Michael Wibral

List of Publications by Year
in descending order

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130 papers	9,735 citations	50276 46 h-index	45317 90 g-index
149 all docs	149 docs citations	149 times ranked	10872 citing authors

#	Article	IF	Citations
1	Transfer entropyâ€”a model-free measure of effective connectivity for the neurosciences. Journal of Computational Neuroscience, 2011, 30, 45-67.	1.0	753
2	Inferring change points in the spread of COVID-19 reveals the effectiveness of interventions. Science, 2020, 369, .	12.6	648
3	Good practice for conducting and reporting MEG research. NeuroImage, 2013, 65, 349-363.	4.2	604
4	Localizing P300 Generators in Visual Target and Distractor Processing: A Combined Event-Related Potential and Functional Magnetic Resonance Imaging Study. Journal of Neuroscience, 2004, 24, 9353-9360.	3.6	496
5	Untangling cross-frequency coupling in neuroscience. Current Opinion in Neurobiology, 2015, 31, 51-61.	4.2	455
6	The resilience framework as a strategy to combat stress-related disorders. Nature Human Behaviour, 2017, 1, 784-790.	12.0	420
7	Gamma-Band Activity in Human Prefrontal Cortex Codes for the Number of Relevant Items Maintained in Working Memory. Journal of Neuroscience, 2012, 32, 12411-12420.	3.6	279
8	Cortical Oscillatory Activity Is Critical for Working Memory as Revealed by Deficits in Early-Onset Schizophrenia. Journal of Neuroscience, 2009, 29, 9481-9489.	3.6	254
9	Spike avalanches in vivo suggest a driven, slightly subcritical brain state. Frontiers in Systems Neuroscience, 2014, 8, 108.	2.5	246
10	Measuring Information-Transfer Delays. PLoS ONE, 2013, 8, e55809.	2.5	209
11	TRENTOOL: A Matlab open source toolbox to analyse information flow in time series data with transfer entropy. BMC Neuroscience, 2011, 12, 119.	1.9	189
12	Scientific consensus on the COVID-19 pandemic: we need to act now. Lancet, The, 2020, 396, e71-e72.	13.7	189
13	A new look at gamma? High- (>60ÂHz) Î³-band activity in cortical networks: Function, mechanisms and impairment. Progress in Biophysics and Molecular Biology, 2011, 105, 14-28.	2.9	173
14	Neuronal Avalanches Differ from Wakefulness to Deep Sleep â€“ Evidence from Intracranial Depth Recordings in Humans. PLoS Computational Biology, 2013, 9, e1002985.	3.2	170
15	Local active information storage as a tool to understand distributed neural information processing. Frontiers in Neuroinformatics, 2014, 8, 1.	2.5	168
16	Transfer entropy in magnetoencephalographic data: Quantifying information flow in cortical and cerebellar networks. Progress in Biophysics and Molecular Biology, 2011, 105, 80-97.	2.9	166
17	The Phase of Thalamic Alpha Activity Modulates Cortical Gamma-Band Activity: Evidence from Resting-State MEG Recordings. Journal of Neuroscience, 2013, 33, 17827-17835.	3.6	154
18	Impaired Gamma-Band Activity during Perceptual Organization in Adults with Autism Spectrum Disorders: Evidence for Dysfunctional Network Activity in Frontal-Posterior Cortices. Journal of Neuroscience, 2012, 32, 9563-9573.	3.6	139

