Albert Goldbeter

List of Publications by Year
in descending order

110 papers	7,891 citations	61984 43 h-index	60623 81 g-index
116 all docs	116 docs citations	116 times ranked	5451 citing authors

#	Article	IF	Citations
1	Toward a detailed computational model for the mammalian circadian clock. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 7051-7056.	7.1	596
2	Computational approaches to cellular rhythms. Nature, 2002, 420, 238-245.	27.8	531
3	Robustness of circadian rhythms with respect to molecular noise. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 673-678.	7.1	356
4	A Model Based on Receptor Desensitization for Cyclic AMP Signaling in Dictyostelium Cells. Biophysical Journal, 1987, 52, 807-828.	0.5	290
5	A Model for Circadian Rhythms in<i>Drosophila</i>Incorporating the Formation of a Complex between the PER and TIM Proteins. Journal of Biological Rhythms, 1998, 13, 70-87.	2.6	277
6	Limit Cycle Models for Circadian Rhythms Based on Transcriptional Regulation in <i>Drosophila</i> and <i>Neurospora</i>. Journal of Biological Rhythms, 1999, 14, 433-448.	2.6	249
7	Temporal self-organization of the cyclin/Cdk network driving the mammalian cell cycle. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 21643-21648.	7.1	202
8	Gata6, Nanog and Erk signaling control cell fate in the inner cell mass through a tristable regulatory network. Development (Cambridge), 2014, 141, 3637-3648.	2.5	176
9	Modeling the segmentation clock as a network of coupled oscillations in the Notch, Wnt and FGF signaling pathways. Journal of Theoretical Biology, 2008, 252, 574-585.	1.7	162
10	Modeling the mammalian circadian clock: Sensitivity analysis and multiplicity of oscillatory mechanisms. Journal of Theoretical Biology, 2004, 230, 541-562.	1.7	146
11	The balance between cell cycle arrest and cell proliferation: control by the extracellular matrix and by contact inhibition. Interface Focus, 2014, 4, 20130075.	3.0	137
12	Nucleocytoplasmic Oscillations of the Yeast Transcription Factor Msn2: Evidence for Periodic PKA Activation. Current Biology, 2007, 17, 1044-1049.	3.9	131
13	Chaos and Birhythmicity in a Model for Circadian Oscillations of the PER and TIM Proteins in Drosophila. Journal of Theoretical Biology, 1999, 198, 445-459.	1.7	128
14	Oscillatory nucleocytoplasmic shuttling of the general stress response transcriptional activators Msn2 and Msn4 in Saccharomyces cerevisiae. Journal of Cell Biology, 2003, 161, 497-505.	5.2	128
15	Sharp developmental thresholds defined through bistability by antagonistic gradients of retinoic acid and FGF signaling. Developmental Dynamics, 2007, 236, 1495-1508.	1.8	126
16	Complex intracellular calcium oscillations A theoretical exploration of possible mechanisms. Biophysical Chemistry, 1997, 66, 25-41.	2.8	111
17	Bursting, Chaos and Birhythmicity Originating from Self-modulation of the Inositol 1,4,5-trisphosphate Signal in a Model for Intracellular Ca2+Oscillations. Bulletin of Mathematical Biology, 1999, 61, 507-530.	1.9	110
18	Entrainment of the Mammalian Cell Cycle by the Circadian Clock: Modeling Two Coupled Cellular Rhythms. PLoS Computational Biology, 2012, 8, e1002516.	3.2	105

