscle Activity: Effect Quantification With Intracranial EEG and FEM Simulations. IEEE Transactions on Biomedical Engineering, 2016, 63, 2552-2563.	4.2	10
33	Predominance of Movement Speed Over Direction in Neuronal Population Signals of Motor Cortex: Intracranial EEG Data and A Simple Explanatory Model. Cerebral Cortex, 2016, 26, 2863-2881.	2.9	40
34	The Role of the Subgenual Anterior Cingulate Cortex and Amygdala in Environmental Sensitivity to Infant Crying. PLoS ONE, 2016, 11, e0161181.	2.5	10
35	Causal interpretation rules for encoding and decoding models in neuroimaging. NeuroImage, 2015, 110, 48-59.	4.2	84
36	Invasive brainâ€“machine interfaces: a survey of paralyzed patientsâ€™ attitudes, knowledge and methods of information retrieval. Journal of Neural Engineering, 2015, 12, 043001.	3.5	29

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37	From speech to thought: the neuronal basis of cognitive units in non-experimental, real-life communication investigated using ECoG. <i>Frontiers in Human Neuroscience</i> , 2014, 8, 383.	2.0	18
38	Mapping of sheep sensory cortex with a novel microelectrocorticography grid. <i>Journal of Comparative Neurology</i> , 2014, 522, 3590-3608.	1.6	33
39	Visualization of the amygdalo-hippocampal border and its structural variability by 7T and 3T magnetic resonance imaging. <i>Human Brain Mapping</i> , 2014, 35, 4316-4329.	3.6	29
40	Who gets afraid in the MRI-scanner? Neurogenetics of state-anxiety changes during an fMRI experiment. <i>Neuroscience Letters</i> , 2014, 583, 81-86.	2.1	19
41	Heart cycle-related effects on event-related potentials, spectral power changes, and connectivity patterns in the human ECoG. <i>NeuroImage</i> , 2013, 81, 178-190.	4.2	109
42	Traveling waves and trial averaging: The nature of single-trial and averaged brain responses in large-scale cortical signals. <i>NeuroImage</i> , 2013, 73, 95-112.	4.2	72
43	Somatotopic mapping of natural upper- and lower-extremity movements and speech production with high gamma electrocorticography. <i>NeuroImage</i> , 2013, 81, 164-177.	4.2	43
44	Co-localizing linguistic and musical syntax with intracranial EEG. <i>NeuroImage</i> , 2013, 64, 134-146.	4.2	60
45	Detection of Error Related Neuronal Responses Recorded by Electrocoorticography in Humans during Continuous Movements. <i>PLoS ONE</i> , 2013, 8, e55235.	2.5	48
46	Structural basis of empathy and the domain general region in the anterior insular cortex. <i>Frontiers in Human Neuroscience</i> , 2013, 7, 177.	2.0	80
47	The role of ECoG magnitude and phase in decoding position, velocity, and acceleration during continuous motor behavior. <i>Frontiers in Neuroscience</i> , 2013, 7, 200.	2.8	36
48	Grasp Detection from Human ECoG during Natural Reach-to-Grasp Movements. <i>PLoS ONE</i> , 2013, 8, e54658.	2.5	40
49	Error-related electrocorticographic activity in humans during continuous movements. <i>Journal of Neural Engineering</i> , 2012, 9, 026007.	3.5	44
50	An online brain-machine interface using decoding of movement direction from the human electrocorticogram. <i>Journal of Neural Engineering</i> , 2012, 9, 046003.	3.5	56
51	Pain and emotion in the insular cortex: evidence for functional reorganization in major depression. <i>Neuroscience Letters</i> , 2012, 520, 204-209.	2.1	76
52	Decoding natural grasp types from human ECoG. <i>NeuroImage</i> , 2012, 59, 248-260.	4.2	236
53	Intention Concepts and Brain-Machine Interfacing. <i>Frontiers in Psychology</i> , 2012, 3, 455.	2.1	11
54	Decoding the communication partner from ECoG of the anterior temporal lobe during non-experimental, real-life social interaction. <i>Frontiers in Human Neuroscience</i> , 2012, 6, 251.	2.0	21

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55	Reaching Movement Onset- and End-Related Characteristics of EEG Spectral Power Modulations. <i>Frontiers in Neuroscience</i> , 2012, 6, 65.	2.8	36
56	Variability of fMRI response patterns at different spatial observation scales. <i>Human Brain Mapping</i> , 2012, 33, 1155-1171.	3.6	16
57	sLORETA allows reliable distributed source reconstruction based on subdural strip and grid recordings. <i>Human Brain Mapping</i> , 2012, 33, 1172-1188.	3.6	51
58	Evaluation of ECoG electrode arrays in the minipig: Experimental procedure and neurosurgical approach. <i>Journal of Neuroscience Methods</i> , 2011, 202, 77-86.	2.5	17
59	Time Scales of Auditory Habituation in the Amygdala and Cerebral Cortex. <i>Cerebral Cortex</i> , 2010, 20, 2531-2539.	2.9	41
60	Differential representation of arm movement direction in relation to cortical anatomy and function. <i>Journal of Neural Engineering</i> , 2009, 6, 016006.	3.5	112
61	A review on directional information in neural signals for brain-machine interfaces. <i>Journal of Physiology (Paris)</i> , 2009, 103, 244-254.	2.1	162
62	Anatomical specificity of functional amygdala imaging of responses to stimuli with positive and negative emotional valence. <i>Journal of Neuroscience Methods</i> , 2009, 180, 57-70.	2.5	74
63	Functional organization of the human anterior insular cortex. <i>Neuroscience Letters</i> , 2009, 457, 66-70.	2.1	227
64	Signal quality of simultaneously recorded invasive and non-invasive EEG. <i>NeuroImage</i> , 2009, 46, 708-716.	4.2	335
65	Probabilistic Assignment of Brain Responses to the Human Amygdala and its Subregions using High Resolution Functional MRI. <i>IFMBE Proceedings</i> , 2009, , 807-810.	0.3	1
66	Prediction of arm movement trajectories from ECoG-recordings in humans. <i>Journal of Neuroscience Methods</i> , 2008, 167, 105-114.	2.5	301
67	Movement related activity in the high gamma range of the human EEG. <i>NeuroImage</i> , 2008, 41, 302-310.	4.2	236
68	A Rapid Sound-Action Association Effect in Human Insular Cortex. <i>PLoS ONE</i> , 2007, 2, e259.	2.5	85
69	Response Properties of Human Amygdala Subregions: Evidence Based on Functional MRI Combined with Probabilistic Anatomical Maps. <i>PLoS ONE</i> , 2007, 2, e307.	2.5	144
70	Comparing information about arm movement direction in single channels of local and epicortical field potentials from monkey and human motor cortex. <i>Journal of Physiology (Paris)</i> , 2004, 98, 498-506.	2.1	97
71	The Role of Higher-Order Motor Areas in Voluntary Movement as Revealed by High-Resolution EEG and fMRI. <i>NeuroImage</i> , 1999, 10, 682-694.	4.2	317