

Marcello Massimini

List of Publications by Year in descending order

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Version: 2024-02-01

111
papers

18,931
citations

23567

58
h-index

33894

99
g-index

121
all docs

121
docs citations

121
times ranked

11431
citing authors

#	ARTICLE	IF	CITATIONS
1	Local sleep and learning. <i>Nature</i> , 2004, 430, 78-81.	27.8	1,689
2	Breakdown of Cortical Effective Connectivity During Sleep. <i>Science</i> , 2005, 309, 2228-2232.	12.6	1,362
3	The Sleep Slow Oscillation as a Traveling Wave. <i>Journal of Neuroscience</i> , 2004, 24, 6862-6870.	3.6	1,002
4	Neural correlates of consciousness: progress and problems. <i>Nature Reviews Neuroscience</i> , 2016, 17, 307-321.	10.2	966
5	Integrated information theory: from consciousness to its physical substrate. <i>Nature Reviews Neuroscience</i> , 2016, 17, 450-461.	10.2	930
6	A Theoretically Based Index of Consciousness Independent of Sensory Processing and Behavior. <i>Science Translational Medicine</i> , 2013, 5, 198ra105.	12.4	839
7	Natural Frequencies of Human Corticothalamic Circuits. <i>Journal of Neuroscience</i> , 2009, 29, 7679-7685.	3.6	569
8	Arm immobilization causes cortical plastic changes and locally decreases sleep slow wave activity. <i>Nature Neuroscience</i> , 2006, 9, 1169-1176.	14.8	529
9	Breakdown in cortical effective connectivity during midazolam-induced loss of consciousness. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 2681-2686.	7.1	464
10	Preserved Feedforward But Impaired Top-Down Processes in the Vegetative State. <i>Science</i> , 2011, 332, 858-862.	12.6	444
11	Reduced Sleep Spindle Activity in Schizophrenia Patients. <i>American Journal of Psychiatry</i> , 2007, 164, 483-492.	7.2	434
12	Triggering sleep slow waves by transcranial magnetic stimulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 8496-8501.	7.1	409
13	Source modeling sleep slow waves. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 1608-1613.	7.1	400
14	Recovery of cortical effective connectivity and recovery of consciousness in vegetative patients. <i>Brain</i> , 2012, 135, 1308-1320.	7.6	400
15	Sleep Homeostasis and Cortical Synchronization: III. A High-Density EEG Study of Sleep Slow Waves in Humans. <i>Sleep</i> , 2007, 30, 1643-1657.	1.1	364
16	Are the Neural Correlates of Consciousness in the Front or in the Back of the Cerebral Cortex? Clinical and Neuroimaging Evidence. <i>Journal of Neuroscience</i> , 2017, 37, 9603-9613.	3.6	360
17	Propofol Anesthesia and Sleep: A High-Density EEG Study. <i>Sleep</i> , 2011, 34, 283-291.	1.1	326
18	A direct demonstration of cortical LTP in humans: A combined TMS/EEG study. <i>Brain Research Bulletin</i> , 2006, 69, 86-94.	3.0	311

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19	Stratification of unresponsive patients by an independently validated index of brain complexity. <i>Annals of Neurology</i> , 2016, 80, 718-729.	5.3	309
20	Consciousness and Complexity during Unresponsiveness Induced by Propofol, Xenon, and Ketamine. <i>Current Biology</i> , 2015, 25, 3099-3105.	3.9	308
21	Consensus paper: Combining transcranial stimulation with neuroimaging. <i>Brain Stimulation</i> , 2009, 2, 58-80.	1.6	299
22	Human Cortical Excitability Increases with Time Awake. <i>Cerebral Cortex</i> , 2013, 23, 1-7.	2.9	229
23	Reduced Evoked Gamma Oscillations in the Frontal Cortex in Schizophrenia Patients: A TMS/EEG Study. <i>American Journal of Psychiatry</i> , 2008, 165, 996-1005.	7.2	202
24	TMS-Induced Cortical Potentiation during Wakefulness Locally Increases Slow Wave Activity during Sleep. <i>PLoS ONE</i> , 2007, 2, e276.	2.5	196
25	The spectral exponent of the resting EEG indexes the presence of consciousness during unresponsiveness induced by propofol, xenon, and ketamine. <i>NeuroImage</i> , 2019, 189, 631-644.	4.2	185
26	Spatial Buffering during Slow and Paroxysmal Sleep Oscillations in Cortical Networks of Glial Cells <i>In Vivo</i> . <i>Journal of Neuroscience</i> , 2002, 22, 1042-1053.	3.6	184
27	EEG Responses to TMS Are Sensitive to Changes in the Perturbation Parameters and Repeatable over Time. <i>PLoS ONE</i> , 2010, 5, e10281.	2.5	181
28	Cortical reactivity and effective connectivity during REM sleep in humans. <i>Cognitive Neuroscience</i> , 2010, 1, 176-183.	1.4	167
29	Bistability breaks-off deterministic responses to intracortical stimulation during non-REM sleep. <i>NeuroImage</i> , 2015, 112, 105-113.	4.2	157
30	Circadian regulation of human cortical excitability. <i>Nature Communications</i> , 2016, 7, 11828.	12.8	146
31	Consensus Paper: Probing Homeostatic Plasticity of Human Cortex With Non-invasive Transcranial Brain Stimulation. <i>Brain Stimulation</i> , 2015, 8, 442-454.	1.6	138
32	Extracellular Calcium Fluctuations and Intracellular Potentials in the Cortex During the Slow Sleep Oscillation. <i>Journal of Neurophysiology</i> , 2001, 85, 1346-1350.	1.8	136
33	Repetitive Transcranial Magnetic Stimulation Dissociates Working Memory Manipulation from Retention Functions in the Prefrontal, but not Posterior Parietal, Cortex. <i>Journal of Cognitive Neuroscience</i> , 2006, 18, 1712-1722.	2.3	135
34	Measures of metabolism and complexity in the brain of patients with disorders of consciousness. <i>NeuroImage: Clinical</i> , 2017, 14, 354-362.	2.7	133
35	A perturbational approach for evaluating the brain's capacity for consciousness. <i>Progress in Brain Research</i> , 2009, 177, 201-214.	1.4	130
36	General indices to characterize the electrical response of the cerebral cortex to TMS. <i>NeuroImage</i> , 2010, 49, 1459-1468.	4.2	130

