

Flavio Fröhlich

List of Publications by Year in descending order

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Version: 2024-02-01

119
papers

5,577
citations

101543

36
h-index

98798

67
g-index

132
all docs

132
docs citations

132
times ranked

5361
citing authors

#	ARTICLE	IF	CITATIONS
1	Endogenous Electric Fields May Guide Neocortical Network Activity. <i>Neuron</i> , 2010, 67, 129-143.	8.1	755
2	Transcranial Alternating Current Stimulation Modulates Large-Scale Cortical Network Activity by Network Resonance. <i>Journal of Neuroscience</i> , 2013, 33, 11262-11275.	3.6	387
3	Guiding transcranial brain stimulation by EEG/MEG to interact with ongoing brain activity and associated functions: A position paper. <i>Clinical Neurophysiology</i> , 2017, 128, 843-857.	1.5	211
4	Transcranial electrical and magnetic stimulation (tES and TMS) for addiction medicine: A consensus paper on the present state of the science and the road ahead. <i>Neuroscience and Biobehavioral Reviews</i> , 2019, 104, 118-140.	6.1	198
5	Feedback-Controlled Transcranial Alternating Current Stimulation Reveals a Functional Role of Sleep Spindles in Motor Memory Consolidation. <i>Current Biology</i> , 2016, 26, 2127-2136.	3.9	194
6	Potassium Dynamics in the Epileptic Cortex: New Insights on an Old Topic. <i>Neuroscientist</i> , 2008, 14, 422-433.	3.5	167
7	Rigor and reproducibility in research with transcranial electrical stimulation: An NIMH-sponsored workshop. <i>Brain Stimulation</i> , 2018, 11, 465-480.	1.6	144
8	Modulation of Cortical Oscillations by Low-Frequency Direct Cortical Stimulation Is State-Dependent. <i>PLoS Biology</i> , 2016, 14, e1002424.	5.6	138
9	Functional role of frontal alpha oscillations in creativity. <i>Cortex</i> , 2015, 67, 74-82.	2.4	123
10	Experiments and models of cortical oscillations as a target for noninvasive brain stimulation. <i>Progress in Brain Research</i> , 2015, 222, 41-73.	1.4	119
11	Double-blind, randomized pilot clinical trial targeting alpha oscillations with transcranial alternating current stimulation (tACS) for the treatment of major depressive disorder (MDD). <i>Translational Psychiatry</i> , 2019, 9, 106.	4.8	116
12	Endogenous Cortical Oscillations Constrain Neuromodulation by Weak Electric Fields. <i>Brain Stimulation</i> , 2014, 7, 878-889.	1.6	109
13	MINIPIPE: A Miniscope 1-Photon-Based Calcium Imaging Signal Extraction Pipeline. <i>Cell Reports</i> , 2018, 23, 3673-3684.	6.4	108
14	Low-Intensity Transcranial Current Stimulation in Psychiatry. <i>American Journal of Psychiatry</i> , 2017, 174, 628-639.	7.2	105
15	Network Bistability Mediates Spontaneous Transitions between Normal and Pathological Brain States. <i>Journal of Neuroscience</i> , 2010, 30, 10734-10743.	3.6	104
16	Coexistence of tonic firing and bursting in cortical neurons. <i>Physical Review E</i> , 2006, 74, 031922.	2.1	98
17	Targeting reduced neural oscillations in patients with schizophrenia by transcranial alternating current stimulation. <i>NeuroImage</i> , 2019, 186, 126-136.	4.2	95
18	Slow State Transitions of Sustained Neural Oscillations by Activity-Dependent Modulation of Intrinsic Excitability. <i>Journal of Neuroscience</i> , 2006, 26, 6153-6162.	3.6	91

