Natalie Mrachacz-Kersting

List of Publications by Year
in descending order

113 **papers**	2,777 **citations**	236925 25 **h-index**	206112 48 **g-index**
122 **all docs**	122 **docs citations**	122 **times ranked**	2246 **citing authors**

#	Article	IF	Citations
1	Reducing the Calibration Time in Somatosensory BCI by Using Tactile ERD. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2022, 30, 1870-1876.	4.9	9
2	Generative Adversarial Networks-Based Data Augmentation for Brain–Computer Interface. IEEE Transactions on Neural Networks and Learning Systems, 2021, 32, 4039-4051.	11.3	85
3	Neuropsychological and neurophysiological aspects of brain–computer–interface (BCI) control in paralysis. Journal of Physiology, 2021, 599, 2351-2359.	2.9	45
4	Towards a mechanistic approach for the development of non–invasive brain–computer interfaces for motor rehabilitation. Journal of Physiology, 2021, 599, 2361-2374.	2.9	22
5	Effect of motor learning with different complexities on EEG spectral distribution and performance improvement. Biomedical Signal Processing and Control, 2021, 66, 102447.	5.7	8
6	Brain–computer interfaces and plasticity of the human nervous system. Journal of Physiology, 2021, 599, 2349-2350.	2.9	1
7	Selection of Temporal Features for the Detection of Movement Intention in patients with Amyotrophic Lateral Sclerosis. , 2021, , .		0
8	Online control of an assistive active glove by slow cortical signals in patients with amyotrophic lateral sclerosis. Journal of Neural Engineering, 2021, 18, 046085.	3.5	6
9	Participant-specific classifier tuning increases the performance of hand movement detection from EEG in patients with amyotrophic lateral sclerosis. Journal of Neural Engineering, 2021, 18, 056023.	3.5	6
10	Short-interval intracortical inhibition and facilitation targeting upper and lower limb muscles. Scientific Reports, 2021, 11, 21993.	3.3	3
11	Dynamics of movement–related cortical potentials and sensorimotor oscillations during palmar grasp movements. European Journal of Neuroscience, 2020, 51, 1962-1970.	2.6	13
12	Adaptive Brain-Computer Interface with Attention Alterations in Patients with Amyotrophic Lateral Sclerosis. , 2020, 2020, 3188-3191.		1
13	Real-time neurofeedback is effective in reducing diversion of attention from a motor task in healthy individuals and patients with amyotrophic lateral sclerosis. Journal of Neural Engineering, 2020, 17, 036017.	3.5	4
14	Sensory Stimulation Training for BCI System Based on Somatosensory Attentional Orientation. IEEE Transactions on Biomedical Engineering, 2019, 66, 640-646.	4.2	24
15	Modulation of soleus stretch reflexes during walking in people with chronic incomplete spinal cord injury. Experimental Brain Research, 2019, 237, 2461-2479.	1.5	17
16	Modulation of Cortical Excitability with BCI for Stroke Rehabilitation. , 2019, , .		1
17	Brain-Computer Interface Research: A State-of-the-Art Summary 7. Springer Briefs in Electrical and Computer Engineering, 2019, , 1-9.	0.5	7
18	Acquisition of a simple motor skill: task-dependent adaptation and long-term changes in the human soleus stretch reflex. Journal of Neurophysiology, 2019, 122, 435-446.	1.8	18

