

# Marcus Kaiser

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

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	Neuropathologies and Networks <b>2022</b> , 2441-2445		
113	Wiring Principles, Optimization <b>2022</b> , 3656-3661		
112	Connectivity within regions characterizes epilepsy duration and treatment outcome. <i>Human Brain Mapping</i> , <b>2021</b> , 42, 3777-3791	5.9	7
111	Brain network analysis reveals that amyloidopathy affects comorbid cognitive dysfunction in older adults with depression. <i>Scientific Reports</i> , <b>2021</b> , 11, 4299	4.9	2
110	Creative Destruction: A Basic Computational Model of Cortical Layer Formation. <i>Cerebral Cortex</i> , <b>2021</b> , 31, 3237-3253	5.1	2
109	Understanding neural flexibility from a multifaceted definition. <i>NeuroImage</i> , <b>2021</b> , 235, 118027	7.9	4
108	The functional brain favours segregated modular connectivity at old age unless affected by neurodegeneration. <i>Communications Biology</i> , <b>2021</b> , 4, 973	6.7	3
107	A Closed-Loop Optogenetic Platform. <i>Frontiers in Neuroscience</i> , <b>2021</b> , 15, 718311	5.1	1
106	Dynamic reconfiguration of macaque brain networks during natural vision. <i>NeuroImage</i> , <b>2021</b> , 244, 118615	7.9	0
105	The visual ventral network is disconnected in Lewy body dementia with visual hallucinations. <i>Alzheimer's and Dementia</i> , <b>2020</b> , 16, e040350	1.2	
104	NIHBA: a network interdiction approach for metabolic engineering design. <i>Bioinformatics</i> , <b>2020</b> , 36, 3482-3492	5	
103	Reliability and comparability of human brain structural covariance networks. <i>NeuroImage</i> , <b>2020</b> , 220, 117104	7.9	14
102	Computational modelling of the long-term effects of brain stimulation on the local and global structural connectivity of epileptic patients. <i>PLoS ONE</i> , <b>2020</b> , 15, e0221380	3.7	1
101	Divisive gain modulation enables flexible and rapid entrainment in a neocortical microcircuit model. <i>Journal of Neurophysiology</i> , <b>2020</b> , 123, 1133-1143	3.2	0
100	Towards simulations of long-term behavior of neural networks: Modeling synaptic plasticity of connections within and between human brain regions. <i>Neurocomputing</i> , <b>2020</b> , 416, 38-44	5.4	2
99	Weighted network measures reveal differences between dementia types: An EEG study. <i>Human Brain Mapping</i> , <b>2020</b> , 41, 1573-1590	5.9	8
98	AREA: An adaptive reference-set based evolutionary algorithm for multiobjective optimisation. <i>Information Sciences</i> , <b>2020</b> , 515, 365-387	7.7	6

97	A Scalable Test Suite for Continuous Dynamic Multiobjective Optimization. <i>IEEE Transactions on Cybernetics</i> , <b>2020</b> , 50, 2814-2826	10.2	14
96	Computational models and fundamental constraints can inform the design of synthetic connectomes: Comment on "What would a synthetic connectome look like?" by Ithai Rabinowitch. <i>Physics of Life Reviews</i> , <b>2020</b> , 33, 16-18	2.1	1
95	Computer modelling of connectivity change suggests epileptogenesis mechanisms in idiopathic generalised epilepsy. <i>NeuroImage: Clinical</i> , <b>2019</b> , 21, 101655	5.3	12
94	Structural correlates of attention dysfunction in Lewy body dementia and Alzheimer's disease: an ex-Gaussian analysis. <i>Journal of Neurology</i> , <b>2019</b> , 266, 1716-1726	5.5	7
93	Dynamic functional connectivity changes in dementia with Lewy bodies and Alzheimer's disease. <i>NeuroImage: Clinical</i> , <b>2019</b> , 22, 101812	5.3	39
92	Dysfunctional brain dynamics and their origin in Lewy body dementia. <i>Brain</i> , <b>2019</b> , 142, 1767-1782	11.2	43
91	Structural connectivity centrality changes mark the path toward Alzheimer's disease. <i>Alzheimer's and Dementia: Diagnosis, Assessment and Disease Monitoring</i> , <b>2019</b> , 11, 98-107	5.2	8
90	The Virtual Electrode Recording Tool for EXtracellular Potentials (VERTEX) Version 2.0: Modelling in vitro electrical stimulation of brain tissue. <i>Wellcome Open Research</i> , <b>2019</b> , 4, 20	4.8	
89	An optimization approach for agent-based computational models of biological development. <i>Advances in Engineering Software</i> , <b>2018</b> , 121, 262-275	3.6	7
88	Strain Design as Multiobjective Network Interdiction Problem: A Preliminary Approach. <i>Lecture Notes in Computer Science</i> , <b>2018</b> , 273-282	0.9	1
87	Functional connectivity in dementia with Lewy bodies: A within- and between-network analysis. <i>Human Brain Mapping</i> , <b>2018</b> , 39, 1118-1129	5.9	39
86	Less detectable environmental changes in dynamic multiobjective optimisation <b>2018</b> ,		3
85	An Empirical Study of Dynamic Triobjective Optimisation Problems <b>2018</b> ,		3
84	Structural Brain Correlates of Attention Dysfunction in Lewy Body Dementias and Alzheimer's Disease. <i>Frontiers in Aging Neuroscience</i> , <b>2018</b> , 10, 347	5.3	5
83	Within brain area tractography suggests local modularity using high resolution connectomics. <i>Scientific Reports</i> , <b>2017</b> , 7, 39859	4.9	49
82	Intra- and inter-network functional alterations in Parkinson's disease with mild cognitive impairment. <i>Human Brain Mapping</i> , <b>2017</b> , 38, 1702-1715	5.9	29
81	Organisational Principles of Connectomes: Changes During Evolution and Development. <i>Diversity and Commonality in Animals</i> , <b>2017</b> , 387-401		1
80	Nonlinear growth: an origin of hub organization in complex networks. <i>Royal Society Open Science</i> , <b>2017</b> , 4, 160691	3.3	14

