Marcus Kaiser

List of Publications by Citations

114 papers	5,860 citations	37 h-index	75 g-index
132 ext. papers	6,979 ext. citations	4.9 avg, IF	6.19 L-index

#	Paper	IF	Citations
114	Organization, development and function of complex brain networks. *Trends in Cognitive Sciences*, **2004**, 8, 418-25	14	1549
113	Nonoptimal component placement, but short processing paths, due to long-distance projections in neural systems. *PLoS Computational Biology*, **2006**, 2, e95	5	452
112	Perisaccadic mislocalization orthogonal to saccade direction. *Neuron*, **2004**, 41, 293-300	13.9	278
111	A tutorial in connectome analysis: topological and spatial features of brain networks. *NeuroImage*, **2011**, 57, 892-907	7.9	241
110	Clustered organization of cortical connectivity. *Neuroinformatics*, **2004**, 2, 353-60	3.2	188
109	Simulation of robustness against lesions of cortical networks. *European Journal of Neuroscience*, **2007**, 25, 3185-92	3.5	176
108	Spatial growth of real-world networks. *Physical Review E*, **2004**, 69, 036103	2.4	142
107	Predicting neurosurgical outcomes in focal epilepsy patients using computational modelling. *Brain*, **2017**, 140, 319-332	11.2	131
106	Temporal Interactions between Cortical Rhythms. *Frontiers in Neuroscience*, **2008**, 2, 145-54	5.1	122
105	Hierarchy and dynamics of neural networks. *Frontiers in Neuroinformatics*, **2010**, 4,	3.9	90
104	Modelling the development of cortical systems networks. *Neurocomputing*, **2004**, 58-60, 297-302	5.4	89
103	Period concatenation underlies interactions between gamma and beta rhythms in neocortex. *Frontiers in Cellular Neuroscience*, **2008**, 2, 1	6.1	84
102	Edge vulnerability in neural and metabolic networks. *Biological Cybernetics*, **2004**, 90, 311-7	2.8	84
101	Preferential detachment during human brain development: age- and sex-specific structural connectivity in diffusion tensor imaging (DTI) data. *Cerebral Cortex*, **2015**, 25, 1477-89	5.1	82
100	Criticality of spreading dynamics in hierarchical cluster networks without inhibition. *New Journal of Physics*, **2007**, 9, 110-110	2.9	82
99	Modelling human connectome development: precursors to neural circuits. *BMC Neuroscience*, **2011**, 12,	3.2	78
98	Network properties of control and epileptic human slice recordings. *BMC Neuroscience*, **2011**, 12,	3.2	78

97	Adolescent brain maturation and cortical folding: evidence for reductions in gyrification. *PLoS ONE*, **2014**, 9, e84914	3.7	76
96	A simple rule for axon outgrowth and synaptic competition generates realistic connection lengths and filling fractions. *Cerebral Cortex*, **2009**, 19, 3001-10	5.1	75
95	fMRI resting state networks and their association with cognitive fluctuations in dementia with Lewy bodies. *NeuroImage: Clinical*, **2014**, 4, 558-65	5.3	74
94	Optimal hierarchical modular topologies for producing limited sustained activation of neural networks. *Frontiers in Neuroinformatics*, **2010**, 4, 8	3.9	70
93	A nonsynaptic mechanism underlying interictal discharges in human epileptic neocortex. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 338-43	11.5	70
92	Predicting the connectivity of primate cortical networks from topological and spatial node properties. *BMC Systems Biology*, **2007**, 1, 16	3.5	58
91	Resting-state functional connectivity in late-life depression: higher global connectivity and more long distance connections. *Frontiers in Psychiatry*, **2012**, 3, 116	5	56
90	Neural development features: spatio-temporal development of the Caenorhabditis elegans neuronal network. *PLoS Computational Biology*, **2011**, 7, e1001044	5	56
89	Optimal control based seizure abatement using patient derived connectivity. *Frontiers in Neuroscience*, **2015**, 9, 202	5.1	53
88	Predicting Surgery Targets in Temporal Lobe Epilepsy through Structural Connectome Based Simulations. *PLoS Computational Biology*, **2015**, 11, e1004642	5	53
87	Within brain area tractography suggests local modularity using high resolution connectomics. *Scientific Reports*, **2017**, 7, 39859	4.9	49
86	Mean clustering coefficients: the role of isolated nodes and leafs on clustering measures for small-world networks. *New Journal of Physics*, **2008**, 10, 083042	2.9	49
85	Brain architecture: a design for natural computation. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2007**, 365, 3033-45	3	49
84	Mechanisms of Connectome Development. *Trends in Cognitive Sciences*, **2017**, 21, 703-717	14	46
83	Divergent brain functional network alterations in dementia with Lewy bodies and Alzheimer's disease. *Neurobiology of Aging*, **2015**, 36, 2458-67	5.6	46
82	Dysfunctional brain dynamics and their origin in Lewy body dementia. *Brain*, **2019**, 142, 1767-1782	11.2	43
81	Development of multi-cluster cortical networks by time windows for spatial growth. *Neurocomputing*, **2007**, 70, 1829-1832	5.4	40
80	Dynamic functional connectivity changes in dementia with Lewy bodies and Alzheimer's disease. *NeuroImage: Clinical*, **2019**, 22, 101812	5.3	39