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19	Pathological Effect of Homeostatic Synaptic Scaling on Network Dynamics in Diseases of the Cortex. <i>Journal of Neuroscience</i> , 2008, 28, 1709-1720.	3.6	83
20	Targeting the neurophysiology of cognitive systems with transcranial alternating current stimulation. <i>Expert Review of Neurotherapeutics</i> , 2015, 15, 145-167.	2.8	79
21	Awake vs. anesthetized: layer-specific sensory processing in visual cortex and functional connectivity between cortical areas. <i>Journal of Neurophysiology</i> , 2015, 113, 3798-3815.	1.8	74
22	Randomized trial of transcranial alternating current stimulation for treatment of auditory hallucinations in schizophrenia. <i>European Psychiatry</i> , 2018, 51, 25-33.	0.2	74
23	Transcranial alternating current stimulation entrains alpha oscillations by preferential phase synchronization of fast-spiking cortical neurons to stimulation waveform. <i>Nature Communications</i> , 2021, 12, 3151.	12.8	74
24	Anesthesia differentially modulates spontaneous network dynamics by cortical area and layer. <i>Journal of Neurophysiology</i> , 2013, 110, 2739-2751.	1.8	72
25	Exploratory study of once-daily transcranial direct current stimulation (tDCS) as a treatment for auditory hallucinations in schizophrenia. <i>European Psychiatry</i> , 2016, 33, 54-60.	0.2	71
26	Identifying and Engaging Neuronal Oscillations by Transcranial Alternating Current Stimulation in Patients With Chronic Low Back Pain: A Randomized, Crossover, Double-Blind, Sham-Controlled Pilot Study. <i>Journal of Pain</i> , 2019, 20, 277.e1-277.e11.	1.4	67
27	Endogenous and exogenous electric fields as modifiers of brain activity: rational design of noninvasive brain stimulation with transcranial alternating current stimulation. <i>Dialogues in Clinical Neuroscience</i> , 2014, 16, 93-102.	3.7	66
28	Cellular and network mechanisms of electrographic seizures. <i>Drug Discovery Today: Disease Models</i> , 2008, 5, 45-57.	1.2	60
29	Low-frequency direct cortical stimulation of left superior frontal gyrus enhances working memory performance. <i>NeuroImage</i> , 2019, 184, 697-706.	4.2	57
30	Differential effects of 10-Hz and 40-Hz transcranial alternating current stimulation (tACS) on endogenous versus exogenous attention. <i>Cognitive Neuroscience</i> , 2017, 8, 102-111.	1.4	55
31	Targeting alpha-band oscillations in a cortical model with amplitude-modulated high-frequency transcranial electric stimulation. <i>NeuroImage</i> , 2018, 173, 3-12.	4.2	54
32	Transcranial direct current stimulation (tDCS) of frontal cortex decreases performance on the WAIS-IV intelligence test. <i>Behavioural Brain Research</i> , 2015, 290, 32-44.	2.2	53
33	Breakdown of local information processing may underlie isoflurane anesthesia effects. <i>PLoS Computational Biology</i> , 2017, 13, e1005511.	3.2	52
34	Arousal dependent modulation of thalamo-cortical functional interaction. <i>Nature Communications</i> , 2018, 9, 2455.	12.8	51
35	Pinging the brain with transcranial magnetic stimulation reveals cortical reactivity in time and space. <i>Brain Stimulation</i> , 2021, 14, 304-315.	1.6	46
36	High-density EEG characterization of brain responses to auditory rhythmic stimuli during wakefulness and NREM sleep. <i>NeuroImage</i> , 2018, 169, 57-68.	4.2	44