79	Mechanisms of Connectome Development. <i>Trends in Cognitive Sciences</i> , <b>2017</b> , 21, 703-717	14	46
78	Predicting neurosurgical outcomes in focal epilepsy patients using computational modelling. <i>Brain</i> , <b>2017</b> , 140, 319-332	11.2	131
77	Mechanisms underlying different onset patterns of focal seizures. <i>PLoS Computational Biology</i> , <b>2017</b> , 13, e1005475	5	35
76	Reply: Computer models to inform epilepsy surgery strategies: prediction of postoperative outcome. <i>Brain</i> , <b>2017</b> , 140, e31	11.2	0
75	Modeling the Impact of Lesions in the Brain <b>2017</b> , 465-484		0
74	Universality in human cortical folding in health and disease. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 12820-12825	11.5	20
73	Abnormal Connectional Fingerprint in Schizophrenia: A Novel Network Analysis of Diffusion Tensor Imaging Data. <i>Frontiers in Psychiatry</i> , <b>2016</b> , 7, 114	5	3
72	GABAB receptor-mediated, layer-specific synaptic plasticity reorganizes gamma-frequency neocortical response to stimulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, E2721-9	11.5	8
71	Regional functional synchronizations in dementia with Lewy bodies and Alzheimer's disease. <i>International Psychogeriatrics</i> , <b>2016</b> , 28, 1143-51	3.4	21
70	Computational modeling of neurostimulation in brain diseases. <i>Progress in Brain Research</i> , <b>2015</b> , 222, 191-228	2.9	17
69	Developmental time windows for axon growth influence neuronal network topology. <i>Biological Cybernetics</i> , <b>2015</b> , 109, 275-86	2.8	12
68	Neuroanatomy: connectome connects fly and mammalian brain networks. <i>Current Biology</i> , <b>2015</b> , 25, R416-8	3	17
67	Structural connectivity changes in temporal lobe epilepsy: Spatial features contribute more than topological measures. <i>NeuroImage: Clinical</i> , <b>2015</b> , 8, 322-8	5.3	34
66	Preferential detachment during human brain development: age- and sex-specific structural connectivity in diffusion tensor imaging (DTI) data. <i>Cerebral Cortex</i> , <b>2015</b> , 25, 1477-89	5.1	82
65	Virtual Electrode Recording Tool for EXtracellular potentials (VERTEX): comparing multi-electrode recordings from simulated and biological mammalian cortical tissue. <i>Brain Structure and Function</i> , <b>2015</b> , 220, 2333-53	4	28
64	Gain control through divisive inhibition prevents abrupt transition to chaos in a neural mass model. <i>Physical Review E</i> , <b>2015</b> , 92, 032723	2.4	9
63	A geometric network model of intrinsic grey-matter connectivity of the human brain. <i>Scientific Reports</i> , <b>2015</b> , 5, 15397	4.9	10
62	A Network Flow-based Analysis of Cognitive Reserve in Normal Ageing and Alzheimer's Disease. <i>Scientific Reports</i> , <b>2015</b> , 5, 10057	4.9	27