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19	Mental Chronometry of Working Memory Retrieval: A Combined Functional Magnetic Resonance Imaging and Event-Related Potentials Approach. Journal of Neuroscience, 2006, 26, 821-829.	3.6	131
20	Ketamine Dysregulates the Amplitude and Connectivity of High-Frequency Oscillations in Corticalâ€“Subcortical Networks in Humans: Evidence From Resting-State Magnetoencephalography-Recordings. Schizophrenia Bulletin, 2015, 41, 1105-1114.	4.3	126
21	Deficits in high- (>60 Hz) gamma-band oscillations during visual processing in schizophrenia. Frontiers in Human Neuroscience, 2013, 7, 88.	2.0	124
22	The challenges of containing SARS-CoV-2 via test-trace-and-isolate. Nature Communications, 2021, 12, 378.	12.8	123
23	Subsampling effects in neuronal avalanche distributions recorded in vivo. BMC Neuroscience, 2009, 10, 40.	1.9	119
24	Efficient Transfer Entropy Analysis of Non-Stationary Neural Time Series. PLoS ONE, 2014, 9, e102833.	2.5	113
25	Directed Information Measures in Neuroscience. Understanding Complex Systems, 2014, , .	0.6	95
26	Partial information decomposition as a unified approach to the specification of neural goal functions. Brain and Cognition, 2017, 112, 25-38.	1.8	93
27	Resting-state gamma-band power alterations in schizophrenia reveal E/I-balance abnormalities across illness-stages. ELife, 2018, 7, .	6.0	92
28	Information Decomposition of Target Effects from Multi-Source Interactions: Perspectives on Previous, Current and Future Work. Entropy, 2018, 20, 307.	2.2	89
29	Inferring collective dynamical states from widely unobserved systems. Nature Communications, 2018, 9, 2325.	12.8	89
30	Expecting to See a Letter: Alpha Oscillations as Carriers of Top-Down Sensory Predictions. Cerebral Cortex, 2016, 26, 3146-3160.	2.9	88
31	Evidence for dysregulated high-frequency oscillations during sensory processing in medication-naÃ¯ve, first episode schizophrenia. Schizophrenia Research, 2013, 150, 519-525.	2.0	86
32	Processing of location and pattern changes of natural sounds in the human auditory cortex. NeuroImage, 2007, 35, 1192-1200.	4.2	85
33	Brain-wide slowing of spontaneous alpha rhythms in mild cognitive impairment. Frontiers in Aging Neuroscience, 2013, 5, 100.	3.4	78
34	Neuroelectromagnetic Correlates of Perceptual Closure Processes. Journal of Neuroscience, 2010, 30, 8342-8352.	3.6	74
35	Bits from Brains for Biologically Inspired Computing. Frontiers in Robotics and AI, 2015, 2, .	3.2	74
36	The Faces of Predictive Coding. Journal of Neuroscience, 2015, 35, 8997-9006.	3.6	74

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37	A look into the future of the COVID-19 pandemic in Europe: an expert consultation. Lancet Regional Health - Europe, The, 2021, 8, 100185.	5.6	72
38	Calling for pan-European commitment for rapid and sustained reduction in SARS-CoV-2 infections. Lancet, The, 2021, 397, 92-93.	13.7	71
39	Control of criticality and computation in spiking neuromorphic networks with plasticity. Nature Communications, 2020, 11, 2853.	12.8	70
40	IDTxl: The Information Dynamics Toolkit xl: a Python package for the efficient analysis of multivariate information dynamics in networks. Journal of Open Source Software, 2019, 4, 1081.	4.6	69
41	Large-scale directed network inference with multivariate transfer entropy and hierarchical statistical testing. Network Neuroscience, 2019, 3, 827-847.	2.6	68
42	Transfer Entropy in Neuroscience. Understanding Complex Systems, 2014, , 3-36.	0.6	67
43	Dissociable attentional and inhibitory networks of dorsal and ventral areas of the right inferior frontal cortex: a combined task-specific and coordinate-based meta-analytic fMRI study. Brain Structure and Function, 2016, 221, 1635-1651.	2.3	67
44	The Timing of Feedback to Early Visual Cortex in the Perception of Long-Range Apparent Motion. Cerebral Cortex, 2009, 19, 1567-1582.	2.9	66
45	Source-Reconstruction of Event-Related Fields Reveals Hyperfunction and Hypofunction of Cortical Circuits in Antipsychotic-Naive, First-Episode Schizophrenia Patients during Mooney Face Processing. Journal of Neuroscience, 2014, 34, 5909-5917.	3.6	58
46	Setting Up the Speech Production Network: How Oscillations Contribute to Lateralized Information Routing. Frontiers in Psychology, 2012, 3, 169.	2.1	57
47	Criticality meets learning: Criticality signatures in a self-organizing recurrent neural network. PLoS ONE, 2017, 12, e0178683.	2.5	52
48	Breakdown of local information processing may underlie isoflurane anesthesia effects. PLoS Computational Biology, 2017, 13, e1005511.	3.2	52
49	Acute ketamine dysregulates task-related gamma-band oscillations in thalamo-cortical circuits in schizophrenia. Brain, 2018, 141, 2511-2526.	7.6	51
50	Self-Organization Toward Criticality by Synaptic Plasticity. Frontiers in Physics, 2021, 9, .	2.1	50
51	Quantifying Information Modification in Developing Neural Networks via Partial Information Decomposition. Entropy, 2017, 19, 494.	2.2	47
52	Relaxing restrictions at the pace of vaccination increases freedom and guards against further COVID-19 waves. PLoS Computational Biology, 2021, 17, e1009288.	3.2	47
53	Reduced predictable information in brain signals in autism spectrum disorder. Frontiers in Neuroinformatics, 2014, 8, 9.	2.5	45
54	The dual facet of gamma oscillations: Separate visual and decision making circuits as revealed by simultaneous EEG/fMRI. Human Brain Mapping, 2014, 35, 5219-5235.	3.6	45

