Marcello Massimini

List of Publications by Citations

112 papers	13,531 citations	54 h-index	116 g-index
121 ext. papers	16,705 ext. citations	6.9 avg, IF	6.36 L-index

#	Paper	IF	Citations
112	Local sleep and learning. *Nature*, **2004**, 430, 78-81	50.4	1362
111	Breakdown of cortical effective connectivity during sleep. *Science*, **2005**, 309, 2228-32	33.3	1049
110	The sleep slow oscillation as a traveling wave. *Journal of Neuroscience*, **2004**, 24, 6862-70	6.6	754
109	Neural correlates of consciousness: progress and problems. *Nature Reviews Neuroscience*, **2016**, 17, 307-21	13.5	591
108	A theoretically based index of consciousness independent of sensory processing and behavior. *Science Translational Medicine*, **2013**, 5, 198ra105	17.5	553
107	Integrated information theory: from consciousness to its physical substrate. *Nature Reviews Neuroscience*, **2016**, 17, 450-61	13.5	543
106	Arm immobilization causes cortical plastic changes and locally decreases sleep slow wave activity. *Nature Neuroscience*, **2006**, 9, 1169-76	25.5	432
105	Natural frequencies of human corticothalamic circuits. *Journal of Neuroscience*, **2009**, 29, 7679-85	6.6	428
104	Preserved feedforward but impaired top-down processes in the vegetative state. *Science*, **2011**, 332, 858-62	33.3	370
103	Breakdown in cortical effective connectivity during midazolam-induced loss of consciousness. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 2681-6	11.5	340
102	Reduced sleep spindle activity in schizophrenia patients. *American Journal of Psychiatry*, **2007**, 164, 483-92	12.9	335
101	Source modeling sleep slow waves. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 1608-13	11.5	318
100	Triggering sleep slow waves by transcranial magnetic stimulation. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 8496-501	11.5	311
99	Recovery of cortical effective connectivity and recovery of consciousness in vegetative patients. *Brain*, **2012**, 135, 1308-20	11.2	285
98	Sleep homeostasis and cortical synchronization: III. A high-density EEG study of sleep slow waves in humans. *Sleep*, **2007**, 30, 1643-57	1.1	272
97	Propofol anesthesia and sleep: a high-density EEG study. *Sleep*, **2011**, 34, 283-91A	1.1	257
96	A direct demonstration of cortical LTP in humans: a combined TMS/EEG study. *Brain Research Bulletin*, **2006**, 69, 86-94	3.9	251

95	Consensus paper: combining transcranial stimulation with neuroimaging. *Brain Stimulation*, **2009**, 2, 58-89	5.1	239
94	Are the Neural Correlates of Consciousness in the Front or in the Back of the Cerebral Cortex? Clinical and Neuroimaging Evidence. *Journal of Neuroscience*, **2017**, 37, 9603-9613	6.6	192
93	Consciousness and Complexity during Unresponsiveness Induced by Propofol, Xenon, and Ketamine. *Current Biology*, **2015**, 25, 3099-105	6.3	189
92	Stratification of unresponsive patients by an independently validated index of brain complexity. *Annals of Neurology*, **2016**, 80, 718-729	9.4	180
91	Human cortical excitability increases with time awake. *Cerebral Cortex*, **2013**, 23, 332-8	5.1	170
90	Reduced evoked gamma oscillations in the frontal cortex in schizophrenia patients: a TMS/EEG study. *American Journal of Psychiatry*, **2008**, 165, 996-1005	11.9	166
89	TMS-induced cortical potentiation during wakefulness locally increases slow wave activity during sleep. *PLoS ONE*, **2007**, 2, e276	3.7	161
88	Spatial buffering during slow and paroxysmal sleep oscillations in cortical networks of glial cells in vivo. *Journal of Neuroscience*, **2002**, 22, 1042-53	6.6	160
87	EEG responses to TMS are sensitive to changes in the perturbation parameters and repeatable over time. *PLoS ONE*, **2010**, 5, e10281	3.7	140
86	Cortical reactivity and effective connectivity during REM sleep in humans. *Cognitive Neuroscience*, **2010**, 1, 176-183	1.7	130
85	Extracellular calcium fluctuations and intracellular potentials in the cortex during the slow sleep oscillation. *Journal of Neurophysiology*, **2001**, 85, 1346-50	3.2	120
84	General indices to characterize the electrical response of the cerebral cortex to TMS. *NeuroImage*, **2010**, 49, 1459-68	7.9	108
83	Repetitive transcranial magnetic stimulation dissociates working memory manipulation from retention functions in the prefrontal, but not posterior parietal, cortex. *Journal of Cognitive Neuroscience*, **2006**, 18, 1712-22	3.1	107
82	Augmentative repetitive navigated transcranial magnetic stimulation (rTMS) in drug-resistant bipolar depression. *Bipolar Disorders*, **2009**, 11, 76-81	3.8	103
81	Electrophysiological correlates of behavioural changes in vigilance in vegetative state and minimally conscious state. *Brain*, **2011**, 134, 2222-32	11.2	103
80	A perturbational approach for evaluating the brain's capacity for consciousness. *Progress in Brain Research*, **2009**, 177, 201-14	2.9	100
79	Bistability breaks-off deterministic responses to intracortical stimulation during non-REM sleep. *NeuroImage*, **2015**, 112, 105-113	7.9	98
78	Slow waves, synaptic plasticity and information processing: insights from transcranial magnetic stimulation and high-density EEG experiments. *European Journal of Neuroscience*, **2009**, 29, 1761-70	3.5	97