61	Optimal control based seizure abatement using patient derived connectivity. <i>Frontiers in Neuroscience</i> , <b>2015</b> , 9, 202	5.1	53
60	Predicting Surgery Targets in Temporal Lobe Epilepsy through Structural Connectome Based Simulations. <i>PLoS Computational Biology</i> , <b>2015</b> , 11, e1004642	5	53
59	Near-field electromagnetic holography for high-resolution analysis of network interactions in neuronal tissue. <i>Journal of Neuroscience Methods</i> , <b>2015</b> , 253, 1-9	3	5
58	Resting state in Parkinson's disease dementia and dementia with Lewy bodies: commonalities and differences. <i>International Journal of Geriatric Psychiatry</i> , <b>2015</b> , 30, 1135-46	3.9	35
57	Divergent brain functional network alterations in dementia with Lewy bodies and Alzheimer's disease. <i>Neurobiology of Aging</i> , <b>2015</b> , 36, 2458-67	5.6	46
56	Structural connectivity based whole brain modelling in epilepsy. <i>Journal of Neuroscience Methods</i> , <b>2014</b> , 236, 51-7	3	36
55	Perspective: network-guided pattern formation of neural dynamics. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2014</b> , 369,	5.8	32
54	From <i>Caenorhabditis elegans</i> to the human connectome: a specific modular organization increases metabolic, functional and developmental efficiency. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , <b>2014</b> , 369,	5.8	27
53	Modelling spatially realistic local field potentials in spiking neural networks using the VERTEX simulation tool. <i>BMC Neuroscience</i> , <b>2014</b> , 15,	3.2	1
52	fMRI resting state networks and their association with cognitive fluctuations in dementia with Lewy bodies. <i>NeuroImage: Clinical</i> , <b>2014</b> , 4, 558-65	5.3	74
51	Adolescent brain maturation and cortical folding: evidence for reductions in gyrification. <i>PLoS ONE</i> , <b>2014</b> , 9, e84914	3.7	76
50	A computational model incorporating neural stem cell dynamics reproduces glioma incidence across the lifespan in the human population. <i>PLoS ONE</i> , <b>2014</b> , 9, e111219	3.7	10
49	<b>2014</b> ,		9
48	Spreading dynamics on spatially constrained complex brain networks. <i>Journal of the Royal Society Interface</i> , <b>2013</b> , 10, 20130016	4.1	24
47	The potential of the human connectome as a biomarker of brain disease. <i>Frontiers in Human Neuroscience</i> , <b>2013</b> , 7, 484	3.3	30
46	Morphological homogeneity of neurons: searching for outlier neuronal cells. <i>Neuroinformatics</i> , <b>2012</b> , 10, 379-89	3.2	9
45	Resting-state functional connectivity in late-life depression: higher global connectivity and more long distance connections. <i>Frontiers in Psychiatry</i> , <b>2012</b> , 3, 116	5	56
44	Is the clustering coefficient a measure for fault tolerance in wireless sensor networks? <b>2012</b> ,		10

43	STRUCTURE AND DYNAMICS: THE TRANSITION FROM NONEQUILIBRIUM TO EQUILIBRIUM IN INTEGRATE-AND-FIRE DYNAMICS. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , <b>2012</b> , 22, 1250174	2	2
42	Critical paths in a metapopulation model of H1N1: Efficiently delaying influenza spreading through flight cancellation. <i>PLOS Currents</i> , <b>2012</b> , 4, e4f8c9a2e1fca8		28
41	A tutorial in connectome analysis: topological and spatial features of brain networks. <i>NeuroImage</i> , <b>2011</b> , 57, 892-907	7.9	241
40	Integrating temporal and spatial scales: human structural network motifs across age and region of interest size. <i>Frontiers in Neuroinformatics</i> , <b>2011</b> , 5, 10	3.9	19
39	Establishing, versus maintaining, brain function: a neuro-computational model of cortical reorganization after injury to the immature brain. <i>Journal of the International Neuropsychological Society</i> , <b>2011</b> , 17, 1030-8	3.1	14
38	Modelling human connectome development: precursors to neural circuits. <i>BMC Neuroscience</i> , <b>2011</b> , 12,	3.2	78
37	Network properties of control and epileptic human slice recordings. <i>BMC Neuroscience</i> , <b>2011</b> , 12,	3.2	78
36	Evolution and development of brain networks: from <i>Caenorhabditis elegans</i> to <i>Homo sapiens</i> . <i>Network: Computation in Neural Systems</i> , <b>2011</b> , 22, 143-7	0.7	37
35	Neural development features: spatio-temporal development of the <i>Caenorhabditis elegans</i> neuronal network. <i>PLoS Computational Biology</i> , <b>2011</b> , 7, e1001044	5	56
34	Automatic network fingerprinting through single-node motifs. <i>PLoS ONE</i> , <b>2011</b> , 6, e15765	3.7	13
33	Optimal hierarchical modular topologies for producing limited sustained activation of neural networks. <i>Frontiers in Neuroinformatics</i> , <b>2010</b> , 4, 8	3.9	70
32	Hierarchy and dynamics of neural networks. <i>Frontiers in Neuroinformatics</i> , <b>2010</b> , 4,	3.9	90
31	A nonsynaptic mechanism underlying interictal discharges in human epileptic neocortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2010</b> , 107, 338-43	11.5	70
30	A simple rule for axon outgrowth and synaptic competition generates realistic connection lengths and filling fractions. <i>Cerebral Cortex</i> , <b>2009</b> , 19, 3001-10	5.1	75
29	Random axon outgrowth and synaptic competition generate realistic connection lengths and filling fractions. <i>BMC Neuroscience</i> , <b>2009</b> , 10,	3.2	1
28	Parallel calculation of multi-electrode array correlation networks. <i>Journal of Neuroscience Methods</i> , <b>2009</b> , 184, 357-64	3	2
27	Strategies for Network Motifs Discovery <b>2009</b> ,		27
26	Beyond the average: Detecting global singular nodes from local features in complex networks. <i>Europhysics Letters</i> , <b>2009</b> , 87, 18008	1.6	17