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55	Distinct Gamma-Band Components Reflect the Short-Term Memory Maintenance of Different Sound Lateralization Angles. Cerebral Cortex, 2008, 18, 2286-2295.	2.9	43
56	MEG-measured visually induced gamma-band oscillations in chronic schizophrenia: Evidence for impaired generation of rhythmic activity in ventral stream regions. Schizophrenia Research, 2016, 176, 177-185.	2.0	42
57	Right inferior frontal gyrus implements motor inhibitory control via beta-band oscillations in humans. ELife, 2021, 10, .	6.0	42
58	Operating in a Reverberating Regime Enables Rapid Tuning of Network States to Task Requirements. Frontiers in Systems Neuroscience, 2018, 12, 55.	2.5	40
59	Can a time varying external drive give rise to apparent criticality in neural systems?. PLoS Computational Biology, 2018, 14, e1006081.	3.2	39
60	Homeostatic Plasticity and External Input Shape Neural Network Dynamics. Physical Review X, 2018, 8, .	8.9	38
61	Risking further COVID-19 waves despite vaccination. Lancet Infectious Diseases, The, 2021, 21, 745-746.	9.1	37
62	Towards a European strategy to address the COVID-19 pandemic. Lancet, The, 2021, 398, 838-839.	13.7	36
63	Elimination versus mitigation of SARS-CoV-2 in the presence of effective vaccines. The Lancet Global Health, 2022, 10, e142-e147.	6.3	35
64	Response to: Yuval-Greenberg etÂal., â€œTransient Induced Gamma-Band Response in EEG asÂa Manifestation of Miniature Saccades.â€•Neuron 58, 429â€“441. Neuron, 2009, 62, 8-10.	8.1	34
65	Task- and performance-related modulation of domain-specific auditory short-term memory representations in the gamma-band. NeuroImage, 2009, 46, 1127-1136.	4.2	34
66	Information-Theoretic Evidence for Predictive Coding in the Face-Processing System. Journal of Neuroscience, 2017, 37, 8273-8283.	3.6	34
67	Early effects of previous experience on conscious perception. Neuroscience of Consciousness, 2016, 2016, niw004.	2.6	33
68	Tight covariation of BOLD signal changes and slow ERPs in the parietal cortex in a parametric spatial imagery task with haptic acquisition. European Journal of Neuroscience, 2006, 23, 1910-1918.	2.6	32
69	Whole-Brain Source-Reconstructed MEG-Data Reveal Reduced Long-Range Synchronization in Chronic Schizophrenia. ENeuro, 2017, 4, ENEURO.0338-17.2017.	1.9	32
70	Spatiotemporal Dynamics of Bimanual Integration in Human Somatosensory Cortex and Their Relevance to Bimanual Object Manipulation. Journal of Neuroscience, 2012, 32, 5667-5677.	3.6	28
71	Alpha synchronization during auditory spatial short-term memory. NeuroReport, 2007, 18, 1129-1132.	1.2	26
72	Neural Architecture of Selective Stopping Strategies: Distinct Brain Activity Patterns Are Associated with Attentional Capture But Not with Outright Stopping. Journal of Neuroscience, 2017, 37, 9785-9794.	3.6	25