79	Functional connectivity in dementia with Lewy bodies: A within- and between-network analysis. *Human Brain Mapping*, **2018**, 39, 1118-1129	5.9	39
78	Evolution and development of brain networks: from Caenorhabditis elegans to Homo sapiens. *Network: Computation in Neural Systems*, **2011**, 22, 143-7	0.7	37
77	Structural connectivity based whole brain modelling in epilepsy. *Journal of Neuroscience Methods*, **2014**, 236, 51-7	3	36
76	Mechanisms underlying different onset patterns of focal seizures. *PLoS Computational Biology*, **2017**, 13, e1005475	5	35
75	Resting state in Parkinson's disease dementia and dementia with Lewy bodies: commonalities and differences. *International Journal of Geriatric Psychiatry*, **2015**, 30, 1135-46	3.9	35
74	Structural connectivity changes in temporal lobe epilepsy: Spatial features contribute more than topological measures. *NeuroImage: Clinical*, **2015**, 8, 322-8	5.3	34
73	Perspective: network-guided pattern formation of neural dynamics. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2014**, 369,	5.8	32
72	The potential of the human connectome as a biomarker of brain disease. *Frontiers in Human Neuroscience*, **2013**, 7, 484	3.3	30
71	Intra- and inter-network functional alterations in Parkinson's disease with mild cognitive impairment. *Human Brain Mapping*, **2017**, 38, 1702-1715	5.9	29
70	Virtual Electrode Recording Tool for EXtracellular potentials (VERTEX): comparing multi-electrode recordings from simulated and biological mammalian cortical tissue. *Brain Structure and Function*, **2015**, 220, 2333-53	4	28
69	Critical paths in a metapopulation model of H1N1: Efficiently delaying influenza spreading through flight cancellation. *PLOS Currents*, **2012**, 4, e4f8c9a2e1fca8		28
68	From Caenorhabditis elegans to the human connectome: a specific modular organization increases metabolic, functional and developmental efficiency. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2014**, 369,	5.8	27
67	A Network Flow-based Analysis of Cognitive Reserve in Normal Ageing and Alzheimer's Disease. *Scientific Reports*, **2015**, 5, 10057	4.9	27
66	Strategies for Network Motifs Discovery **2009**,		27
65	Developmental time windows for spatial growth generate multiple-cluster small-world networks. *European Physical Journal B*, **2007**, 58, 185-191	1.2	26
64	Spreading dynamics on spatially constrained complex brain networks. *Journal of the Royal Society Interface*, **2013**, 10, 20130016	4.1	24
63	Regional functional synchronizations in dementia with Lewy bodies and Alzheimer's disease. *International Psychogeriatrics*, **2016**, 28, 1143-51	3.4	21
62	Universality in human cortical folding in health and disease. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 12820-12825	11.5	20