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37	Reduced Natural Oscillatory Frequency of Frontal Thalamocortical Circuits in Schizophrenia. Archives of General Psychiatry, 2012, 69, 766-74.	12.3	130
38	Electrophysiological correlates of behavioural changes in vigilance in vegetative state and minimally conscious state. Brain, 2011, 134, 2222-2232.	7.6	128
39	Shaping the Default Activity Pattern of the Cortical Network. Neuron, 2017, 94, 993-1001.	8.1	123
40	Augmentative repetitive navigated transcranial magnetic stimulation (rTMS) in drug-resistant bipolar depression. Bipolar Disorders, 2009, 11, 76-81.	1.9	121
41	Quantifying Cortical EEG Responses to TMS in (Un)consciousness. Clinical EEG and Neuroscience, 2014, 45, 40-49.	1.7	116
42	Slow waves, synaptic plasticity and information processing: insights from transcranial magnetic stimulation and high-density EEG experiments. European Journal of Neuroscience, 2009, 29, 1761-1770.	2.6	114
43	Reproducibility in TMS-EEG studies: A call for data sharing, standard procedures and effective experimental control. Brain Stimulation, 2019, 12, 787-790.	1.6	106
44	The spectral features of EEG responses to transcranial magnetic stimulation of the primary motor cortex depend on the amplitude of the motor evoked potentials. PLoS ONE, 2017, 12, e0184910.	2.5	104
45	EEG Slow (~ 1 Hz) Waves Are Associated With Nonstationarity of Thalamo-Cortical Sensory Processing in the Sleeping Human. Journal of Neurophysiology, 2003, 89, 1205-1213.	1.8	103
46	Consensus Paper: Probing Homeostatic Plasticity of Human Cortex With Non-invasive Transcranial Brain Stimulation. Brain Stimulation, 2015, 8, 993-1006.	1.6	103
47	Cerebral organoids: ethical issues and consciousness assessment. Journal of Medical Ethics, 2018, 44, 606-610.	1.8	101
48	Why Does Consciousness Fade in Early Sleep?. Annals of the New York Academy of Sciences, 2008, 1129, 330-334.	3.8	97
49	Global and local complexity of intracranial EEG decreases during NREM sleep. Neuroscience of Consciousness, 2017, 2017, niw022.	2.6	94
50	Hippocampal sleep spindles preceding neocortical sleep onset in humans. NeuroImage, 2014, 86, 425-432.	4.2	92
51	Consciousness Regained: Disentangling Mechanisms, Brain Systems, and Behavioral Responses. Journal of Neuroscience, 2017, 37, 10882-10893.	3.6	92
52	On the Cerebral Origin of EEG Responses to TMS: Insights From Severe Cortical Lesions. Brain Stimulation, 2015, 8, 142-149.	1.6	87
53	Glial and Neuronal Interactions during Slow Wave and Paroxysmal Activities in the Neocortex. Cerebral Cortex, 2002, 12, 1101-1113.	2.9	86
54	Brain Connectivity in Disorders of Consciousness. Brain Connectivity, 2012, 2, 1-10.	1.7	85

