Marko Marhl

List of Publications by Year
in descending order

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Version: 2024-02-01

78	2,812	201575	182361
papers	citations	27 h-index	51 g-index

79	79	79	2244
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Modelling of simple and complex calcium oscillations. FEBS Journal, 2002, 269, 1333-1355.	0.2	354
2	Network science of biological systems at different scales: A review. Physics of Life Reviews, 2018, 24, 118-135.	1.5	305
3	Functional Connectivity in Islets of Langerhans from Mouse Pancreas Tissue Slices. PLoS Computational Biology, 2013, 9, e1002923.	1.5	152
4	Complex calcium oscillations and the role of mitochondria and cytosolic proteins. BioSystems, 2000, 57, 75-86.	0.9	137
5	Evolutionary and dynamical coherence resonances in the pair approximated prisoner's dilemma game. New Journal of Physics, 2006, 8, 142-142.	1.2	115
6	Different types of bursting calcium oscillations in non-excitable cells. Chaos, Solitons and Fractals, 2003, 18, 759-773.	2.5	94
7	Establishing the stochastic nature of intracellular calcium oscillations from experimental data. Biophysical Chemistry, 2008, 132, 33-38.	1.5	86
8	Periodic calcium waves in coupled cells induced by internal noise. Chemical Physics Letters, 2007, 437, 143-147.	1.2	84
9	Transition from Stochastic to Deterministic Behavior in Calcium Oscillations. Biophysical Journal, 2005, 89, 1603-1611.	0.2	80
10	Progressive glucose stimulation of islet beta cells reveals a transition from segregated to integrated modular functional connectivity patterns. Scientific Reports, 2015, 5, 7845.	1.6	73
11	Birhythmicity, trirhythmicity and chaos in bursting calcium oscillations. Biophysical Chemistry, 2001, 90, 17-30.	1.5	64
12	Socio-demographic and health factors drive the epidemic progression and should guide vaccination strategies for best COVID-19 containment. Results in Physics, 2021, 26, 104433.	2.0	61
13	Diabetes and metabolic syndrome as risk factors for COVID-19. Diabetes and Metabolic Syndrome: Clinical Research and Reviews, 2020, 14, 671-677.	1.8	59
14	Pacemaker-guided noise-induced spatial periodicity in excitable media. Physica D: Nonlinear Phenomena, 2009, 238, 506-515.	1.3	56
15	Mitochondria regulate the amplitude of simple and complex calcium oscillations. Biophysical Chemistry, 2001, 94, 59-74.	1.5	47
16	Spatial coherence resonance in excitable biochemical media induced by internal noise. Biophysical Chemistry, 2007, 128, 210-214.	1.5	47
17	Sand as a medium for transmission of vibratory signals of prey in antlions Euroleon nostras (Neuroptera: Myrmeleontidae). Physiological Entomology, 2007, 32, 268-274.	0.6	43
18	Modelling the interrelations between calcium oscillations and ER membrane potential oscillations. Biophysical Chemistry, 1997, 63, 221-239.	1.5	42