61	Integrating temporal and spatial scales: human structural network motifs across age and region of interest size. *Frontiers in Neuroinformatics*, **2011**, 5, 10	3.9	19
60	Computational modeling of neurostimulation in brain diseases. *Progress in Brain Research*, **2015**, 222, 191-228	2.9	17
59	Neuroanatomy: connectome connects fly and mammalian brain networks. *Current Biology*, **2015**, 25, R416-8	6.3	17
58	Beyond the average: Detecting global singular nodes from local features in complex networks. *Europhysics Letters*, **2009**, 87, 18008	1.6	17
57	Reducing in fl uenza spreading over the airline network. *PLOS Currents*, **2009**, 1, RRN1005		16
56	Nonlinear growth: an origin of hub organization in complex networks. *Royal Society Open Science*, **2017**, 4, 160691	3.3	14
55	Reliability and comparability of human brain structural covariance networks. *NeuroImage*, **2020**, 220, 117104	7.9	14
54	Establishing, versus maintaining, brain function: a neuro-computational model of cortical reorganization after injury to the immature brain. *Journal of the International Neuropsychological Society*, **2011**, 17, 1030-8	3.1	14
53	A Scalable Test Suite for Continuous Dynamic Multiobjective Optimization. *IEEE Transactions on Cybernetics*, **2020**, 50, 2814-2826	10.2	14
52	Automatic network fingerprinting through single-node motifs. *PLoS ONE*, **2011**, 6, e15765	3.7	13
51	Computer modelling of connectivity change suggests epileptogenesis mechanisms in idiopathic generalised epilepsy. *NeuroImage: Clinical*, **2019**, 21, 101655	5.3	12
50	Developmental time windows for axon growth influence neuronal network topology. *Biological Cybernetics*, **2015**, 109, 275-86	2.8	12
49	A geometric network model of intrinsic grey-matter connectivity of the human brain. *Scientific Reports*, **2015**, 5, 15397	4.9	10
48	A computational model incorporating neural stem cell dynamics reproduces glioma incidence across the lifespan in the human population. *PLoS ONE*, **2014**, 9, e111219	3.7	10
47	Is the clustering coefficient a measure for fault tolerance in wireless sensor networks? **2012**,		10
46	Gain control through divisive inhibition prevents abrupt transition to chaos in a neural mass model. *Physical Review E*, **2015**, 92, 032723	2.4	9
45	**2014**,		9
44	Morphological homogeneity of neurons: searching for outlier neuronal cells. *Neuroinformatics*, **2012**, 10, 379-89	3.2	9

43	The fate of object features during perisaccadic mislocalization. *Journal of Vision*, **2006**, 6, 1282-93	0.4	9
42	Structural connectivity centrality changes mark the path toward Alzheimer's disease. *Alzheimer's and Dementia: Diagnosis, Assessment and Disease Monitoring*, **2019**, 11, 98-107	5.2	8
41	The BioDynaMo Project. *Advances in Computational Intelligence and Robotics Book Series*,117-125	0.4	8
40	Weighted network measures reveal differences between dementia types: An EEG study. *Human Brain Mapping*, **2020**, 41, 1573-1590	5.9	8
39	GABAB receptor-mediated, layer-specific synaptic plasticity reorganizes gamma-frequency neocortical response to stimulation. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, E2721-9	11.5	8
38	Structural correlates of attention dysfunction in Lewy body dementia and Alzheimer's disease: an ex-Gaussian analysis. *Journal of Neurology*, **2019**, 266, 1716-1726	5.5	7
37	An optimization approach for agent-based computational models of biological development. *Advances in Engineering Software*, **2018**, 121, 262-275	3.6	7
36	Connectivity within regions characterizes epilepsy duration and treatment outcome. *Human Brain Mapping*, **2021**, 42, 3777-3791	5.9	7
35	AREA: An adaptive reference-set based evolutionary algorithm for multiobjective optimisation. *Information Sciences*, **2020**, 515, 365-387	7.7	6
34	NIHBA: a network interdiction approach for metabolic engineering design. *Bioinformatics*, **2020**, 36, 3482-3492	7.2	5
33	Near-field electromagnetic holography for high-resolution analysis of network interactions in neuronal tissue. *Journal of Neuroscience Methods*, **2015**, 253, 1-9	3	5
32	Structural Brain Correlates of Attention Dysfunction in Lewy Body Dementias and Alzheimer's Disease. *Frontiers in Aging Neuroscience*, **2018**, 10, 347	5.3	5
31	Understanding neural flexibility from a multifaceted definition. *NeuroImage*, **2021**, 235, 118027	7.9	4
30	Organization and Function of Complex Cortical Networks **2007**, 107-133		3
29	Abnormal Connectional Fingerprint in Schizophrenia: A Novel Network Analysis of Diffusion Tensor Imaging Data. *Frontiers in Psychiatry*, **2016**, 7, 114	5	3
28	Less detectable environmental changes in dynamic multiobjective optimisation **2018**,		3
27	An Empirical Study of Dynamic Triobjective Optimisation Problems **2018**,		3
26	The functional brain favours segregated modular connectivity at old age unless affected by neurodegeneration. *Communications Biology*, **2021**, 4, 973	6.7	3

