Michael C Reed

List of Publications by Year
in descending order

71 papers	2,583 citations	201674 27 h-index	197818 49 g-index
72 all docs	72 docs citations	72 times ranked	3044 citing authors

#	Article	IF	Citations
1	The biological significance of substrate inhibition: A mechanism with diverse functions. BioEssays, 2010, 32, 422-429.	2.5	272
2	A Mathematical Model of the Folate Cycle. Journal of Biological Chemistry, 2004, 279, 55008-55016.	3.4	181
3	A mathematical model of glutathione metabolism. Theoretical Biology and Medical Modelling, 2008, 5, 8.	2.1	131
4	A Mathematical Model Gives Insights into Nutritional and Genetic Aspects of Folate-Mediated One-Carbon Metabolism. Journal of Nutrition, 2006, 136, 2653-2661.	2.9	126
5	Serotonin synthesis, release and reuptake in terminals: a mathematical model. Theoretical Biology and Medical Modelling, 2010, 7, 34.	2.1	110
6	Neural Tube Defects and Folate Pathway Genes: Family-Based Association Tests of Gene–Gene and Gene–Environment Interactions. Environmental Health Perspectives, 2006, 114, 1547-1552.	6.0	105
7	Homeostatic mechanisms in dopamine synthesis and release: a mathematical model. Theoretical Biology and Medical Modelling, 2009, 6, 21.	2.1	102
8	A mathematical model of the methionine cycle. Journal of Theoretical Biology, 2004, 226, 33-43.	1.7	86
9	Long-Range Allosteric Interactions between the Folate and Methionine Cycles Stabilize DNA Methylation Reaction Rate. Epigenetics, 2006, 1, 81-87.	2.7	84
10	The biochemistry of acetaminophen hepatotoxicity and rescue: a mathematical model. Theoretical Biology and Medical Modelling, 2012, 9, 55.	2.1	70
11	Systems Biology of Phenotypic Robustness and Plasticity. Integrative and Comparative Biology, 2017, 57, 171-184.	2.0	61
12	A model for the computation and encoding of azimuthal information by the lateral superior olive. Journal of the Acoustical Society of America, 1990, 88, 1442-1453.	1.1	59
13	Voltammetric and mathematical evidence for dual transport mediation of serotonin clearance *in vivo*. Journal of Neurochemistry, 2014, 130, 351-359.	3.9	53
14	In silico experimentation with a model of hepatic mitochondrial folate metabolism. Theoretical Biology and Medical Modelling, 2006, 3, 40.	2.1	51
15	In vivo Hippocampal Serotonin Dynamics in Male and Female Mice: Determining Effects of Acute Escitalopram Using Fast Scan Cyclic Voltammetry. Frontiers in Neuroscience, 2019, 13, 362.	2.8	46
16	Sex differences in hepatic one-carbon metabolism. BMC Systems Biology, 2018, 12, 89.	3.0	43
17	Use of pathway information in molecular epidemiology. Human Genomics, 2009, 4, 21.	2.9	42
18	Stochastic Switching in Infinite Dimensions with Applications to Random Parabolic PDE. SIAM Journal on Mathematical Analysis, 2015, 47, 3035-3063.	1.9	41