77	EEG slow (approximately 1 Hz) waves are associated with nonstationarity of thalamo-cortical sensory processing in the sleeping human. *Journal of Neurophysiology*, **2003**, 89, 1205-13	3.2	92
76	Reduced natural oscillatory frequency of frontal thalamocortical circuits in schizophrenia. *Archives of General Psychiatry*, **2012**, 69, 766-74		91
75	Circadian regulation of human cortical excitability. *Nature Communications*, **2016**, 7, 11828	17.4	89
74	Measures of metabolism and complexity in the brain of patients with disorders of consciousness. *NeuroImage: Clinical*, **2017**, 14, 354-362	5.3	78
73	Consensus Paper: Probing Homeostatic Plasticity of Human Cortex With Non-invasive Transcranial Brain Stimulation. *Brain Stimulation*, **2015**, 8, 442-54	5.1	78
72	Shaping the Default Activity Pattern of the Cortical Network. *Neuron*, **2017**, 94, 993-1001	13.9	77
71	Quantifying cortical EEG responses to TMS in (un)consciousness. *Clinical EEG and Neuroscience*, **2014**, 45, 40-9	2.3	77
70	Consensus Paper: Probing Homeostatic Plasticity of Human Cortex With Non-invasive Transcranial Brain Stimulation. *Brain Stimulation*, **2015**, 8, 993-1006	5.1	74
69	Glial and neuronal interactions during slow wave and paroxysmal activities in the neocortex. *Cerebral Cortex*, **2002**, 12, 1101-13	5.1	72
68	Why does consciousness fade in early sleep?. *Annals of the New York Academy of Sciences*, **2008**, 1129, 330-4	6.5	70
67	Brain connectivity in disorders of consciousness. *Brain Connectivity*, **2012**, 2, 1-10	2.7	69
66	Consciousness Regained: Disentangling Mechanisms, Brain Systems, and Behavioral Responses. *Journal of Neuroscience*, **2017**, 37, 10882-10893	6.6	63
65	The spectral exponent of the resting EEG indexes the presence of consciousness during unresponsiveness induced by propofol, xenon, and ketamine. *NeuroImage*, **2019**, 189, 631-644	7.9	62
64	Hippocampal sleep spindles preceding neocortical sleep onset in humans. *NeuroImage*, **2014**, 86, 425-32	7.9	61
63	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	3.7	60
62	Cerebral organoids: ethical issues and consciousness assessment. *Journal of Medical Ethics*, **2018**, 44, 606-610	2.5	59
61	Reproducibility in TMS-EEG studies: A call for data sharing, standard procedures and effective experimental control. *Brain Stimulation*, **2019**, 12, 787-790	5.1	58
60	The slow-wave components of the cyclic alternating pattern (CAP) have a role in sleep-related learning processes. *Neuroscience Letters*, **2008**, 432, 228-31	3.3	56