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19	Dissipative structures in biological systems: bistability, oscillations, spatial patterns and waves. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170376.	3.4	104
20	Biological switches and clocks. Journal of the Royal Society Interface, 2008, 5, S1-8.	3.4	101
21	A biochemical oscillator explains several aspects of Myxococcus xanthus behavior during development. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15760-15765.	7.1	97
22	A mechanism for exact sensory adaptation based on receptor modification. Journal of Theoretical Biology, 1986, 120, 151-179.	1.7	91
23	From simple to complex oscillatory behavior in metabolic and genetic control networks. Chaos, 2001, 11, 247.	2.5	91
24	Systems biology of cellular rhythms. FEBS Letters, 2012, 586, 2955-2965.	2.8	86
25	Mechanism for oscillatory synthesis of cyclic AMP in Dictyostelium discoideum. Nature, 1975, 253, 540-542.	27.8	81
26	Modeling the molecular regulatory mechanism of circadian rhythms in Drosophila. BioEssays, 2000, 22, 84-93.	2.5	81
27	From simple to complex oscillatory behaviour: Analysis of bursting in a multiply regulated biochemical system. Journal of Theoretical Biology, 1987, 124, 219-250.	1.7	79
28	Problems and paradigms: Oscillations and waves of cytosolic calcium: Insights from theoretical models. BioEssays, 1992, 14, 485-493.	2.5	77
29	CaM kinase II as frequency decoder of Ca2+ oscillations. BioEssays, 1998, 20, 607-610.	2.5	77
30	Stochastic models for circadian rhythms: effect of molecular noise on periodic and chaotic behaviour. Comptes Rendus - Biologies, 2003, 326, 189-203.	0.2	74
31	Identifying mechanisms of chronotolerance and chronoefficacy for the anticancer drugs 5-fluorouracil and oxaliplatin by computational modeling. European Journal of Pharmaceutical Sciences, 2009, 36, 20-38.	4.0	69
32	A Model for a Network of Phosphorylationâ€“dephosphorylation Cycles Displaying the Dynamics of Dominoes and Clocks. Journal of Theoretical Biology, 2001, 210, 167-186.	1.7	68
33	A skeleton model for the network of cyclin-dependent kinases driving the mammalian cell cycle. Interface Focus, 2011, 1, 24-35.	3.0	65
34	Cell Fate Specification Based on Tristability in the Inner Cell Mass of Mouse Blastocysts. Biophysical Journal, 2016, 110, 710-722.	0.5	64
35	Theoretical models for circadian rhythms in Neurospora and Drosophila. Comptes Rendus De L'AcadÃ©mie Des Sciences SÃ©rie 3, Sciences De La Vie, 2000, 323, 57-67.	0.8	62
36	A cell cycle automaton model for probing circadian patterns of anticancer drug delivery. Advanced Drug Delivery Reviews, 2007, 59, 1036-1053.	13.7	60

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37	Implications of circadian clocks for the rhythmic delivery of cancer therapeutics. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 3575-3598.	3.4	57
38	Temperature Compensation of Circadian Rhythms: Control of the Period in a Model for Circadian Oscillations of the Per Protein in Drosophila. Chronobiology International, 1997, 14, 511-520.	2.0	56
39	Entrainment Versus Chaos in a Model for a Circadian Oscillator Driven by Light-Dark Cycles. Journal of Statistical Physics, 2000, 101, 649-663.	1.2	55
40	Arginine Biosynthesis in Escherichia coli. Journal of Biological Chemistry, 2008, 283, 6347-6358.	3.4	54
41	Modeling the circadian clock: From molecular mechanism to physiological disorders. BioEssays, 2008, 30, 590-600.	2.5	52
42	Allosteric regulation, cooperativity, and biochemical oscillations. Biophysical Chemistry, 1990, 37, 341-353.	2.8	49
43	Protein phosphorylation driven by intracellular calcium oscillations: A kinetic analysis. Biophysical Chemistry, 1992, 42, 257-270.	2.8	48
44	The positive circadian regulators CLOCK and BMAL1 control G2/M cell cycle transition through Cyclin B1. Cell Cycle, 2019, 18, 16-33.	2.6	48
45	An automaton model for the cell cycle. Interface Focus, 2011, 1, 36-47.	3.0	44
46	From quiescence to proliferation: Cdk oscillations drive the mammalian cell cycle. Frontiers in Physiology, 2012, 3, 413.	2.8	44
47	Modeling oscillations and waves of cAMP in Dictyostelium discoideum cells. Biophysical Chemistry, 1998, 72, 9-19.	2.8	43
48	Oscillations and waves of cyclic AMP in Dictyostelium: A prototype for spatio-temporal organization and pulsatile intercellular communication. Bulletin of Mathematical Biology, 2006, 68, 1095-1109.	1.9	43
49	Modulation of the adenylate energy charge by sustained metabolic oscillations. FEBS Letters, 1974, 43, 327-330.	2.8	42
50	Biological rhythms: Clocks for all times. Current Biology, 2008, 18, R751-R753.	3.9	42
51	Alternating Oscillations and Chaos in a Model of Two Coupled Biochemical Oscillators Driving Successive Phases of the Cell Cycle. Annals of the New York Academy of Sciences, 1999, 879, 180-193.	3.8	41
52	Amplitude of circadian oscillations entrained by 24-h lightâ€“dark cycles. Journal of Theoretical Biology, 2006, 242, 478-488.	1.7	40
53	Effect of positive feedback loops on the robustness of oscillations in the network of cyclinâ€dependent kinases driving the mammalian cell cycle. FEBS Journal, 2012, 279, 3411-3431.	4.7	40
54	Bistability without Hysteresis in Chemical Reaction Systems:Â A Theoretical Analysis of Irreversible Transitions between Multiple Steady States. Journal of Physical Chemistry A, 1997, 101, 9367-9376.	2.5	39

