

# Natalie Mrachacz-Kersting

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/8528711/publications.pdf>

Version: 2024-02-01

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	Precise temporal association between cortical potentials evoked by motor imagination and afference induces cortical plasticity. <i>Journal of Physiology</i> , 2012, 590, 1669-1682.	2.9	210
2	Efficient neuroplasticity induction in chronic stroke patients by an associative brain-computer interface. <i>Journal of Neurophysiology</i> , 2016, 115, 1410-1421.	1.8	189
3	Enhanced Low-Latency Detection of Motor Intention From EEG for Closed-Loop Brain-Computer Interface Applications. <i>IEEE Transactions on Biomedical Engineering</i> , 2014, 61, 288-296.	4.2	168
4	A Closed-Loop Brain-Computer Interface Triggering an Active Ankle-Foot Orthosis for Inducing Cortical Neural Plasticity. <i>IEEE Transactions on Biomedical Engineering</i> , 2014, 61, 2092-2101.	4.2	137
5	Peripheral Electrical Stimulation Triggered by Self-Paced Detection of Motor Intention Enhances Motor Evoked Potentials. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2012, 20, 595-604.	4.9	129
6	A brain-computer interface for single-trial detection of gait initiation from movement related cortical potentials. <i>Clinical Neurophysiology</i> , 2015, 126, 154-159.	1.5	112
7	Detection and classification of movement-related cortical potentials associated with task force and speed. <i>Journal of Neural Engineering</i> , 2013, 10, 056015.	3.5	98
8	Motor Cortex Reorganization and Impaired Function in the Transition to Sustained Muscle Pain. <i>Cerebral Cortex</i> , 2016, 26, 1878-1890.	2.9	95
9	Reflex and non-reflex torque responses to stretch of the human knee extensors. <i>Experimental Brain Research</i> , 2003, 151, 72-81.	1.5	87
10	Generative Adversarial Networks-Based Data Augmentation for Brain-Computer Interface. <i>IEEE Transactions on Neural Networks and Learning Systems</i> , 2021, 32, 4039-4051.	11.3	85
11	Changes in Excitability of the Cortical Projections to the Human Tibialis Anterior After Paired Associative Stimulation. <i>Journal of Neurophysiology</i> , 2007, 97, 1951-1958.	1.8	84
12	Evidence for a supraspinal contribution to the human quadriceps long-latency stretch reflex. <i>Experimental Brain Research</i> , 2006, 168, 529-540.	1.5	48
13	Comparison of spatial filters and features for the detection and classification of movement-related cortical potentials in healthy individuals and stroke patients. <i>Journal of Neural Engineering</i> , 2015, 12, 056003.	3.5	47
14	Classification of EEG signals to identify variations in attention during motor task execution. <i>Journal of Neuroscience Methods</i> , 2017, 284, 27-34.	2.5	45
15	Neuropsychological and neurophysiological aspects of brain-computer interface (BCI) control in paralysis. <i>Journal of Physiology</i> , 2021, 599, 2351-2359.	2.9	45
16	The optimal interstimulus interval and repeatability of paired associative stimulation when the soleus muscle is targeted. <i>Experimental Brain Research</i> , 2012, 221, 241-249.	1.5	42
17	Detection of Movement Related Cortical Potentials from EEG Using Constrained ICA for Brain-Computer Interface Applications. <i>Frontiers in Neuroscience</i> , 2017, 11, 356.	2.8	42
18	Short-Latency Crossed Inhibitory Responses in the Human Soleus Muscle. <i>Journal of Neurophysiology</i> , 2009, 102, 3596-3605.	1.8	41