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55	Assessing the Effects of Electroconvulsive Therapy on Cortical Excitability by Means of Transcranial Magnetic Stimulation and Electroencephalography. <i>Brain Topography</i> , 2013, 26, 326-337.	1.8	77
56	A neural mass model of interconnected regions simulates rhythm propagation observed via TMS-EEG. <i>NeuroImage</i> , 2011, 57, 1045-1058.	4.2	76
57	Stimulus Set Meaningfulness and Neurophysiological Differentiation: A Functional Magnetic Resonance Imaging Study. <i>PLoS ONE</i> , 2015, 10, e0125337.	2.5	69
58	Local sleep-like cortical reactivity in the awake brain after focal injury. <i>Brain</i> , 2020, 143, 3672-3684.	7.6	69
59	The slow-wave components of the cyclic alternating pattern (CAP) have a role in sleep-related learning processes. <i>Neuroscience Letters</i> , 2008, 432, 228-231.	2.1	67
60	Reduced mediodorsal thalamic volume and prefrontal cortical spindle activity in schizophrenia. <i>NeuroImage</i> , 2014, 102, 540-547.	4.2	67
61	A fast and general method to empirically estimate the complexity of brain responses to transcranial and intracranial stimulations. <i>Brain Stimulation</i> , 2019, 12, 1280-1289.	1.6	64
62	Transcranial magnetic stimulation-evoked EEG/cortical potentials in physiological and pathological aging. <i>NeuroReport</i> , 2011, 22, 592-597.	1.2	62
63	Circadian dynamics in measures of cortical excitation and inhibition balance. <i>Scientific Reports</i> , 2016, 6, 33661.	3.3	58
64	Bistability, Causality, and Complexity in Cortical Networks: An In Vitro Perturbational Study. <i>Cerebral Cortex</i> , 2018, 28, 2233-2242.	2.9	58
65	Are There Islands of Awareness?. <i>Trends in Neurosciences</i> , 2020, 43, 6-16.	8.6	54
66	A [17F]-fluoromethane PET/TMS study of effective connectivity. <i>Brain Research Bulletin</i> , 2004, 64, 103-113.	3.0	52
67	Slow EEG rhythms and inter-hemispheric synchronization across sleep and wakefulness in the human hippocampus. <i>NeuroImage</i> , 2012, 60, 497-504.	4.2	52
68	Posterior and anterior cortex “where is the difference that makes the difference?”. <i>Nature Reviews Neuroscience</i> , 2016, 17, 666-666.	10.2	51
69	Consciousness and cortical responsiveness: a within-state study during non-rapid eye movement sleep. <i>Scientific Reports</i> , 2016, 6, 30932.	3.3	51
70	Time-frequency spectral analysis of TMS-evoked EEG oscillations by means of Hilbert-Huang transform. <i>Journal of Neuroscience Methods</i> , 2011, 198, 236-245.	2.5	47
71	Shared reduction of oscillatory natural frequencies in bipolar disorder, major depressive disorder and schizophrenia. <i>Journal of Affective Disorders</i> , 2015, 184, 111-115.	4.1	47
72	The rt-TEP tool: real-time visualization of TMS-Evoked Potentials to maximize cortical activation and minimize artifacts. <i>Journal of Neuroscience Methods</i> , 2022, 370, 109486.	2.5	46

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73	Response to Comment on "Preserved Feedforward But Impaired Top-Down Processes in the Vegetative State" Science, 2011, 334, 1203-1203.	12.6	45
74	The Cortical Topography of Local Sleep. Current Topics in Medicinal Chemistry, 2011, 11, 2438-2446.	2.1	45
75	Theoretical approaches to the diagnosis of altered states of consciousness. Progress in Brain Research, 2009, 177, 383-398.	1.4	44
76	New Insights into Alzheimer's Disease Progression: A Combined TMS and Structural MRI Study. PLoS ONE, 2011, 6, e26113.	2.5	44
77	Assessing consciousness in coma and related states using transcranial magnetic stimulation combined with electroencephalography. Annales Francaises D'Anesthesie Et De Reanimation, 2014, 33, 65-71.	1.4	41
78	Consciousness and complexity: a consilience of evidence. Neuroscience of Consciousness, 0, , .	2.6	41
79	Transcranial magnetic stimulation combined with high-density EEG in altered states of consciousness. Brain Injury, 2014, 28, 1180-1189.	1.2	39
80	Global structural integrity and effective connectivity in patients with disorders of consciousness. Brain Stimulation, 2018, 11, 358-365.	1.6	39
81	Effects of Spinal Section and of Positive-Feedback Excitatory Reflex on Sympathetic and Heart Rate Variability. Hypertension, 2000, 36, 1029-1034.	2.7	38
82	Mechanisms Underlying Disorders of Consciousness: Bridging Gaps to Move Toward an Integrated Translational Science. Neurocritical Care, 2021, 35, 37-54.	2.4	38
83	Simultaneous human intracerebral stimulation and HD-EEG, ground-truth for source localization methods. Scientific Data, 2020, 7, 127.	5.3	33
84	Multivariate autoregressive models with exogenous inputs for intracerebral responses to direct electrical stimulation of the human brain. Frontiers in Human Neuroscience, 2012, 6, 317.	2.0	32
85	Directed Information Transfer in Scalp Electroencephalographic Recordings. Clinical EEG and Neuroscience, 2014, 45, 33-39.	1.7	32
86	Quantifying arousal and awareness in altered states of consciousness using interpretable deep learning. Nature Communications, 2022, 13, 1064.	12.8	29
87	Sleepy Dialogues between Cortex and Hippocampus: Who Talks to Whom?. Neuron, 2006, 52, 748-749.	8.1	28
88	Fluid boundaries between wake and sleep: experimental evidence from stereo-EEG recordings. Archives Italiennes De Biologie, 2015, 152, 169-77.	0.4	28
89	The PredictAD project: development of novel biomarkers and analysis software for early diagnosis of the Alzheimer's disease. Interface Focus, 2013, 3, 20120072.	3.0	26
90	Cerebral organoids and consciousness: how far are we willing to go?. Journal of Medical Ethics, 2018, 44, 613-614.	1.8	25