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37	Causal role of cross-frequency coupling in distinct components of cognitive control. <i>Progress in Neurobiology</i> , 2021, 202, 102033.	5.7	44
38	Stochastic resonance mediates the state-dependent effect of periodic stimulation on cortical alpha oscillations. <i>ELife</i> , 2017, 6, .	6.0	41
39	Emergence of Metastable State Dynamics in Interconnected Cortical Networks with Propagation Delays. <i>PLoS Computational Biology</i> , 2013, 9, e1003304.	3.2	40
40	Transplantation of GABAergic Interneurons into the Neonatal Primary Visual Cortex Reduces Absence Seizures in Stargazer Mice. <i>Cerebral Cortex</i> , 2015, 25, 2970-2979.	2.9	40
41	Oscillatory Dynamics in the Frontoparietal Attention Network during Sustained Attention in the Ferret. <i>Cell Reports</i> , 2016, 16, 2864-2874.	6.4	39
42	Non-linear transfer characteristics of stimulation and recording hardware account for spurious low-frequency artifacts during amplitude modulated transcranial alternating current stimulation (AM-tACS). <i>NeuroImage</i> , 2018, 179, 134-143.	4.2	39
43	Differential effects of cholinergic and noradrenergic neuromodulation on spontaneous cortical network dynamics. <i>Neuropharmacology</i> , 2013, 72, 259-273.	4.1	36
44	Unified thalamic model generates multiple distinct oscillations with state-dependent entrainment by stimulation. <i>PLoS Computational Biology</i> , 2017, 13, e1005797.	3.2	34
45	Resting state network topology of the ferret brain. <i>NeuroImage</i> , 2016, 143, 70-81.	4.2	30
46	Social, motor, and cognitive development through the lens of sleep network dynamics in infants and toddlers between 12 and 30 months of age. <i>Sleep</i> , 2018, 41, .	1.1	30
47	Active and Passive Rhythmic Music Therapy Interventions Differentially Modulate Sympathetic Autonomic Nervous System Activity. <i>Journal of Music Therapy</i> , 2019, 56, 240-264.	0.9	30
48	Intrinsic Rhythmicity Predicts Synchronization-Continuation Entrainment Performance. <i>Scientific Reports</i> , 2018, 8, 11782.	3.3	27
49	λ interacts with somato-dendritic structure to determine frequency response to weak alternating electric field stimulation. <i>Journal of Neurophysiology</i> , 2018, 119, 1029-1036.	1.8	26
50	A case study of weekly tACS for the treatment of major depressive disorder. <i>Brain Stimulation</i> , 2020, 13, 576-577.	1.6	25
51	EEG feedback-controlled transcranial alternating current stimulation. , 2013, , .		24
52	Conducting double-blind placebo-controlled clinical trials of transcranial alternating current stimulation (tACS). <i>Translational Psychiatry</i> , 2021, 11, 284.	4.8	24
53	Diffusion geometry approach to efficiently remove electrical stimulation artifacts in intracranial electroencephalography. <i>Journal of Neural Engineering</i> , 2019, 16, 036010.	3.5	23
54	Noninvasive Brain Stimulation Rescues Cocaine-Induced Prefrontal Hypoactivity and Restores Flexible Behavior. <i>Biological Psychiatry</i> , 2021, 89, 1001-1011.	1.3	22

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55	Targeting neural oscillations with transcranial alternating current stimulation. <i>Brain Research</i> , 2021, 1765, 147491.	2.2	22
56	Feedback control of Hodgkin-Huxley nerve cell dynamics. <i>Control Engineering Practice</i> , 2005, 13, 1195-1206.	5.5	21
57	Interaction of Intrinsic and Synaptic Currents Mediate Network Resonance Driven by Layer V Pyramidal Cells. <i>Cerebral Cortex</i> , 2017, 27, 4396-4410.	2.9	20
58	Network-Targeted, Multi-site Direct Cortical Stimulation Enhances Working Memory by Modulating Phase Lag of Low-Frequency Oscillations. <i>Cell Reports</i> , 2019, 29, 2590-2598.e4.	6.4	20
59	Closed-Loop Transcranial Alternating Current Stimulation: Towards Personalized Non-invasive Brain Stimulation for the Treatment of Psychiatric Illnesses. <i>Current Behavioral Neuroscience Reports</i> , 2021, 8, 51-57.	1.3	19
60	Maternal Immune Activation Alters Adult Behavior, Gut Microbiome and Juvenile Brain Oscillations in Ferrets. <i>ENeuro</i> , 2018, 5, ENEURO.0313-18.2018.	1.9	19
61	Optimal estimation of recurrence structures from time series. <i>Europhysics Letters</i> , 2016, 114, 38003.	2.0	18
62	Dorso-Lateral Frontal Cortex of the Ferret Encodes Perceptual Difficulty during Visual Discrimination. <i>Scientific Reports</i> , 2016, 6, 23568.	3.3	17
63	Modulating neural oscillations by transcranial static magnetic field stimulation of the dorsolateral prefrontal cortex: A crossover, double-blind, sham-controlled pilot study. <i>European Journal of Neuroscience</i> , 2019, 49, 250-262.	2.6	17
64	Brain-derived neurotrophic factor (BDNF) polymorphism may influence the efficacy of tACS to modulate neural oscillations. <i>Brain Stimulation</i> , 2020, 13, 998-999.	1.6	17
65	Schizophrenia and <i>Bartonella</i> spp. Infection: A Pilot Case-Control Study. <i>Vector-Borne and Zoonotic Diseases</i> , 2021, 21, 413-421.	1.5	17
66	Rational design of transcranial current stimulation (TCS) through mechanistic insights into cortical network dynamics. <i>Frontiers in Human Neuroscience</i> , 2013, 7, 804.	2.0	16
67	Neuromodulation of sleep rhythms in schizophrenia: Towards the rational design of non-invasive brain stimulation. <i>Schizophrenia Research</i> , 2020, 221, 71-80.	2.0	16
68	Carbohydrate Intake Prior to Oral Glucose Tolerance Testing. <i>Journal of the Endocrine Society</i> , 2021, 5, bvab049.	0.2	16
69	Maintenance and termination of neocortical oscillations by dynamic modulation of intrinsic and synaptic excitability. <i>Thalamus & Related Systems</i> , 2005, 3, 147.	0.5	15
70	Structural and functional connectivity between the lateral posterior-pulvinar complex and primary visual cortex in the ferret. <i>European Journal of Neuroscience</i> , 2016, 43, 230-244.	2.6	15
71	Reduction in Left Frontal Alpha Oscillations by Transcranial Alternating Current Stimulation in Major Depressive Disorder Is Context Dependent in a Randomized Clinical Trial. <i>Biological Psychiatry: Cognitive Neuroscience and Neuroimaging</i> , 2022, 7, 302-311.	1.5	15
72	Nonrapid eye movement sleep and risk for autism spectrum disorder in early development: A topographical electroencephalogram pilot study. <i>Brain and Behavior</i> , 2020, 10, e01557.	2.2	15