#	ARTICLE	IF	CITATIONS
19	A Mathematical Model Gives Insights into the Effects of Vitamin B-6 Deficiency on 1-Carbon and Glutathione Metabolism. Journal of Nutrition, 2009, 139, 784-791.	2.9	39
20	Singularities produced by the nonlinear interaction of three progressing waves;,examples. Communications in Partial Differential Equations, 1982, 7, 1117-1133.	2.2	37
21	A Mathematical Model of Tryptophan Metabolism via the Kynurenine Pathway Provides Insights into the Effects of Vitamin B-6 Deficiency, Tryptophan Loading, and Induction of Tryptophan 2,3-Dioxygenase on Tryptophan Metabolites. Journal of Nutrition, 2013, 143, 1509-1519.	2.9	35
22	Escape from homeostasis. Mathematical Biosciences, 2014, 257, 104-110.	1.9	34
23	The relationship between intracellular and plasma levels of folate and metabolites in the methionine cycle: A model. Molecular Nutrition and Food Research, 2013, 57, 628-636.	3.3	33
24	A Population Model of Folate-Mediated One-Carbon Metabolism. Nutrients, 2013, 5, 2457-2474.	4.1	31
25	Systems biology of robustness and homeostatic mechanisms. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2019, 11, e1440.	6.6	31
26	A mathematical model quantifying GnRH-induced LH secretion from gonadotropes. American Journal of Physiology - Endocrinology and Metabolism, 2000, 278, E263-E272.	3.5	30
27	Mathematical Insights into the Effects of Levodopa. Frontiers in Integrative Neuroscience, 2012, 6, 21.	2.1	29
28	Homeostasis and Dynamic Stability of the Phenotype Link Robustness and Plasticity. Integrative and Comparative Biology, 2014, 54, 264-275.	2.0	29
29	Analysis of Homeostatic Mechanisms in Biochemical Networks. Bulletin of Mathematical Biology, 2017, 79, 2534-2557.	1.9	29
30	Blood biomarkers of methylation in Down syndrome and metabolic simulations using a mathematical model. Molecular Nutrition and Food Research, 2012, 56, 1582-1589.	3.3	28
31	Using mathematical models to understand metabolism, genes, and disease. BMC Biology, 2015, 13, 79.	3.8	28
32	Fast serotonin voltammetry as a versatile tool for mapping dynamic tissue architecture: I. Responses at carbon fibers describe local tissue physiology. Journal of Neurochemistry, 2020, 153, 33-50.	3.9	28
33	Voltammetric evidence for discrete serotonin circuits, linked to specific reuptake domains, in the mouse medial prefrontal cortex. Neurochemistry International, 2019, 123, 50-58.	3.8	27
34	Mathematical Modeling: Epidemiology Meets Systems Biology. Cancer Epidemiology Biomarkers and Prevention, 2006, 15, 827-829.	2.5	26
35	Inflammation-Induced Histamine Impairs the Capacity of Escitalopram to Increase Hippocampal Extracellular Serotonin. Journal of Neuroscience, 2021, 41, 6564-6577.	3.6	26
36	Sensitivity to switching rates in stochastically switched odes. Communications in Mathematical Sciences, 2014, 12, 1343-1352.	1.0	26

#	ARTICLE	IF	CITATIONS
37	A voltammetric and mathematical analysis of histaminergic modulation of serotonin in the mouse hypothalamus. Journal of Neurochemistry, 2016, 138, 374-383.	3.9	24
38	The scattering of classical waves from inhomogeneous media. Mathematische Zeitschrift, 1977, 155, 163-180.	0.9	23
39	A mathematical modelling approach to assessing the reliability of biomarkers of glutathione metabolism. European Journal of Pharmaceutical Sciences, 2012, 46, 233-243.	4.0	23
40	Propagation of singularities for non-linear wave equations in one dimension. Communications in Partial Differential Equations, 1978, 3, 153-199.	2.2	21
41	Computational studies of the role of serotonin in the basal ganglia. Frontiers in Integrative Neuroscience, 2013, 7, 41.	2.1	21
42	Mathematical analysis of the regulation of competing methyltransferases. BMC Systems Biology, 2015, 9, 69.	3.0	21
43	Passive and active stabilization of dopamine in the striatum. Bioscience Hypotheses, 2009, 2, 240-244.	0.2	20
44	Discontinuous progressing waves for semilinear systems. Communications in Partial Differential Equations, 1985, 10, 1033-1075.	2.2	18
45	Mathematical model insights into arsenic detoxification. Theoretical Biology and Medical Modelling, 2011, 8, 31.	2.1	18
46	A computational model for signal processing by the dorsal cochlear nucleus. I. Responses to pure tones. Journal of the Acoustical Society of America, 1995, 97, 425-438.	1.1	16
47	A mathematical model for histamine synthesis, release, and control in varicosities. Theoretical Biology and Medical Modelling, 2017, 14, 24.	2.1	16
48	Mathematical modeling of the effects of glutathione on arsenic methylation. Theoretical Biology and Medical Modelling, 2014, 11, 20.	2.1	15
49	A mathematical model of circadian rhythms and dopamine. Theoretical Biology and Medical Modelling, 2021, 18, 8.	2.1	15
50	A computational model for signal processing by the dorsal cochlear nucleus. II. Responses to broadband and notch noise. Journal of the Acoustical Society of America, 1995, 98, 181-191.	1.1	14
51	Propagation of Fluctuations in Biochemical Systems, I: Linear SSC Networks. Bulletin of Mathematical Biology, 2007, 69, 1791-1813.	1.9	14
52	Effects of wide band inhibitors in the dorsal cochlear nucleus. II. Model calculations of the responses to complex sounds. Journal of the Acoustical Society of America, 1998, 103, 2000-2009.	1.1	13
53	Precision of neural timing: effects of convergence and time-windowing. Journal of Computational Neuroscience, 2002, 13, 35-47.	1.0	13
54	Targeted metabolomics and mathematical modeling demonstrate that vitamin B-6 restriction alters one-carbon metabolism in cultured HepG2 cells. American Journal of Physiology - Endocrinology and Metabolism, 2014, 307, E93-E101.	3.5	13