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19	Sensitivity and flexibility of regular and chaotic calcium oscillations. Biophysical Chemistry, 2003, 104, 509-522.	1.5	41
20	Critical and Supercritical Spatiotemporal Calcium Dynamics in Beta Cells. Frontiers in Physiology, 2017, 8, 1106.	1.3	41
21	SYNCHRONIZATION OF REGULAR AND CHAOTIC OSCILLATIONS: THE ROLE OF LOCAL DIVERGENCE AND THE SLOW PASSAGE EFFECT â€" A Case Study on Calcium Oscillations. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2004, 14, 2735-2751.	0.7	39
22	Noise enhances robustness of intracellular Ca2+ oscillations. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 316, 304-310.	0.9	34
23	A minimal model for decoding of time-limited Ca2+ oscillations. Biophysical Chemistry, 2006, 120, 161-167.	1.5	34
24	From stochasticity to determinism in the collective dynamics of diffusively coupled cells. Chemical Physics Letters, 2006, 421, 106-110.	1.2	34
25	Heterogeneity and Delayed Activation as Hallmarks of Self-Organization and Criticality in Excitable Tissue. Frontiers in Physiology, 2019, 10, 869.	1.3	33
26	The relationship between node degree and dissipation rate in networks of diffusively coupled oscillators and its significance for pancreatic beta cells. Chaos, 2015, 25, 073115.	1.0	29
27	Selective regulation of cellular processes via protein cascades acting as band-pass filters for time-limited oscillations. FEBS Letters, 2005, 579, 5461-5465.	1.3	28
28	Chaos in temporarily destabilized regular systems with the slow passage effect. Chaos, Solitons and Fractals, 2006, 27, 395-403.	2.5	28
29	Role of Sarcoplasmic Reticulum and Mitochondria in Ca2+ Removal in Airway Myocytes. Biophysical Journal, 2004, 86, 2583-2595.	0.2	27
30	Multilayer network representation of membrane potential and cytosolic calcium concentration dynamics in beta cells. Chaos, Solitons and Fractals, 2015, 80, 76-82.	2.5	26
31	Frequency dependent stochastic resonance in a model for intracellular Ca2+ oscillations can be explained by local divergence. Physica A: Statistical Mechanics and Its Applications, 2004, 332, 123-140.	1.2	25
32	Determining the flexibility of regular and chaotic attractors. Chaos, Solitons and Fractals, 2006, 28, 822-833.	2.5	23
33	Modelling oscillations of calcium and endoplasmic reticulum transmembrane potential. Bioelectrochemistry, 1998, 46, 79-90.	1.0	22
34	Differential regulation of proteins by bursting calcium oscillationsâ€"a theoretical study. BioSystems, 2005, 81, 49-63.	0.9	22
35	Assessing Different Temporal Scales of Calcium Dynamics in Networks of Beta Cell Populations. Frontiers in Physiology, 2021, 12, 612233.	1.3	22
36	Modelling of dysregulated glucagon secretion in type 2 diabetes by considering mitochondrial alterations in pancreatic Î±-cells. Royal Society Open Science, 2020, 7, 191171.	1.1	21

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37	Resonance effects determine the frequency of bursting Ca2+ oscillations. Chemical Physics Letters, 2003, 376, 432-437.	1.2	19
38	Under what conditions signal transduction pathways are highly flexible in response to external forcing? A case study on calcium oscillations. Journal of Theoretical Biology, 2003, 224, 491-500.	0.8	19
39	Pacemaker enhanced noise-induced synchrony in cellular arrays. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 353, 372-377.	0.9	19
40	Signal amplification in biological and electrical engineering systems. Biophysical Chemistry, 2009, 143, 132-138.	1.5	19
41	The role of neural architecture and the speed of signal propagation in the process of synchronization of bursting neurons. Physica A: Statistical Mechanics and Its Applications, 2012, 391, 2764-2770.	1.2	19
42	Modelling of calcium handling in airway myocytes. Progress in Biophysics and Molecular Biology, 2006, 90, 64-87.	1.4	18
43	Equality of average and steady-state levels in some nonlinear models of biological oscillations. Theory in Biosciences, 2008, 127, 1-14.	0.6	18
44	NMDA receptor inhibition increases, synchronizes, and stabilizes the collective pancreatic beta cell activity: Insights through multilayer network analysis. PLoS Computational Biology, 2021, 17, e1009002.	1.5	17
45	Spatio-temporal modelling explains the effect of reduced plasma membrane Ca2+ efflux on intracellular Ca2+ oscillations in hepatocytes. Journal of Theoretical Biology, 2008, 252, 419-426.	0.8	16
46	Data-driven classification of residential energy consumption patterns by means of functional connectivity networks. Applied Energy, 2019, 242, 506-515.	5.1	16
47	The Analysis of Intracellular and Intercellular Calcium Signaling in Human Anterior Lens Capsule Epithelial Cells with Regard to Different Types and Stages of the Cataract. PLoS ONE, 2015, 10, e0143781.	1.1	16
48	Noise-induced spatial dynamics in the presence of memory loss. Physica A: Statistical Mechanics and Its Applications, 2007, 375, 72-80.	1.2	15
49	Mitochondrial Dysfunction in Pancreatic Alpha and Beta Cells Associated with Type 2 Diabetes Mellitus. Life, 2020, 10, 348.	1.1	14
50	Drop formation in a falling stream of liquid. American Journal of Physics, 2005, 73, 415-419.	0.3	13
51	Role of cascades in converting oscillatory signals into stationary step-like responses. BioSystems, 2007, 87, 58-67.	0.9	12
52	Importance of cell variability for calcium signaling in rat airway myocytes. Biophysical Chemistry, 2010, 148, 42-50.	1.5	12
53	Applying network theory to fables: complexity in Slovene belles-lettres for different age groups. Journal of Complex Networks, 2019, 7, 114-127.	1.1	12
54	Modeling of Molecular and Cellular Mechanisms Involved in Ca²⁺ Signal Encoding in Airway Myocytes. Cell Biochemistry and Biophysics, 2006, 46, 285-302.	0.9	11