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73	Low case numbers enable long-term stable pandemic control without lockdowns. Science Advances, 2021, 7, eabg2243.	10.3	25
74	The UK needs a sustainable strategy for COVID-19. Lancet, The, 2020, 396, 1800-1801.	13.7	23
75	Impairment in predictive processes during auditory mismatch negativity in ScZ: Evidence from eventâ€related fields. Human Brain Mapping, 2017, 38, 5082-5093.	3.6	21
76	Measuring spectrally-resolved information transfer. PLoS Computational Biology, 2020, 16, e1008526.	3.2	21
77	Predictable information in neural signals during resting state is reduced in autism spectrum disorder. Human Brain Mapping, 2018, 39, 3227-3240.	3.6	20
78	Introducing a differentiable measure of pointwise shared information. Physical Review E, 2021, 103, 032149.	2.1	20
79	Decomposition of working memory-related scalp ERPs: Crossvalidation of fMRI-constrained source analysis and ICA. International Journal of Psychophysiology, 2008, 67, 200-211.	1.0	19
80	Separable Neural Bases for Subprocesses of Recognition in Working Memory. Cerebral Cortex, 2012, 22, 1950-1958.	2.9	19
81	Assessing criticality in pre-seizure single-neuron activity of human epileptic cortex. PLoS Computational Biology, 2021, 17, e1008773.	3.2	19
82	Time-dependent effects of hyperoxia on the BOLD fMRI signal in primate visual cortex and LGN. NeuroImage, 2007, 35, 1044-1063.	4.2	18
83	Implications of Information Theory for Computational Modeling of Schizophrenia. Computational Psychiatry, 2020, 1, 82.	2.0	18
84	Description of spreading dynamics by microscopic network models and macroscopic branching processes can differ due to coalescence. Physical Review E, 2020, 101, 022301.	2.1	18
85	The benefits, costs and feasibility of a low incidence COVID-19 strategy. Lancet Regional Health - Europe, The, 2022, 13, 100294.	5.6	17
86	Presynaptic activity and protein turnover are correlated at the single-synapse level. Cell Reports, 2021, 34, 108841.	6.4	16
87	Combining electrophysiology and functional imaging â€“ different methods for different questions. Trends in Cognitive Sciences, 2007, 11, 500-502.	7.8	15
88	Predictive Coding Over the Lifespan: Increased Reliance on Perceptual Priors in Older Adultsâ€”A Magnetoencephalography and Dynamic Causal Modeling Study. Frontiers in Aging Neuroscience, 2021, 13, 631599.	3.4	15
89	Tailored ensembles of neural networks optimize sensitivity to stimulus statistics. Physical Review Research, 2020, 2, .	3.6	15
90	Quantifying additive evoked contributions to the event-related potential. NeuroImage, 2012, 59, 2607-2624.	4.2	13