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73	Theta Oscillations Organize Spiking Activity in Higher-Order Visual Thalamus during Sustained Attention. <i>ENeuro</i> , 2018, 5, ENEURO.0384-17.2018.	1.9	15
74	Alpha-tACS effect on inhibitory control and feasibility of administration in community outpatient substance use treatment. <i>Drug and Alcohol Dependence</i> , 2020, 213, 108132.	3.2	14
75	Frequency-band signatures of visual responses to naturalistic input in ferret primary visual cortex during free viewing. <i>Brain Research</i> , 2015, 1598, 31-45.	2.2	12
76	Tuning out the Blues – Thalamo-Cortical Rhythms as a Successful Target for Treating Depression. <i>Brain Stimulation</i> , 2015, 8, 1007-1009.	1.6	12
77	Targeting the Autonomic Nervous System Balance in Patients with Chronic Low Back Pain Using Transcranial Alternating Current Stimulation: A Randomized, Crossover, Double-Blind, Placebo-Controlled Pilot Study. <i>Journal of Pain Research</i> , 2019, Volume 12, 3265-3277.	2.0	12
78	Causal role of frontal-midline theta in cognitive effort: a pilot study. <i>Journal of Neurophysiology</i> , 2021, 126, 1221-1233.	1.8	12
79	Extracellular Potassium Dynamics and Epileptogenesis. , 2008, , 419-439.		12
80	Rhythmic 3-4Hz discharge is insufficient to produce cortical BOLD fMRI decreases in generalized seizures. <i>NeuroImage</i> , 2015, 109, 368-377.	4.2	11
81	Rational design of transcranial alternating current stimulation. <i>Clinical and Translational Neuroscience</i> , 2018, 2, 2514183X1879351.	0.9	11
82	Maintenance and termination of neocortical oscillations by dynamic modulation of intrinsic and synaptic excitability. <i>Thalamus & Related Systems</i> , 2005, 3, 147-156.	0.5	11
83	Annihilation of Single Cell Neural Oscillations by Feedforward and Feedback Control. <i>Journal of Computational Neuroscience</i> , 2004, 17, 165-178.	1.0	10
84	NeuroTec Sitem-Insel Bern: Closing the Last Mile in Neurology. <i>Clinical and Translational Neuroscience</i> , 2021, 5, 13.	0.9	10
85	Early Development of Network Oscillations in the Ferret Visual Cortex. <i>Scientific Reports</i> , 2017, 7, 17766.	3.3	9
86	Cortical and thalamic components of neocortical kindling-induced epileptogenesis in behaving cats. <i>Experimental Neurology</i> , 2008, 211, 518-528.	4.1	8
87	Progesterone modulates theta oscillations in the frontal-parietal network. <i>Psychophysiology</i> , 2020, 57, e13632.	2.4	8
88	Autonomic and Depression Symptoms in Parkinson's Disease: Clinical Evidence for Overlapping Physiology. <i>Journal of Parkinson's Disease</i> , 2022, 12, 1059-1067.	2.8	8
89	Rhythmic modulation of thalamic oscillations depends on intrinsic cellular dynamics. <i>Journal of Neural Engineering</i> , 2019, 16, 016013.	3.5	7
90	Exploring the relationship between geomagnetic activity and human heart rate variability. <i>European Journal of Applied Physiology</i> , 2020, 120, 1371-1381.	2.5	7