25	Towards simulations of long-term behavior of neural networks: Modeling synaptic plasticity of connections within and between human brain regions. *Neurocomputing*, **2020**, 416, 38-44	5.4	2
24	Parallel calculation of multi-electrode array correlation networks. *Journal of Neuroscience Methods*, **2009**, 184, 357-64	3	2
23	STRUCTURE AND DYNAMICS: THE TRANSITION FROM NONEQUILIBRIUM TO EQUILIBRIUM IN INTEGRATE-AND-FIRE DYNAMICS. *International Journal of Bifurcation and Chaos in Applied Sciences and Engineering*, **2012**, 22, 1250174	2	2
22	Closed-loop optogenetic control of normal and pathological network dynamics		2
21	BioDynaMo: a general platform for scalable agent-based simulation		2
20	Brain network analysis reveals that amyloidopathy affects comorbid cognitive dysfunction in older adults with depression. *Scientific Reports*, **2021**, 11, 4299	4.9	2
19	Creative Destruction: A Basic Computational Model of Cortical Layer Formation. *Cerebral Cortex*, **2021**, 31, 3237-3253	5.1	2
18	Organisational Principles of Connectomes: Changes During Evolution and Development. *Diversity and Commonality in Animals*, **2017**, 387-401		1
17	Computational modelling of the long-term effects of brain stimulation on the local and global structural connectivity of epileptic patients. *PLoS ONE*, **2020**, 15, e0221380	3.7	1
16	Modelling spatially realistic local field potentials in spiking neural networks using the VERTEX simulation tool. *BMC Neuroscience*, **2014**, 15,	3.2	1
15	Random axon outgrowth and synaptic competition generate realistic connection lengths and filling fractions. *BMC Neuroscience*, **2009**, 10,	3.2	1
14	Strain Design as Multiobjective Network Interdiction Problem: A Preliminary Approach. *Lecture Notes in Computer Science*, **2018**, 273-282	0.9	1
13	Dynamic reconfiguration of macaque brain networks during free-viewing of natural scenes		1
12	Computational models and fundamental constraints can inform the design of synthetic connectomes: Comment on "What would a synthetic connectome look like?" by Ithai Rabinowitch. *Physics of Life Reviews*, **2020**, 33, 16-18	2.1	1
11	A Closed-Loop Optogenetic Platform. *Frontiers in Neuroscience*, **2021**, 15, 718311	5.1	1
10	Divisive gain modulation enables flexible and rapid entrainment in a neocortical microcircuit model. *Journal of Neurophysiology*, **2020**, 123, 1133-1143	3.2	0
9	Reply: Computer models to inform epilepsy surgery strategies: prediction of postoperative outcome. *Brain*, **2017**, 140, e31	11.2	0
8	Modeling the Impact of Lesions in the Brain **2017**, 465-484		0

7	Dynamic reconfiguration of macaque brain networks during natural vision. *NeuroImage*, **2021**, 244, 118615	79	0
6	The visual ventral network is disconnected in Lewy body dementia with visual hallucinations. *Alzheimer's and Dementia*, **2020**, 16, e040350	1.2	
5	Structural and Functional Dynamics in Cortical and Neuronal Networks245-269		
4	Multiple-Scale Hierarchical Connectivity of Cortical Networks Limits the Spread of Activity **2008**, 132-140		
3	The Virtual Electrode Recording Tool for EXtracellular Potentials (VERTEX) Version 2.0: Modelling in vitro electrical stimulation of brain tissue. *Wellcome Open Research*, **2019**, 4, 20	4.8	
2	Neuropathologies and Networks **2022**, 2441-2445		
1	Wiring Principles, Optimization **2022**, 3656-3661		