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91	Tracking Dynamic Interactions Between Structural and Functional Connectivity: A TMS/EEG-dMRI Study. <i>Brain Connectivity</i> , 2017, 7, 84-97.	1.7	23
92	Sleep and Consciousness. , 2013, , 133-182.		21
93	Subcortical atrophy correlates with the perturbational complexity index in patients with disorders of consciousness. <i>Brain Stimulation</i> , 2020, 13, 1426-1435.	1.6	20
94	Human fronto-parietal response scattering subserves vigilance at night. <i>NeuroImage</i> , 2018, 175, 354-364.	4.2	18
95	Combining Transcranial Magnetic Stimulation with Electroencephalography to Study Human Cortical Excitability and Effective Connectivity. <i>NeuroMethods</i> , 2011, , 435-457.	0.3	15
96	Sleep as a model to understand neuroplasticity and recovery after stroke: Observational, perturbational and interventional approaches. <i>Journal of Neuroscience Methods</i> , 2019, 313, 37-43.	2.5	13
97	Meditation-induced modulation of brain response to transcranial magnetic stimulation. <i>Brain Stimulation</i> , 2018, 11, 1397-1400.	1.6	12
98	Spontaneous and Perturbational Complexity in Cortical Cultures. <i>Brain Sciences</i> , 2021, 11, 1453.	2.3	12
99	Assessing recurrent interactions in cortical networks: Modeling EEG response to transcranial magnetic stimulation. <i>Journal of Neuroscience Methods</i> , 2019, 312, 93-104.	2.5	8
100	Exploring the Neurophysiological Correlates of Loss and Recovery of Consciousness: Perturbational Complexity. , 2016, , 93-104.		5
101	Erratum to "Consensus Paper: Probing Homeostatic Plasticity of Human Cortex With Non-invasive Transcranial Brain Stimulation". <i>Brain Stimulation</i> 8 (2015) 442-454. <i>Brain Stimulation</i> , 2015, 8, 992.	1.6	4
102	Using Brain Stimulation to Create Thoughts, Retrieve and Alter Memories, and Measure Consciousness " A Discussion of Recent Research. <i>Brain Stimulation</i> , 2013, 6, 835-836.	1.6	3
103	Sparse multivariate autoregressive models with exogenous inputs for modeling intracerebral responses to direct electrical stimulation of the human brain. , 2013, , .		1
104	Functional Neuroimaging Techniques. , 2016, , 31-47.		1
105	Cortical Excitability, Plasticity and Oscillations in Major Psychiatric Disorders: A Neuronavigated TMS-EEG Based Approach. , 2020, , 209-222.		1
106	Using Transcranial Magnetic Stimulation to Measure Cerebral Connectivity in Patients with Disorders of Consciousness. , 2012, , 79-84.		0
107	Transcranial Magnetic Stimulation and Electroencephalography. , 2015, , 125-132.		0
108	COMPLESSITÀ E COSCIENZA: DALLA TEORIA AL LETTO DEL PAZIENTE. Istituto Lombardo - Accademia Di Scienze E Lettere - Incontri Di Studio, 0, , .	0.0	0

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109	Computational Study of Rhythm Propagation Induced by TMS Stimuli in Different Brain Regions. Studies in Computational Intelligence, 2012, , 389-403.	0.9	0
110	The Potential of nTMS/EEG: Measuring Consciousness. , 2017, , 257-265.		0
111	Measures of differentiation and integration: One step closer to consciousness. Behavioral and Brain Sciences, 2022, 45, e54.	0.7	0