#	ARTICLE	IF	CITATIONS
19	Brain state-dependent stimulation boosts functional recovery following stroke. <i>Annals of Neurology</i> , 2019, 85, 84-95.	5.3	41
20	Decrease in force steadiness with aging is associated with increased power of the common but not independent input to motor neurons. <i>Journal of Neurophysiology</i> , 2018, 120, 1616-1624.	1.8	40
21	A Stimulus-Independent Hybrid BCI Based on Motor Imagery and Somatosensory Attentional Orientation. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2017, 25, 1674-1682.	4.9	38
22	Characterisation of the quadriceps stretch reflex during the transition from swing to stance phase of human walking. <i>Experimental Brain Research</i> , 2004, 159, 108-22.	1.5	33
23	Phase Modulation of the Short-Latency Crossed Spinal Response in the Human Soleus Muscle. <i>Journal of Neurophysiology</i> , 2011, 105, 503-511.	1.8	33
24	The effect of type of afferent feedback timed with motor imagery on the induction of cortical plasticity. <i>Brain Research</i> , 2017, 1674, 91-100.	2.2	28
25	Effect of wobble board training on movement strategies to maintain equilibrium on unstable surfaces. <i>Human Movement Science</i> , 2018, 58, 231-238.	1.4	28
26	Coherence of the Surface EMG and Common Synaptic Input to Motor Neurons. <i>Frontiers in Human Neuroscience</i> , 2018, 12, 207.	2.0	28
27	Crossed reflex reversal during human locomotion. <i>Journal of Neurophysiology</i> , 2013, 109, 2335-2344.	1.8	27
28	Sensory Stimulation Training for BCI System Based on Somatosensory Attentional Orientation. <i>IEEE Transactions on Biomedical Engineering</i> , 2019, 66, 640-646.	4.2	24
29	The amplitude modulation of the Quadriceps H-reflex in relation to the knee joint action during walking. <i>Experimental Brain Research</i> , 2006, 170, 555-566.	1.5	23
30	Interlimb communication to the knee flexors during walking in humans. <i>Journal of Physiology</i> , 2013, 591, 4921-4935.	2.9	23
31	Strategies for equilibrium maintenance during single leg standing on a wobble board. <i>Gait and Posture</i> , 2016, 44, 149-154.	1.4	22
32	Endogenous sensory discrimination and selection by a fast brain switch for a high transfer rate brain-computer interface. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2016, 24, 901-910.	4.9	22
33	Discriminative Manifold Learning Based Detection of Movement-Related Cortical Potentials. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2016, 24, 921-927.	4.9	22
34	Towards a mechanistic approach for the development of non-invasive brain-computer interfaces for motor rehabilitation. <i>Journal of Physiology</i> , 2021, 599, 2361-2374.	2.9	22
35	Movement-related cortical potentials in paraplegic patients: abnormal patterns and considerations for BCI-rehabilitation. <i>Frontiers in Neuroengineering</i> , 2014, 7, 35.	4.8	21
36	Differential modulation of motor cortex plasticity in skill- and endurance-trained athletes. <i>European Journal of Applied Physiology</i> , 2015, 115, 1107-1115.	2.5	21

#	ARTICLE	IF	CITATIONS
37	Influence of dual-tasking with different levels of attention diversion on characteristics of the movement-related cortical potential. <i>Brain Research</i> , 2017, 1674, 10-19.	2.2	21
38	A Multi-Class BCI Based on Somatosensory Imagery. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018, 26, 1508-1515.	4.9	21
39	Crossed spinal soleus muscle communication demonstrated by H-reflex conditioning. <i>Muscle and Nerve</i> , 2011, 43, 845-850.	2.2	20
40	Short-latency crossed spinal responses are impaired differently in sub-acute and chronic stroke patients. <i>Clinical Neurophysiology</i> , 2012, 123, 541-549.	1.5	20
41	Factors of Influence on the Performance of a Short-Latency Non-Invasive Brain Switch: Evidence in Healthy Individuals and Implication for Motor Function Rehabilitation. <i>Frontiers in Neuroscience</i> , 2015, 9, 527.	2.8	20
42	A Multi-Class Tactile Brain-Computer Interface Based on Stimulus-Induced Oscillatory Dynamics. <i>IEEE Transactions on Neural Systems and Rehabilitation Engineering</i> , 2018, 26, 3-10.	4.9	20
43	Human stretch reflex pathways reexamined. <i>Journal of Neurophysiology</i> , 2014, 111, 602-612.	1.8	19
44	Induction of plasticity in the human motor cortex by pairing an auditory stimulus with TMS. <i>Frontiers in Human Neuroscience</i> , 2014, 8, 398.	2.0	18
45	Effects of wobble board training on single-leg landing neuromechanics. <i>Scandinavian Journal of Medicine and Science in Sports</i> , 2018, 28, 972-982.	2.9	18
46	Acquisition of a simple motor skill: task-dependent adaptation and long-term changes in the human soleus stretch reflex. <i>Journal of Neurophysiology</i> , 2019, 122, 435-446.	1.8	18
47	Brain-computer interface based motor and cognitive rehabilitation after stroke – state of the art, opportunity, and barriers: summary of the BCI Meeting 2016 in Asilomar. <i>Brain-Computer Interfaces</i> , 2017, 4, 53-59.	1.8	17
48	Decoding Covert Somatosensory Attention by a BCI System Calibrated With Tactile Sensation. <i>IEEE Transactions on Biomedical Engineering</i> , 2018, 65, 1689-1695.	4.2	17
49	Modulation of soleus stretch reflexes during walking in people with chronic incomplete spinal cord injury. <i>Experimental Brain Research</i> , 2019, 237, 2461-2479.	1.5	17
50	Technologically-advanced assessment of upper-limb spasticity: a pilot study. <i>European Journal of Physical and Rehabilitation Medicine</i> , 2018, 54, 536-544.	2.2	15
51	Convergence of ipsi- and contralateral muscle afferents on common interneurons mediating reciprocal inhibition of ankle plantarflexors in humans. <i>Experimental Brain Research</i> , 2017, 235, 1555-1564.	1.5	14
52	Influence of attention alternation on movement-related cortical potentials in healthy individuals and stroke patients. <i>Clinical Neurophysiology</i> , 2017, 128, 165-175.	1.5	13
53	Continuous 2D control via state-machine triggered by endogenous sensory discrimination and a fast brain switch. <i>Journal of Neural Engineering</i> , 2019, 16, 056001.	3.5	13
54	Dynamics of movement-related cortical potentials and sensorimotor oscillations during palmar grasp movements. <i>European Journal of Neuroscience</i> , 2020, 51, 1962-1970.	2.6	13