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91	Local dendritic balance enables learning of efficient representations in networks of spiking neurons. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	13
92	A Graph Algorithmic Approach to Separate Direct from Indirect Neural Interactions. PLoS ONE, 2015, 10, e0140530.	2.5	12
93	Revisiting Wiener's principle of causality — interaction-delay reconstruction using transfer entropy and multivariate analysis on delay-weighted graphs. , 2012, 2012, 3676-9.		10
94	Investigating human audio-visual object perception with a combination of hypothesis-generating and hypothesis-testing fMRI analysis tools. Experimental Brain Research, 2011, 213, 309-320.	1.5	9
95	A neural correlate of visual feature binding in primate lateral prefrontal cortex. NeuroImage, 2021, 229, 117757.	4.2	9
96	Interhemispheric Binding of Ambiguous Visual Motion Is Associated with Changes in Beta Oscillatory Activity but Not with Gamma Range Synchrony. Journal of Cognitive Neuroscience, 2017, 29, 1829-1844.	2.3	8
97	Repetition of complex frequency-modulated sweeps enhances neuromagnetic responses in the human auditory cortex. Hearing Research, 2011, 282, 216-224.	2.0	7
98	Microtiming Deviations and Swing Feel in Jazz. Scientific Reports, 2019, 9, 19824.	3.3	7
99	Embedding optimization reveals long-lasting history dependence in neural spiking activity. PLoS Computational Biology, 2021, 17, e1008927.	3.2	7
100	Perceptual Gains and Losses in Synesthesia and Schizophrenia. Schizophrenia Bulletin, 2021, 47, 722-730.	4.3	6
101	Anesthesia-related changes in information transfer may be caused by reduction in local information generation. , 2015, 2015, 4045-8.		5
102	Endogenously generated gammaâ€band oscillations in early visual cortex: A neurofeedback study. Human Brain Mapping, 2018, 39, 3487-3502.	3.6	5
103	A MEG Study of Visual Repetition Priming in Schizophrenia: Evidence for Impaired High-Frequency Oscillations and Event-Related Fields in Thalamo-Occipital Cortices. Frontiers in Psychiatry, 2020, 11, 561973.	2.6	5
104	Efficient Estimation of Information Transfer. Understanding Complex Systems, 2014, , 37-58.	0.6	5
105	TRENTOOL: an open source toolbox to estimate neural directed interactions with transfer entropy. BMC Neuroscience, 2011, 12, .	1.9	4
106	Significance of Beta-Band Oscillations in Autism Spectrum Disorders During Motor Response Inhibition Tasks: A MEG Study. Brain Topography, 2020, 33, 355-374.	1.8	4
107	Assessing Criticality in Experiments. Springer Series on Bio- and Neurosystems, 2019, , 199-232.	0.2	4
108	Fading Memory, Plasticity, and Criticality in Recurrent Networks. Springer Series on Bio- and Neurosystems, 2019, , 95-115.	0.2	4

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109	3.7 Integration of Separately Recorded EEG/MEG and fMRI Data. , 2010, , 209-234.		4
110	Correlated microtiming deviations in jazz and rock music. PLoS ONE, 2018, 13, e0186361.	2.5	4
111	Transfer entropy as a tool for reconstructing interaction delays in neural signals. , 2013, , .		3
112	Characterizing spreading dynamics of subsampled systems with nonstationary external input. Physical Review E, 2020, 102, 040301.	2.1	3
113	Rethinking COVID-19 vaccine allocation: it is time to care about our neighbours. Lancet Regional Health - Europe, The, 2022, 12, 100277.	5.6	3
114	New year, new SARS-CoV-2 variant: Resolutions on genomic surveillance protocols to face Omicron. The Lancet Regional Health Americas, 2022, 7, 100203.	2.6	3
115	Early lock-in of structured and specialised information flows during neural development. ELife, 2022, 11, .	6.0	3
116	Learning more by sampling less: subsampling effects are model specific. BMC Neuroscience, 2013, 14, .	1.9	2
117	How to measure local active information storage in neural systems. , 2014, , .		2
118	Reducing the Mobility of SARS-CoV-2 Variants to Safeguard Containments. Intereconomics, 2021, 56, 234-236.	2.2	2
119	Describing a landscape we are yet discovering. AStA Advances in Statistical Analysis, 0, , .	0.9	2
120	Analyzing possible pitfalls of cross-frequency analysis. BMC Neuroscience, 2011, 12, .	1.9	1
121	Neuronal avalanches change from wakefulness to deep sleep - a study of intracranial depth recordings in humans. BMC Neuroscience, 2013, 14, .	1.9	0
122	Graphical analyses in delay interaction networks. BMC Neuroscience, 2013, 14, .	1.9	0
123	Quantifying the distance to criticality under subsampling. BMC Neuroscience, 2015, 16, .	1.9	0
124	Bits from Brains: Analyzing Distributed Computation in Neural Systems. , 0, , 429-467.		0
125	Measuring spectrally-resolved information transfer. , 2020, 16, e1008526.		0
126	Measuring spectrally-resolved information transfer. , 2020, 16, e1008526.		0

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127	Measuring spectrally-resolved information transfer. , 2020, 16, e1008526.		0
128	Measuring spectrally-resolved information transfer. , 2020, 16, e1008526.		0
129	Measuring spectrally-resolved information transfer. , 2020, 16, e1008526.		0
130	Measuring spectrally-resolved information transfer. , 2020, 16, e1008526.		0