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19	Recent Advances in Brain-Computer Interface Research—A Summary of the 2017 BCI Award and BCI Research Trends. Springer Briefs in Electrical and Computer Engineering, 2019, , 115-127.	0.5	0
20	Online Adaptive Synchronous BCI System with Attention Variations. Springer Briefs in Electrical and Computer Engineering, 2019, , 31-41.	0.5	4
21	A software for testing and training visuo-motor coordination for upper limb control. Journal of Neuroscience Methods, 2019, 324, 108310.	2.5	2
22	Continuous 2D control via state-machine triggered by endogenous sensory discrimination and a fast brain switch. Journal of Neural Engineering, 2019, 16, 056001.	3.5	13
23	Classification of Movement Preparation Between Attended and Distracted Self-Paced Motor Tasks. IEEE Transactions on Biomedical Engineering, 2019, 66, 3060-3071.	4.2	6
24	Adaptive learning in the detection of Movement Related Cortical Potentials improves usability of associative Brain-Computer Interfaces. , 2019, 2019, 3079-3082.		2
25	Brain state–dependent stimulation boosts functional recovery following stroke. Annals of Neurology, 2019, 85, 84-95.	5.3	41
26	Brain-State Dependent Peripheral Nerve Stimulation for Plasticity Induction Targeting Upper-Limb. Biosystems and Biorobotics, 2019, , 1061-1065.	0.3	2
27	The Efficacy of a Real-Time vs an Offline Associative Brain-Computer-Interface. Biosystems and Biorobotics, 2019, , 893-896.	0.3	0
28	Exploring the EEG Signatures of Musculoskeletal Pain. Biosystems and Biorobotics, 2019, , 734-738.	0.3	1
29	Brain State-Dependent Peripheral Nerve Stimulation for Plasticity Induction in Stroke Patients. Biosystems and Biorobotics, 2019, , 1066-1070.	0.3	0
30	Performance of Brain–Computer Interfacing Based on Tactile Selective Sensation and Motor Imagery. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 60-68.	4.9	12
31	Effect of wobble board training on movement strategies to maintain equilibrium on unstable surfaces. Human Movement Science, 2018, 58, 231-238.	1.4	28
32	Decoding Covert Somatosensory Attention by a BCI System Calibrated With Tactile Sensation. IEEE Transactions on Biomedical Engineering, 2018, 65, 1689-1695.	4.2	17
33	Effects of wobble board training on single‐leg landing neuromechanics. Scandinavian Journal of Medicine and Science in Sports, 2018, 28, 972-982.	2.9	18
34	A Multi-Class BCI Based on Somatosensory Imagery. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 1508-1515.	4.9	21
35	Technologically-advanced assessment of upper-limb spasticity: a pilot study. European Journal of Physical and Rehabilitation Medicine, 2018, 54, 536-544.	2.2	15
36	Brain-computer interfaces for stroke rehabilitation: summary of the 2016 BCI Meeting in Asilomar. Brain-Computer Interfaces, 2018, 5, 41-57.	1.8	6

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37	Decrease in force steadiness with aging is associated with increased power of the common but not independent input to motor neurons. Journal of Neurophysiology, 2018, 120, 1616-1624.	1.8	40
38	Coherence of the Surface EMG and Common Synaptic Input to Motor Neurons. Frontiers in Human Neuroscience, 2018, 12, 207.	2.0	28
39	Evidence for a Supraspinal Contribution to the Human Crossed Reflex Response During Human Walking. Frontiers in Human Neuroscience, 2018, 12, 260.	2.0	7
40	Comparison of the Efficacy of a Real-Time and Offline Associative Brain-Computer-Interface. Frontiers in Neuroscience, 2018, 12, 455.	2.8	10
41	Delayed muscle onset soreness in the gastrocnemius muscle attenuates the spinal contribution to interlimb communication. European Journal of Applied Physiology, 2018, 118, 2393-2402.	2.5	6
42	A Multi-Class Tactile Brain–Computer Interface Based on Stimulus-Induced Oscillatory Dynamics. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2018, 26, 3-10.	4.9	20
43	Associative Plasticity Induced by a Brain–Computer Interface Based on Movement-Related Cortical Potentials. , 2018, , 669-684.		2
44	Convergence of ipsi- and contralateral muscle afferents on common interneurons mediating reciprocal inhibition of ankle plantarflexors in humans. Experimental Brain Research, 2017, 235, 1555-1564.	1.5	14
45	Classification of EEG signals to identify variations in attention during motor task execution. Journal of Neuroscience Methods, 2017, 284, 27-34.	2.5	45
46	A Brain-Computer-Interface to Combat Musculoskeletal Pain. Springer Briefs in Electrical and Computer Engineering, 2017, , 123-130.	0.5	0
47	Precise Temporal Association between Cortical Potentials Evoked by Motor Imagination and Afference Induces Cortical Plasticity. Brain Stimulation, 2017, 10, 413.	1.6	2
48	A Stimulus-Independent Hybrid BCI Based on Motor Imagery and Somatosensory Attentional Orientation. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2017, 25, 1674-1682.	4.9	38
49	Influence of dual-tasking with different levels of attention diversion on characteristics of the movement-related cortical potential. Brain Research, 2017, 1674, 10-19.	2.2	21
50	The effect of type of afferent feedback timed with motor imagery on the induction of cortical plasticity. Brain Research, 2017, 1674, 91-100.	2.2	28
51	Influence of Spontaneous Rhythm on Movement-Related Cortical Potential - A Preliminary Neurofeedback Study. Lecture Notes in Computer Science, 2017, , 90-98.	1.3	1
52	Tactile Stimulation Training to Enhance MRCP Detection in Chronic Stroke Patients. Lecture Notes in Computer Science, 2017, , 354-363.	1.3	3
53	Influence of attention alternation on movement-related cortical potentials in healthy individuals and stroke patients. Clinical Neurophysiology, 2017, 128, 165-175.	1.5	13
54	Effect of Attention Variation in Stroke Patients: Analysis of Single Trial Movement-Related Cortical Potentials. Biosystems and Biorobotics, 2017, , 983-987.	0.3	2