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55	CHAOS BETWEEN STOCHASTICITY AND PERIODICITY IN THE PRISONER'S DILEMMA GAME. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2008, 18, 869-875.	0.7	11
56	A simple mathematical model of a dripping tap. European Journal of Physics, 1997, 18, 377-383.	0.3	10
57	Modelling of energy-driven switch for glucagon and insulin secretion. Journal of Theoretical Biology, 2020, 493, 110213.	0.8	10
58	Extensions of sweep surface constructions. Computers and Graphics, 1996, 20, 893-903.	1.4	9
59	Loosening the shackles of scientific disciplines with network science. Physics of Life Reviews, 2018, 24, 162-167.	1.5	8
60	The influence of gap junction network complexity on pulmonary artery smooth muscle reactivity in normoxic and chronically hypoxic conditions. Experimental Physiology, 2014, 99, 272-285.	0.9	7
61	Broad-scale small-world network topology induces optimal synchronization of flexible oscillators. Chaos, Solitons and Fractals, 2014, 69, 14-21.	2.5	7
62	Planar cell polarity genes frizzled4 and frizzled6 exert patterning influence on arterial vessel morphogenesis. PLoS ONE, 2017, 12, e0171033.	1.1	7
63	Jensenâ€™s inequality as a tool for explaining the effect of oscillations on the average cytosolic calcium concentration. Theory in Biosciences, 2010, 129, 25-38.	0.6	6
64	Role of cAMP in Double Switch of Glucagon Secretion. Cells, 2021, 10, 896.	1.8	4
65	Flexibility of enzymatic transitions as a hallmark of optimized enzyme steady-state kinetics and thermodynamics. Computational Biology and Chemistry, 2021, 91, 107449.	1.1	4
66	Age-Related Changes in Lipid and Glucose Levels Associated with Drug Use and Mortality: An Observational Study. Journal of Personalized Medicine, 2022, 12, 280.	1.1	4
67	Modeling the Amino Acid Effect on Glucagon Secretion from Pancreatic Alpha Cells. Metabolites, 2022, 12, 348.	1.3	3
68	On the correct determination of rotational angles for twisted-profiled sweep objects. Computers and Graphics, 1994, 18, 691-694.	1.4	2
69	Diffusion layer caused by local ionic transmembrane fluxes. Pflugers Archiv European Journal of Physiology, 1996, 431, R259-R260.	1.3	2
70	Defects in Planar Cell Polarity of Epithelium. Behavior Research Methods, 2014, 20, 197-217.	2.3	2
71	The Kelvin water-drop generator. Physics Education, 2002, 37, 155-156.	0.3	1
72	The small world in biophysical systems structural properties of glycolysis and the TCA cycle in Escherichia coli. Cellular and Molecular Biology Letters, 2002, 7, 129-31.	2.7	1

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73	Lipotoxicity in a Vicious Cycle of Pancreatic Beta Cell Exhaustion. Biomedicines, 2022, 10, 1627.	1.4	1
74	Contributory presentations/posters. Journal of Biosciences, 1999, 24, 33-198.	0.5	0
75	Editorial: Multilevel Organization and Functional Integration in Organisms. Frontiers in Physiology, 2021, 12, 626977.	1.3	0
76	Response to â€œComments on the paper â€˜Flexibility of enzymatic transitions as a hallmark of optimized enzyme steady-state kinetics and thermodynamicsâ€™â€•. Computational Biology and Chemistry, 2021, 95, 107572.	1.1	0
77	Fizikalni sistemi â€“ Â»peskovnikÂ« razvoja funkcionalne pismenosti pri otrocih. , 2017, , .		0
78	Primerjava statistiÄnih lastnosti leposlovnih besedil, namenjenih razliÄnim starostnim skupinam. , 2017, , .		0