59	On the cerebral origin of EEG responses to TMS: insights from severe cortical lesions. *Brain Stimulation*, **2015**, 8, 142-9	5.1	55
58	Assessing the effects of electroconvulsive therapy on cortical excitability by means of transcranial magnetic stimulation and electroencephalography. *Brain Topography*, **2013**, 26, 326-37	4.3	54
57	Global and local complexity of intracranial EEG decreases during NREM sleep. *Neuroscience of Consciousness*, **2017**, 2017, niw022	3.3	52
56	Reduced mediodorsal thalamic volume and prefrontal cortical spindle activity in schizophrenia. *NeuroImage*, **2014**, 102 Pt 2, 540-7	7.9	52
55	A neural mass model of interconnected regions simulates rhythm propagation observed via TMS-EEG. *NeuroImage*, **2011**, 57, 1045-58	7.9	52
54	Circadian dynamics in measures of cortical excitation and inhibition balance. *Scientific Reports*, **2016** , 6, 33661	4.9	46
53	Transcranial magnetic stimulation-evoked EEG/cortical potentials in physiological and pathological aging. *NeuroReport*, **2011**, 22, 592-7	1.7	46
52	A [17F]-fluoromethane PET/TMS study of effective connectivity. *Brain Research Bulletin*, **2004**, 64, 103-13	3.9	45
51	Response to Comment on "Preserved Feedforward But Impaired Top-Down Processes in the Vegetative State". *Science*, **2011**, 334, 1203-1203	33.3	44
50	Time-frequency spectral analysis of TMS-evoked EEG oscillations by means of Hilbert-Huang transform. *Journal of Neuroscience Methods*, **2011**, 198, 236-45	3	41
49	Stimulus set meaningfulness and neurophysiological differentiation: a functional magnetic resonance imaging study. *PLoS ONE*, **2015**, 10, e0125337	3.7	39
48	Slow EEG rhythms and inter-hemispheric synchronization across sleep and wakefulness in the human hippocampus. *NeuroImage*, **2012**, 60, 497-504	7.9	39
47	The cortical topography of local sleep. *Current Topics in Medicinal Chemistry*, **2011**, 11, 2438-46	3	39
46	Shared reduction of oscillatory natural frequencies in bipolar disorder, major depressive disorder and schizophrenia. *Journal of Affective Disorders*, **2015**, 184, 111-5	6.6	37
45	Effects of spinal section and of positive-feedback excitatory reflex on sympathetic and heart rate variability. *Hypertension*, **2000**, 36, 1029-34	8.5	36
44	Consciousness and cortical responsiveness: a within-state study during non-rapid eye movement sleep. *Scientific Reports*, **2016**, 6, 30932	4.9	34
43	Theoretical approaches to the diagnosis of altered states of consciousness. *Progress in Brain Research*, **2009**, 177, 383-98	2.9	34
42	New insights into Alzheimer's disease progression: a combined TMS and structural MRI study. *PLoS ONE*, **2011**, 6, e26113	3.7	32

41	Posterior and anterior cortex - where is the difference that makes the difference?. *Nature Reviews Neuroscience*, **2016**, 17, 666	13.5	30
40	Bistability, Causality, and Complexity in Cortical Networks: An In Vitro Perturbational Study. *Cerebral Cortex*, **2018**, 28, 2233-2242	5.1	29
39	Transcranial magnetic stimulation combined with high-density EEG in altered states of consciousness. *Brain Injury*, **2014**, 28, 1180-9	2.1	29
38	Directed information transfer in scalp electroencephalographic recordings: insights on disorders of consciousness. *Clinical EEG and Neuroscience*, **2014**, 45, 33-9	2.3	28
37	Assessing consciousness in coma and related states using transcranial magnetic stimulation combined with electroencephalography. *Annales Francaises DoAnesthesie Et De Reanimation*, **2014**, 33, 65-71		26
36	Sleepy dialogues between cortex and hippocampus: who talks to whom?. *Neuron*, **2006**, 52, 748-9	13.9	26
35	Global structural integrity and effective connectivity in patients with disorders of consciousness. *Brain Stimulation*, **2018**, 11, 358-365	5.1	26
34	A fast and general method to empirically estimate the complexity of brain responses to transcranial and intracranial stimulations. *Brain Stimulation*, **2019**, 12, 1280-1289	5.1	24
33	Are There Islands of Awareness?. *Trends in Neurosciences*, **2020**, 43, 6-16	13.3	24
32	Fluid boundaries between wake and sleep: experimental evidence from Stereo-EEG recordings. *Archives Italiennes De Biologie*, **2014**, 152, 169-77	1.1	23
31	Multivariate autoregressive models with exogenous inputs for intracerebral responses to direct electrical stimulation of the human brain. *Frontiers in Human Neuroscience*, **2012**, 6, 317	3.3	21
30	The PredictAD project: development of novel biomarkers and analysis software for early diagnosis of the Alzheimer's disease. *Interface Focus*, **2013**, 3, 20120072	3.9	19
29	Tracking Dynamic Interactions Between Structural and Functional Connectivity: A TMS/EEG-dMRI Study. *Brain Connectivity*, **2017**, 7, 84-97	2.7	17
28	Cerebral organoids and consciousness: how far are we willing to go?. *Journal of Medical Ethics*, **2018**, 44, 613-614	2.5	15
27	Human fronto-parietal response scattering subserves vigilance at night. *NeuroImage*, **2018**, 175, 354-364	7.9	14
26	Sleep and Consciousness **2013**, 133-182		14
25	Combining Transcranial Magnetic Stimulation with Electroencephalography to Study Human Cortical Excitability and Effective Connectivity. *Neuromethods*, **2011**, 435-457	0.4	12
24	Local sleep-like cortical reactivity in the awake brain after focal injury. *Brain*, **2020**, 143, 3672-3684	11.2	12