25	Reducing in fl uenza spreading over the airline network. <i>PLOS Currents</i> , <b>2009</b> , 1, RRN1005		16
24	Mean clustering coefficients: the role of isolated nodes and leafs on clustering measures for small-world networks. <i>New Journal of Physics</i> , <b>2008</b> , 10, 083042	2.9	49
23	Temporal Interactions between Cortical Rhythms. <i>Frontiers in Neuroscience</i> , <b>2008</b> , 2, 145-54	5.1	122
22	Period concatenation underlies interactions between gamma and beta rhythms in neocortex. <i>Frontiers in Cellular Neuroscience</i> , <b>2008</b> , 2, 1	6.1	84
21	Multiple-Scale Hierarchical Connectivity of Cortical Networks Limits the Spread of Activity <b>2008</b> , 132-140		
20	Simulation of robustness against lesions of cortical networks. <i>European Journal of Neuroscience</i> , <b>2007</b> , 25, 3185-92	3.5	176
19	Predicting the connectivity of primate cortical networks from topological and spatial node properties. <i>BMC Systems Biology</i> , <b>2007</b> , 1, 16	3.5	58
18	Development of multi-cluster cortical networks by time windows for spatial growth. <i>Neurocomputing</i> , <b>2007</b> , 70, 1829-1832	5.4	40
17	Developmental time windows for spatial growth generate multiple-cluster small-world networks. <i>European Physical Journal B</i> , <b>2007</b> , 58, 185-191	1.2	26
16	Criticality of spreading dynamics in hierarchical cluster networks without inhibition. <i>New Journal of Physics</i> , <b>2007</b> , 9, 110-110	2.9	82
15	Brain architecture: a design for natural computation. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , <b>2007</b> , 365, 3033-45	3	49
14	Organization and Function of Complex Cortical Networks <b>2007</b> , 107-133		3
13	Nonoptimal component placement, but short processing paths, due to long-distance projections in neural systems. <i>PLoS Computational Biology</i> , <b>2006</b> , 2, e95	5	452
12	The fate of object features during perisaccadic mislocalization. <i>Journal of Vision</i> , <b>2006</b> , 6, 1282-93	0.4	9
11	Modelling the development of cortical systems networks. <i>Neurocomputing</i> , <b>2004</b> , 58-60, 297-302	5.4	89
10	Clustered organization of cortical connectivity. <i>Neuroinformatics</i> , <b>2004</b> , 2, 353-60	3.2	188
9	Edge vulnerability in neural and metabolic networks. <i>Biological Cybernetics</i> , <b>2004</b> , 90, 311-7	2.8	84
8	Spatial growth of real-world networks. <i>Physical Review E</i> , <b>2004</b> , 69, 036103	2.4	142

7	Organization, development and function of complex brain networks. <i>Trends in Cognitive Sciences</i> , <b>2004</b> , 8, 418-25	14	1549
6	Perisaccadic mislocalization orthogonal to saccade direction. <i>Neuron</i> , <b>2004</b> , 41, 293-300	13.9	278
5	Structural and Functional Dynamics in Cortical and Neuronal Networks 245-269		
4	Closed-loop optogenetic control of normal and pathological network dynamics		2
3	The BioDynaMo Project. <i>Advances in Computational Intelligence and Robotics Book Series</i> , 117-125	0.4	8
2	BioDynaMo: a general platform for scalable agent-based simulation		2
1	Dynamic reconfiguration of macaque brain networks during free-viewing of natural scenes		1