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55	Oscillatory enzyme reactions and Michaelisâ€“Menten kinetics. FEBS Letters, 2013, 587, 2778-2784.	2.8	37
56	A molecular explanation for the long-term suppression of circadian rhythms by a single light pulse. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2001, 280, R1206-R1212.	1.8	36
57	Dissipative structures and biological rhythms. Chaos, 2017, 27, 104612.	2.5	36
58	A model for the dynamics of bipolar disorders. Progress in Biophysics and Molecular Biology, 2011, 105, 119-127.	2.9	35
59	Dependence of the period on the rate of protein degradation in minimal models for circadian oscillations. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2009, 367, 4665-4683.	3.4	31
60	Oscillatory isozymes as the simplest model for coupled biochemical oscillators. Journal of Theoretical Biology, 1989, 138, 149-174.	1.7	30
61	A Model for the Enhancement of Fitness in Cyanobacteria Based on Resonance of a Circadian Oscillator with the External Lightâ€“Dark Cycle. Journal of Theoretical Biology, 2002, 214, 577-597.	1.7	30
62	From simple to complex patterns of oscillatory behavior in a model for the mammalian cell cycle containing multiple oscillatory circuits. Chaos, 2010, 20, 045109.	2.5	30
63	Bistability in the Isocitrate Dehydrogenase Reaction: An Experimentally Based Theoretical Study. Biophysical Journal, 1998, 74, 1229-1240.	0.5	27
64	Robust synchronization of the cell cycle and the circadian clock through bidirectional coupling. Journal of the Royal Society Interface, 2019, 16, 20190376.	3.4	27
65	Segmentation clock: insights from computational models. Current Biology, 2003, 13, R632-R634.	3.9	26
66	Modeling-Based Investigation of the Effect of Noise in Cellular Systems. Frontiers in Molecular Biosciences, 2018, 5, 34.	3.5	26
67	Stochastic models for circadian oscillations: Emergence of a biological rhythm. International Journal of Quantum Chemistry, 2004, 98, 228-238.	2.0	25
68	Stochastic modelling of nucleocytoplasmic oscillations of the transcription factor Msn2 in yeast. Journal of the Royal Society Interface, 2008, 5, S95-109.	3.4	25
69	Birhythmicity in a model for the cyclic AMP signalling system of the slime mold Dictyostelium discoideum. FEBS Letters, 1985, 191, 149-153.	2.8	24
70	Time-patterned drug administration: insights from a modeling approach. Chronobiology International, 2002, 19, 157-175.	2.0	24
71	The Glucose-induced Switch Between Glycogen Phosphorylase and Glycogen Synthase in the Liver: Outlines of a Theoretical Approach. Journal of Theoretical Biology, 1996, 182, 421-426.	1.7	23
72	Modeling the Differential Fitness of Cyanobacterial Strains whose Circadian Oscillators have Different Free-running Periods: Comparing the Mutual Inhibition and Substrate Depletion Hypotheses. Journal of Theoretical Biology, 2000, 205, 321-340.	1.7	23