23	Simultaneous human intracerebral stimulation and HD-EEG, ground-truth for source localization methods. *Scientific Data*, **2020**, 7, 127	8.2	9
22	The rt-TEP tool: real-time visualization of TMS-Evoked Potentials to maximize cortical activation and minimize artifacts.. *Journal of Neuroscience Methods*, **2022**, 370, 109486	3	8
21	Sleep as a model to understand neuroplasticity and recovery after stroke: Observational, perturbational and interventional approaches. *Journal of Neuroscience Methods*, **2019**, 313, 37-43	3	7
20	Meditation-induced modulation of brain response to transcranial magnetic stimulation. *Brain Stimulation*, **2018**, 11, 1397-1400	5.1	7
19	Mechanisms Underlying Disorders of Consciousness: Bridging Gaps to Move Toward an Integrated Translational Science. *Neurocritical Care*, **2021**, 35, 37-54	3.3	7
18	Subcortical atrophy correlates with the perturbational complexity index in patients with disorders of consciousness. *Brain Stimulation*, **2020**, 13, 1426-1435	5.1	6
17	Consciousness and complexity: a consilience of evidence. *Neuroscience of Consciousness*,	3.3	4
16	Assessing recurrent interactions in cortical networks: Modeling EEG response to transcranial magnetic stimulation. *Journal of Neuroscience Methods*, **2019**, 312, 93-104	3	3
15	Erratum to Consensus Paper: Probing Homeostatic Plasticity of Human Cortex With Non-invasive Transcranial Brain Stimulation Brain Stimulation 8 (2015) 442454. *Brain Stimulation*, **2015**, 8, 992	5.1	2
14	Exploring the Neurophysiological Correlates of Loss and Recovery of Consciousness: Perturbational Complexity **2016**, 93-104		2
13	Spontaneous and Perturbational Complexity in Cortical Cultures. *Brain Sciences*, **2021**, 11,	3.4	2
12	Are the neural correlates of consciousness in the front or in the back of the cerebral cortex? Clinical and neuroimaging evidence		2
11	A fast and general method to empirically estimate the complexity of brain responses to transcranial and intracranial stimulations		1
10	Depth of sedation with dexmedetomidine modulates cortical excitability non-linearly		1
9	Quantifying arousal and awareness in altered states of consciousness using interpretable deep learning.. *Nature Communications*, **2022**, 13, 1064	17.4	1
8	Functional Neuroimaging Techniques **2016**, 31-47		0
7	Transcranial Magnetic Stimulation and Electroencephalography **2015**, 125-132		
6	Using Transcranial Magnetic Stimulation to Measure Cerebral Connectivity in Patients with Disorders of Consciousness **2012**, 79-84		

5	Cortical Excitability, Plasticity and Oscillations in Major Psychiatric Disorders: A Neuronavigated TMS-EEG Based Approach **2020**, 209-222	
4	Sleep, Consciousness and the Brain: A Perturbational Approach **2008**, 253-258	
3	The Potential of nTMS/EEG: Measuring Consciousness **2017**, 257-265	
2	Computational Study of Rhythm Propagation Induced by TMS Stimuli in Different Brain Regions. *Studies in Computational Intelligence*, **2012**, 389-403	0.8
1	Measures of differentiation and integration: One step closer to consciousness.. *Behavioral and Brain Sciences*, **2022**, 45, e54	0.9