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55	Further studies of a model for azimuthal encoding: Lateral superior olive neuron response curves and developmental processes. Journal of the Acoustical Society of America, 1991, 90, 1968-1978.	1.1	12
56	Classical conormal solution of semilinear systems. Communications in Partial Differential Equations, 1988, 13, 1297-1335.	2.2	8
57	Model calculations of steady state responses to binaural stimuli in the dorsal nucleus of the lateral lemniscus. Hearing Research, 1999, 136, 13-28.	2.0	7
58	Model calculations of the effects of wide-band inhibitors in the dorsal cochlear nucleus. Journal of the Acoustical Society of America, 1997, 102, 2238-2244.	1.1	5
59	Autoreceptor control of serotonin dynamics. BMC Neuroscience, 2020, 21, 40.	1.9	5
60	A Day in the Life of Cell Metabolism. Biological Theory, 2007, 2, 124-127.	1.5	4
61	Spiracular fluttering increases oxygen uptake. PLoS ONE, 2020, 15, e0232450.	2.5	3
62	Voltammetric Approach for Characterizing the Biophysical and Chemical Functionality of Human Induced Pluripotent Stem Cell-Derived Serotonin Neurons. Analytical Chemistry, 2022, 94, 8847-8856.	6.5	3
63	Robustness of a neural network model for differencing. Journal of Computational Neuroscience, 2001, 11, 165-173.	1.0	2
64	One-carbon metabolism during the menstrual cycle and pregnancy. PLoS Computational Biology, 2021, 17, e1009708.	3.2	2
65	Model calculations of time dependent responses to binaural stimuli in the dorsal nucleus of the lateral lemniscus. Hearing Research, 2000, 149, 77-90.	2.0	1
66	Neural Timing in Highly Convergent Systems. SIAM Journal on Applied Mathematics, 2008, 68, 720-737.	1.8	1
67	Mathematical modeling of perifusion cell culture experiments on GnRH signaling. Mathematical Biosciences, 2016, 276, 121-132.	1.9	1
68	Mathematical Models of Neuromodulation and Implications for Neurology and Psychiatry. Springer Series in Bio-/neuroinformatics, 2017, , 191-225.	0.1	1
69	Mathematical Models of Serotonin, Histamine, and Depression. , 0, , .		0
70	Mathematical model gives insights into vitamin B6 and kynurenine metabolism. FASEB Journal, 2012, 26, 1020.5.	0.5	0
71	Spiracular fluttering decouples oxygen uptake and water loss: a stochastic PDE model of respiratory water loss in insects. Journal of Mathematical Biology, 2022, 84, 40.	1.9	0