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55	Brain-computer interface based motor and cognitive rehabilitation after stroke â€" state of the art, opportunity, and barriers: summary of the BCI Meeting 2016 in Asilomar. Brain-Computer Interfaces, 2017, 4, 53-59.	1.8	17
56	Cortical oscillatory dynamics of tactile selective sensation - for a novel type of somatosensory Brain-computer Interface. , 2017, 2017, 1656-1659.		0
57	Evaluating the effectiveness of different external cues on non-invasive brain-computer interfaces. , 2017, 2017, 2782-2785.		0
58	Paired Associative Stimulation Targeting the Tibialis Anterior Muscle using either Mono or Biphasic Transcranial Magnetic Stimulation. Frontiers in Human Neuroscience, 2017, 11, 197.	2.0	6
59	Detection of Movement Related Cortical Potentials from EEG Using Constrained ICA for Brain-Computer Interface Applications. Frontiers in Neuroscience, 2017, 11, 356.	2.8	42
60	Common Spatial Pattern with Polarity Check for reducing delay latency in detection of MRCP based BCI system. , 2017, , .		3
61	Effect of attention division on movement detection and execution in dual-task conditions. , 2017, , .		0
62	Sensory Feedback in Interlimb Coordination: Contralateral Afferent Contribution to the Short-Latency Crossed Response during Human Walking. PLoS ONE, 2017, 12, e0168557.	2.5	11
63	Effect of Feedback Type on the Effectiveness of a Novel Associative BCI Protocol Targeting the Tibialis Anterior Muscle. Biosystems and Biorobotics, 2017, , 13-17.	0.3	1
64	Towards Online Functional Brain Mapping and Monitoring During Awake Craniotomy Surgery Using ECoG-Based Brain-Surgeon Interface (BSI). Springer Briefs in Electrical and Computer Engineering, 2017, , 91-96.	0.5	0
65	Comparison of EEG spatial filters for movement related cortical potential detection. , 2016, 2016, 1576-1579.		5
66	Motor Cortex Reorganization and Impaired Function in the Transition to Sustained Muscle Pain. Cerebral Cortex, 2016, 26, 1878-1890.	2.9	95
67	Strategies for equilibrium maintenance during single leg standing on a wobble board. Gait and Posture, 2016, 44, 149-154.	1.4	22
68	Efficient neuroplasticity induction in chronic stroke patients by an associative brain-computer interface. Journal of Neurophysiology, 2016, 115, 1410-1421.	1.8	189
69	Endogenous sensory discrimination and selection by a fast brain switch for a high transfer rate brain-computer interface. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 901-910.	4.9	22
70	Discriminative Manifold Learning Based Detection of Movement-Related Cortical Potentials. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2016, 24, 921-927.	4.9	22
71	Spinal plasticity in robot-mediated therapy for the lower limbs. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 81.	4.6	10
72	Shortâ€latency crossed responses in the human biceps femoris muscle. Journal of Physiology, 2015, 593, 3657-3671.	2.9	9

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73	Interlimb communication following unexpected changes in treadmill velocity during human walking. Journal of Neurophysiology, 2015, 113, 3151-3158.	1.8	6
74	Robustness of movement detection techniques from motor execution: Single trial movement related cortical potential. , 2015, , .		7
75	Differential modulation of motor cortex plasticity in skill- and endurance-trained athletes. European Journal of Applied Physiology, 2015, 115, 1107-1115.	2.5	21
76	Comparison of spatial filters and features for the detection and classification of movement-related cortical potentials in healthy individuals and stroke patients. Journal of Neural Engineering, 2015, 12, 056003.	3.5	47
77	Influence of external cues on synchronized Brain-Computer Interface based on movement related cortical potentials. , 2015, , .		3
78	Detection of movement intention from single-trial movement-related cortical potentials using random and non-random paradigms. Brain-Computer Interfaces, 2015, 2, 29-39.	1.8	12
79	The effect of crossed reflex responses on dynamic stability during locomotion. Journal of Neurophysiology, 2015, 114, 1034-1040.	1.8	9
80	A brainâ€"computer interface for single-trial detection of gait initiation from movement related cortical potentials. Clinical Neurophysiology, 2015, 126, 154-159.	1.5	112
81	Factors of Influence on the Performance of a Short-Latency Non-Invasive Brain Switch: Evidence in Healthy Individuals and Implication for Motor Function Rehabilitation. Frontiers in Neuroscience, 2015, 9, 527.	2.8	20
82	The Changing Brain: Bidirectional Learning Between Algorithm and User. Springer Briefs in Electrical and Computer Engineering, 2015, , 115-125.	0.5	0
83	Movement-related cortical potentials in paraplegic patients: abnormal patterns and considerations for BCI-rehabilitation. Frontiers in Neuroengineering, 2014, 7, 35.	4.8	21
84	Induction of plasticity in the human motor cortex by pairing an auditory stimulus with TMS. Frontiers in Human Neuroscience, 2014, 8, 398.	2.0	18
85	A Novel Brain-Computer Interface for Chronic Stroke Patients. Biosystems and Biorobotics, 2014, , 51-61.	0.3	8
86	Human stretch reflex pathways reexamined. Journal of Neurophysiology, 2014, 111, 602-612.	1.8	19
87	Enhanced Low-Latency Detection of Motor Intention From EEG for Closed-Loop Brain-Computer Interface Applications. IEEE Transactions on Biomedical Engineering, 2014, 61, 288-296.	4.2	168
88	An Accurate, Versatile, and Robust Brain Switch for Neurorehabilitation. Springer Briefs in Electrical and Computer Engineering, 2014, , 47-61.	0.5	12
89	Detection of Movement Intentions through a Single Channel of Electroencephalography. Biosystems and Biorobotics, 2014, , 465-472.	0.3	6
90	A Closed-Loop Brainâ€"Computer Interface Triggering an Active Ankleâ€"Foot Orthosis for Inducing Cortical Neural Plasticity. IEEE Transactions on Biomedical Engineering, 2014, 61, 2092-2101.	4.2	137