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73	Emergence of coherent oscillations in stochastic models for circadian rhythms. Physica A: Statistical Mechanics and Its Applications, 2004, 342, 221-233.	2.6	23
74	Critical phase shifts slow down circadian clock recovery: Implications for jet lag. Journal of Theoretical Biology, 2013, 333, 47-57.	1.7	23
75	Selection of in-phase or out-of-phase synchronization in a model based on global coupling of cells undergoing metabolic oscillations. Chaos, 2008, 18, 037127.	2.5	21
76	Multi-rhythmicity generated by coupling two cellular rhythms. Journal of the Royal Society Interface, 2019, 16, 20180835.	3.4	21
77	Dynamics of the mammalian cell cycle in physiological and pathological conditions. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2016, 8, 140-156.	6.6	20
78	A model for the dynamics of human weight cycling. Journal of Biosciences, 2006, 31, 129-136.	1.1	19
79	Scaling in biochemical kinetics: dissection of a relaxation oscillator. Journal of Mathematical Biology, 1994, 32, 147-160.	1.9	18
80	Development and Validation of Computational Models for Mammalian Circadian Oscillators. OMICS A Journal of Integrative Biology, 2003, 7, 387-400.	2.0	14
81	Kinetic negative co-operativity in the allosteric model of Monod, Wyman and Changeux. Journal of Molecular Biology, 1974, 90, 185-190.	4.2	13
82	Frequency encoding of pulsatile signals of cAMP based on receptor desensitization in Dictyostelium cells. Journal of Theoretical Biology, 1990, 146, 355-367.	1.7	13
83	Oscillations and bistability predicted by a model for a cyclical bienzymatic system involving the regulated isocitrate dehydrogenase reaction. Biophysical Chemistry, 2000, 83, 153-170.	2.8	12
84	Multi-synchronization and other patterns of multi-rhythmicity in oscillatory biological systems. Interface Focus, 2022, 12, 20210089.	3.0	12
85	From bistability to oscillations in a model for the isocitrate dehydrogenase reaction. Biophysical Chemistry, 1998, 72, 201-210.	2.8	11
86	On the role of enzyme cooperativity in metabolic oscillations: analysis of the hill coefficient in a model for glycolytic periodicities. Biophysical Chemistry, 1976, 6, 95-99.	2.8	10
87	Thresholds and Oscillations in Enzymatic Cascades. The Journal of Physical Chemistry, 1996, 100, 19174-19181.	2.9	10
88	Rescue of the Quasiâ€Steadyâ€State Approximation in a Model for Oscillations in an Enzymatic Cascade. SIAM Journal on Applied Mathematics, 2007, 67, 305-320.	1.8	10
89	Revisiting a skeleton model for the mammalian cell cycle: From bistability to Cdk oscillations and cellular heterogeneity. Journal of Theoretical Biology, 2019, 461, 276-290.	1.7	10
90	From circadian clock mechanism to sleep disorders and jet lag: Insights from a computational approach. Biochemical Pharmacology, 2021, 191, 114482.	4.4	10

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91	A Computational Model for the Cold Response Pathway in Plants. Frontiers in Physiology, 2020, 11, 591073.	2.8	9
92	Excitability with multiple thresholds. Biophysical Chemistry, 1985, 23, 71-77.	2.8	8
93	Oscillatory Behavior of the Nuclear Localization of the Transcription Factors Msn2 and Msn4 in Response to Stress in Yeast. Scientific World Journal, The, 2003, 3, 609-612.	2.1	8
94	The Frequency Encoding of Pulsatility. Novartis Foundation Symposium, 2008, 227, 19-45.	1.1	8
95	Modelling oscillations and waves of cytosolic calcium. Nonlinear Analysis: Theory, Methods & Applications, 1997, 30, 1781-1792.	1.1	7
96	Metabolic oscillations in biochemical systems controlled by covalent enzyme modification. Biochimie, 1981, 63, 119-124.	2.6	6
97	Computational biology: A propagating wave of interest. Current Biology, 2004, 14, R601-R602.	3.9	5
98	Ilya Prigogine (1917â€"2003). Journal of Biosciences, 2003, 28, 657-659.	1.1	4
99	Enzyme Sharing in Phosphorylation-Dephosphorylation Cascades: The Case where One Protein Kinase (or Phosphatase) Acts on Two Different Substrates. Journal of Theoretical Biology, 1993, 165, 43-61.	1.7	3
100	Bistability without Hysteresis in Chemical Reaction Systems:â€‰ The Case of Nonconnected Branches of Coexisting Steady States. Journal of Physical Chemistry A, 1998, 102, 7813-7820.	2.5	3
101	Computational Models for Circadian Rhythms: Deterministic Versus Stochastic Approaches. , 2006, , 249-291.		3
102	Computational Models for Circadian Rhythms: Deterministic versus Stochastic Approaches. , 2014, , 183-222.		2
103	Modeling the molecular regulatory mechanism of circadian rhythms in Drosophila. BioEssays, 2000, 22, 84.	2.5	2
104	FROM PERIODIC BEHAVIOR TO CHAOS IN BIOLOGICAL SYSTEMS. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2006, 39, 321.	0.4	1
105	Optimizing Temporal Patterns of Anticancer Drug Delivery by Simulations of a Cell Cycle Automaton. , 0, , 273-297.		1
106	Circadian Rhythms and Cancer Chronotherapeutics. , 2011, , 381-407.		1
107	FROM SIMPLE TO COMPLEX OSCILLATORY BEHAVIOR IN CELLULAR REGULATORY NETWORKS. World Scientific Lecture Notes in Complex Systems, 2014, , 1-21.	0.1	1
108	Modeling dynamic phenomena in molecular and cellular biology. Mathematical Biosciences, 1986, 78, 149-152.	1.9	0

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109	Dai ritmi biologici ai ritmi a componente psicologica. Psicobiettivo, 2014, , 77-97.	0.1	0
110	Report of an EU projects workshop on systems biology held in Brussels, Belgium on 8 December 2004. IET Systems Biology, 2005, 152, 55-60.	2.0	0