#	ARTICLE	IF	CITATIONS
55	An Accurate, Versatile, and Robust Brain Switch for Neurorehabilitation. Springer Briefs in Electrical and Computer Engineering, 2014, , 47-61.	0.5	12
56	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
57	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
58	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
59	Spinal plasticity in robot-mediated therapy for the lower limbs. Journal of NeuroEngineering and Rehabilitation, 2015, 12, 81.	4.6	10
60	Comparison of the Efficacy of a Real-Time and Offline Associative Brain-Computer-Interface. Frontiers in Neuroscience, 2018, 12, 455.	2.8	10
61	Short-latency crossed responses in the human biceps femoris muscle. Journal of Physiology, 2015, 593, 3657-3671.	2.9	9
62	The effect of crossed reflex responses on dynamic stability during locomotion. Journal of Neurophysiology, 2015, 114, 1034-1040.	1.8	9
63	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
64	A Novel Brain-Computer Interface for Chronic Stroke Patients. Biosystems and Biorobotics, 2014, , 51-61.	0.3	8
65	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
66	Robustness of movement detection techniques from motor execution: Single trial movement related cortical potential. , 2015, , .		7
67	Evidence for a Supraspinal Contribution to the Human Crossed Reflex Response During Human Walking. Frontiers in Human Neuroscience, 2018, 12, 260.	2.0	7
68	Brain-Computer Interface Research: A State-of-the-Art Summary 7. Springer Briefs in Electrical and Computer Engineering, 2019, , 1-9.	0.5	7
69	Movement Related Cortical Potentials and Sensory Motor Rhythms during Self Initiated and Cued Movements. Biosystems and Biorobotics, 2014, , 701-707.	0.3	7
70	Detection of Movement Intentions through a Single Channel of Electroencephalography. Biosystems and Biorobotics, 2014, , 465-472.	0.3	6
71	Interlimb communication following unexpected changes in treadmill velocity during human walking. Journal of Neurophysiology, 2015, 113, 3151-3158.	1.8	6
72	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

#	ARTICLE	IF	CITATIONS
73	Brain-computer interfaces for stroke rehabilitation: summary of the 2016 BCI Meeting in Asilomar. <i>Brain-Computer Interfaces</i> , 2018, 5, 41-57.	1.8	6
74	Delayed muscle onset soreness in the gastrocnemius muscle attenuates the spinal contribution to interlimb communication. <i>European Journal of Applied Physiology</i> , 2018, 118, 2393-2402.	2.5	6
75	Classification of Movement Preparation Between Attended and Distracted Self-Paced Motor Tasks. <i>IEEE Transactions on Biomedical Engineering</i> , 2019, 66, 3060-3071.	4.2	6
76	Online control of an assistive active glove by slow cortical signals in patients with amyotrophic lateral sclerosis. <i>Journal of Neural Engineering</i> , 2021, 18, 046085.	3.5	6
77	Participant-specific classifier tuning increases the performance of hand movement detection from EEG in patients with amyotrophic lateral sclerosis. <i>Journal of Neural Engineering</i> , 2021, 18, 056023.	3.5	6
78	Comparison of EEG spatial filters for movement related cortical potential detection. , 2016, 2016, 1576-1579.		5
79	Detection of Movement Intention from Movement-Related Cortical Potentials with Different Paradigms. <i>Biosystems and Biorobotics</i> , 2014, , 237-244.	0.3	4
80	Online Adaptive Synchronous BCI System with Attention Variations. <i>Springer Briefs in Electrical and Computer Engineering</i> , 2019, , 31-41.	0.5	4
81	Real-time neurofeedback is effective in reducing diversion of attention from a motor task in healthy individuals and patients with amyotrophic lateral sclerosis. <i>Journal of Neural Engineering</i> , 2020, 17, 036017.	3.5	4
82	Influence of external cues on synchronized Brain-Computer Interface based on movement related cortical potentials. , 2015, , .		3
83	Tactile Stimulation Training to Enhance MRCP Detection in Chronic Stroke Patients. <i>Lecture Notes in Computer Science</i> , 2017, , 354-363.	1.3	3
84	Common Spatial Pattern with Polarity Check for reducing delay latency in detection of MRCP based BCI system. , 2017, , .		3
85	Short-interval intracortical inhibition and facilitation targeting upper and lower limb muscles. <i>Scientific Reports</i> , 2021, 11, 21993.	3.3	3
86	Precise Temporal Association between Cortical Potentials Evoked by Motor Imagination and Afference Induces Cortical Plasticity. <i>Brain Stimulation</i> , 2017, 10, 413.	1.6	2
87	Effect of Attention Variation in Stroke Patients: Analysis of Single Trial Movement-Related Cortical Potentials. <i>Biosystems and Biorobotics</i> , 2017, , 983-987.	0.3	2
88	A software for testing and training visuo-motor coordination for upper limb control. <i>Journal of Neuroscience Methods</i> , 2019, 324, 108310.	2.5	2
89	Adaptive learning in the detection of Movement Related Cortical Potentials improves usability of associative Brain-Computer Interfaces. , 2019, 2019, 3079-3082.		2
90	Brain-State Dependent Peripheral Nerve Stimulation for Plasticity Induction Targeting Upper-Limb. <i>Biosystems and Biorobotics</i> , 2019, , 1061-1065.	0.3	2