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91	Stretch Reflex Conditioning in Humans â€" Implications for Function. Biosystems and Biorobotics, 2014, , 103-111.	0.3	1
92	Detection of Movement Intention from Movement-Related Cortical Potentials with Different Paradigms. Biosystems and Biorobotics, 2014, , 237-244.	0.3	4
93	Functionality of the Contralateral Biceps Femoris Reflex Response during Human Walking. Biosystems and Biorobotics, 2014, , 765-773.	0.3	1
94	Cortical Contribution to Crossed Reflexes in Walking Humans. Biosystems and Biorobotics, 2014, , 575-583.	0.3	0
95	Movement Related Cortical Potentials and Sensory Motor Rhythms during Self Initiated and Cued Movements. Biosystems and Biorobotics, 2014, , 701-707.	0.3	7
96	The Role of Afferent Feedback from the Human Knee Extensors in Their Control during Human Movement. , 2014, , 1-49.		0
97	Detection and classification of movement-related cortical potentials associated with task force and speed. Journal of Neural Engineering, 2013, 10, 056015.	3.5	98
98	Crossed reflex reversal during human locomotion. Journal of Neurophysiology, 2013, 109, 2335-2344.	1.8	27
99	Interlimb communication to the knee flexors during walking in humans. Journal of Physiology, 2013, 591, 4921-4935.	2.9	23
100	The potential of imagination and artificial afference in stroke rehabilitation. , 2012, , .		0
101	Short-latency crossed spinal responses are impaired differently in sub-acute and chronic stroke patients. Clinical Neurophysiology, 2012, 123, 541-549.	1.5	20
102	Precise temporal association between cortical potentials evoked by motor imagination and afference induces cortical plasticity. Journal of Physiology, 2012, 590, 1669-1682.	2.9	210
103	Peripheral Electrical Stimulation Triggered by Self-Paced Detection of Motor Intention Enhances Motor Evoked Potentials. IEEE Transactions on Neural Systems and Rehabilitation Engineering, 2012, 20, 595-604.	4.9	129
104	The optimal interstimulus interval and repeatability of paired associative stimulation when the soleus muscle is targeted. Experimental Brain Research, 2012, 221, 241-249.	1.5	42
105	W5.3 Movement related cortical potentials: asynchronous versus synchronous brain computer interfaces. Clinical Neurophysiology, 2011, 122, S16.	1.5	1
106	Phase Modulation of the Short-Latency Crossed Spinal Response in the Human Soleus Muscle. Journal of Neurophysiology, 2011, 105, 503-511.	1.8	33
107	Crossed spinal soleus muscle communication demonstrated by Hâ€reflex conditioning. Muscle and Nerve, 2011, 43, 845-850.	2.2	20
108	Short-Latency Crossed Inhibitory Responses in the Human Soleus Muscle. Journal of Neurophysiology, 2009, 102, 3596-3605.	1.8	41

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109	Changes in Excitability of the Cortical Projections to the Human Tibialis Anterior After Paired Associative Stimulation. Journal of Neurophysiology, 2007, 97, 1951-1958.	1.8	84
110	Evidence for a supraspinal contribution to the human quadriceps long-latency stretch reflex. Experimental Brain Research, 2006, 168, 529-540.	1.5	48
111	The amplitude modulation of the Quadriceps H-reflex in relation to the knee joint action during walking. Experimental Brain Research, 2006, 170, 555-566.	1.5	23
112	Characterisation of the quadriceps stretch reflex during the transition from swing to stance phase of human walking. Experimental Brain Research, 2004, 159, 108-22.	1.5	33
113	Reflex and non-reflex torque responses to stretch of the human knee extensors. Experimental Brain Research, 2003, 151, 72-81.	1.5	87