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91	OUP accepted manuscript. Cerebral Cortex, 2021, , .	2.9	7
92	A case study of the feasibility of weekly tACS for the treatment of auditory hallucinations in schizophrenia. Brain Stimulation, 2021, 14, 361-363.	1.6	7
93	Statistical Frequency-Dependent Analysis of Trial-to-Trial Variability in Single Time Series by Recurrence Plots. Frontiers in Systems Neuroscience, 2016, 9, 184.	2.5	6
94	Putative modulation of the gut microbiome by probiotics enhances preference for novelty in a preliminary double-blind placebo-controlled study in ferrets. Animal Microbiome, 2020, 2, .	3.8	6
95	Transcranial Alternating Current Stimulation Reduces Network Hypersynchrony and Persistent Vertigo. Neuromodulation, 2021, 24, 960-968.	0.8	6
96	Cell type-specific excitability probed by optogenetic stimulation depends on the phase of the alpha oscillation. Brain Stimulation, 2022, 15, 472-482.	1.6	6
97	Anesthesia-related changes in information transfer may be caused by reduction in local information generation. , 2015, 2015, 4045-8.		5
98	Noninvasive Brain Stimulation. , 2016, , 197-210.		4
99	Stimulus-specific regulation of visual oddball differentiation in posterior parietal cortex. Scientific Reports, 2020, 10, 13973.	3.3	4
100	Addiction history moderates the effect of prefrontal 10-Hz transcranial alternating current stimulation on habitual action selection. Journal of Neurophysiology, 2021, 125, 768-780.	1.8	4
101	Disinhibition of right inferior frontal gyrus underlies alpha asymmetry in women with low testosterone. Biological Psychology, 2021, 161, 108061.	2.2	4
102	Closed-loop control of bistable symptom states. Brain Stimulation, 2022, 15, 454-456.	1.6	4
103	Brainwave entrainment for the treatment of chronic pain: comment on <i>Br J Pain</i> 2020; 14: 161â€“70. British Journal of Pain, 2021, 15, 204946372199461.	1.5	3
104	Lost in Translation: the Gap Between Neurobiological Mechanisms and Psychosocial Treatment Research for Substance Use Disorders. Current Addiction Reports, 2021, 8, 440-451.	3.4	3
105	Entrainment of brain network oscillations in anaesthesia. Comment on Br J Anaesth 2020; 125: 330â€“335. British Journal of Anaesthesia, 2021, 126, e11-e12.	3.4	2
106	Metabolic state and gustatory perception shapes dynamic interplay between cortical excitability and motor response. Brain Stimulation, 2021, 14, 202-205.	1.6	2
107	Target Engagement with Transcranial Current Stimulation. , 2016, , 197-222.		1
108	4. Oscillations in Brain Networks as Therapeutic Targets: Identification, Engagement, and Validation. Biological Psychiatry, 2018, 83, S2.	1.3	1

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109	Neuromodulationâ€dependent effect of gated highâ€frequency, LFMS â€like electric field stimulation in mouse cortical slices. <i>European Journal of Neuroscience</i> , 2018, 49, 1288-1297.	2.6	1
110	Neurophysiological substrates of configural face perception in schizotypy. <i>Schizophrenia Research</i> , 2020, 216, 389-396.	2.0	1
111	Experimental increase of blood glucose alters resting state EEG measures of excitationâ€inhibition balance. <i>Experimental Physiology</i> , 2021, 106, 803-811.	2.0	1
112	Transcranial alternating current stimulation (tACS) as a treatment for fibromyalgia syndrome?. <i>European Archives of Psychiatry and Clinical Neuroscience</i> , 2021, , 1.	3.2	1
113	Transcranial alternating current stimulation for the treatment of obsessive-compulsive disorder?. <i>Brain Stimulation</i> , 2021, 14, 1048-1050.	1.6	1
114	Dynamics analysis of neural univariate time series by recurrence plots. <i>BMC Neuroscience</i> , 2015, 16, .	1.9	0
115	Low-Frequency Oscillations. , 2016, , 231-242.		0
116	Alpha Oscillations. , 2016, , 251-260.		0
117	Neuronal Communication BeyondÂSynapses. , 2016, , 73-84.		0
118	Target Engagement with Transcranial Current Stimulation. , 2021, , 211-242.		0
119	Differing dose details and controlling confounding covariates in modulating motor cortex excitability by transcranial direct current stimulation. <i>Brain Stimulation</i> , 2021, 14, 947-948.	1.6	0