#	ARTICLE	IF	CITATIONS
91	Associative Plasticity Induced by a Brain-Computer Interface Based on Movement-Related Cortical Potentials. , 2018, , 669-684.		2
92	W5.3 Movement related cortical potentials: asynchronous versus synchronous brain computer interfaces. Clinical Neurophysiology, 2011, 122, S16.	1.5	1
93	Stretch Reflex Conditioning in Humans - Implications for Function. Biosystems and Biorobotics, 2014, , 103-111.	0.3	1
94	Influence of Spontaneous Rhythm on Movement-Related Cortical Potential - A Preliminary Neurofeedback Study. Lecture Notes in Computer Science, 2017, , 90-98.	1.3	1
95	Modulation of Cortical Excitability with BCI for Stroke Rehabilitation. , 2019, , .		1
96	Adaptive Brain-Computer Interface with Attention Alterations in Patients with Amyotrophic Lateral Sclerosis. , 2020, 2020, 3188-3191.		1
97	Brain-computer interfaces and plasticity of the human nervous system. Journal of Physiology, 2021, 599, 2349-2350.	2.9	1
98	Functionality of the Contralateral Biceps Femoris Reflex Response during Human Walking. Biosystems and Biorobotics, 2014, , 765-773.	0.3	1
99	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
100	Exploring the EEG Signatures of Musculoskeletal Pain. Biosystems and Biorobotics, 2019, , 734-738.	0.3	1
101	The potential of imagination and artificial afference in stroke rehabilitation. , 2012, , .		0
102	A Brain-Computer-Interface to Combat Musculoskeletal Pain. Springer Briefs in Electrical and Computer Engineering, 2017, , 123-130.	0.5	0
103	Cortical oscillatory dynamics of tactile selective sensation - for a novel type of somatosensory Brain-computer Interface. , 2017, 2017, 1656-1659.		0
104	Evaluating the effectiveness of different external cues on non-invasive brain-computer interfaces. , 2017, 2017, 2782-2785.		0
105	Effect of attention division on movement detection and execution in dual-task conditions. , 2017, , .		0
106	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
107	Selection of Temporal Features for the Detection of Movement Intention in patients with Amyotrophic Lateral Sclerosis. , 2021, , .		0
108	Cortical Contribution to Crossed Reflexes in Walking Humans. Biosystems and Biorobotics, 2014, , 575-583.	0.3	0

#	ARTICLE	IF	CITATIONS
109	The Role of Afferent Feedback from the Human Knee Extensors in Their Control during Human Movement. , 2014, , 1-49.		0
110	The Changing Brain: Bidirectional Learning Between Algorithm and User. Springer Briefs in Electrical and Computer Engineering, 2015, , 115-125.	0.5	0
111	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
112	The Efficacy of a Real-Time vs an Offline Associative Brain-Computer-Interface. Biosystems and Biorobotics, 2019, , 893-896.	0.3	0
113	Brain State-Dependent Peripheral Nerve Stimulation for Plasticity Induction in Stroke Patients. Biosystems and Biorobotics, 2019, , 1066-1070.	0.3	0