Kwang-hyun Cho

List of Publications by Year
in descending order

147	4,316	87888	144013
papers	citations	38 h-index	57 g-index

150	150	150	5332
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Positive- and negative-feedback regulations coordinate the dynamic behavior of the Ras-Raf-MEK-ERK signal transduction pathway. Journal of Cell Science, 2009, 122, 425-435.	2.0	162
2	Attractor Landscape Analysis Reveals Feedback Loops in the p53 Network That Control the Cellular Response to DNA Damage. Science Signaling, 2012, 5, ra83.	3.6	146
3	Cooperative Activation of PI3K by Ras and Rho Family Small GTPases. Molecular Cell, 2012, 47, 281-290.	9.7	146
4	Functional Roles of Multiple Feedback Loops in Extracellular Signal-Regulated Kinase and Wnt Signaling Pathways That Regulate Epithelial-Mesenchymal Transition. Cancer Research, 2010, 70, 6715-6724.	0.9	138
5	Coupled Feedback Loops Form Dynamic Motifs of Cellular Networks. Biophysical Journal, 2008, 94, 359-365.	0.5	120
6	Predicting epileptic seizures from scalp EEG based on attractor state analysis. Computer Methods and Programs in Biomedicine, 2017, 143, 75-87.	4.7	101
7	The biphasic behavior of incoherent feedâ€forward loops in biomolecular regulatory networks. BioEssays, 2008, 30, 1204-1211.	2.5	93
8	Discovery of a kernel for controlling biomolecular regulatory networks. Scientific Reports, 2013, 3, 2223.	3.3	93
9	Quantitative analysis of robustness and fragility in biological networks based on feedback dynamics. Bioinformatics, 2008, 24, 987-994.	4.1	90
10	Inhibitory Basal Ganglia Inputs Induce Excitatory Motor Signals in the Thalamus. Neuron, 2017, 95, 1181-1196.e8.	8.1	89
11	A logical network-based drug-screening platform for Alzheimerâ€™s disease representing pathological features of human brain organoids. Nature Communications, 2021, 12, 280.	12.8	88
12	A positive feedback loop bi-stably activates fibroblasts. Nature Communications, 2018, 9, 3016.	12.8	82
13	Investigations Into the Analysis and Modeling of the TNFÂ-Mediated NF-ÂB-Signaling Pathway. Genome Research, 2003, 13, 2413-2422.	5.5	80
14	Coupled positive and negative feedback circuits form an essential building block of cellular signaling pathways. BioEssays, 2007, 29, 85-90.	2.5	72
15	Modelling Spatially Regulated Î²-Catenin Dynamics and Invasion inÂIntestinal Crypts. Biophysical Journal, 2010, 99, 716-725.	0.5	66
16	The multi-step phosphorelay mechanism of unorthodox two-component systems in E. coli realizes ultrasensitivity to stimuli while maintaining robustness to noises. Computational Biology and Chemistry, 2006, 30, 438-444.	2.3	65
17	The crossregulation between ERK and PI3K signaling pathways determines the tumoricidal efficacy of MEK inhibitor. Journal of Molecular Cell Biology, 2012, 4, 153-163.	3.3	65
18	An MEG study of alpha modulation in patients with schizophrenia and in subjects at high risk of developing psychosis. Schizophrenia Research, 2011, 126, 36-42.	2.0	63

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19	Inferring gene regulatory networks from temporal expression profiles under time-delay and noise. Computational Biology and Chemistry, 2007, 31, 239-245.	2.3	62
20	Coherent coupling of feedback loops: a design principle of cell signaling networks. Bioinformatics, 2008, 24, 1926-1932.	4.1	59
21	The switching role of Î²-adrenergic receptor signalling in cell survival or death decision of cardiomyocytes. Nature Communications, 2014, 5, 5777.	12.8	59
22	The influence of the signal dynamics of activated form of IKK on NF-ÎºB and anti-apoptotic gene expressions: A systems biology approach. FEBS Letters, 2006, 580, 822-830.	2.8	58
23	Boolean Dynamics of Biological Networks with Multiple Coupled Feedback Loops. Biophysical Journal, 2007, 92, 2975-2981.	0.5	56
24	Heterozygous mutations in cyclic AMP phosphodiesterase-4D (PDE4D) and protein kinase A (PKA) provide new insights into the molecular pathology of acrodysostosis. Cellular Signalling, 2014, 26, 2446-2459.	3.6	56
25	Genomic Binding Profiling of the Fission Yeast Stress-Activated MAPK Sty1 and the bZIP Transcriptional Activator Atf1 in Response to H2O2. PLoS ONE, 2010, 5, e11620.	2.5	55
26	A design principle underlying the synchronization of oscillations in cellular systems. Journal of Cell Science, 2010, 123, 537-543.	2.0	55
27	Wnt pathway mutations selected by optimal Î²-catenin signaling for tumorigenesis. FEBS Letters, 2006, 580, 3665-3670.	2.8	54
28	Reduction of Complex Signaling Networks to a Representative Kernel. Science Signaling, 2011, 4, ra35.	3.6	54
29	Delay-Robust Supervisory Control of Discrete-Event Systems With Bounded Communication Delays. IEEE Transactions on Automatic Control, 2006, 51, 911-915.	5.7	53
30	Identification of small scale biochemical networks based on general type system perturbations. FEBS Journal, 2005, 272, 2141-2151.	4.7	49
31	Dynamics of biological systems: role of systems biology in medical research. Expert Review of Molecular Diagnostics, 2006, 6, 891-902.	3.1	48
32	Analysis of feedback loops and robustness in network evolution based on Boolean models. BMC Bioinformatics, 2007, 8, 430.	2.6	48
33	Hub genes with positive feedbacks function as master switches in developmental gene regulatory networks. Bioinformatics, 2009, 25, 1898-1904.	4.1	48
34	Attractor landscape analysis of colorectal tumorigenesis and its reversion. BMC Systems Biology, 2016, 10, 96.	3.0	47
35	A hidden incoherent switch regulates RCAN1 in the calcineurinâ€“NFAT signaling network. Journal of Cell Science, 2011, 124, 82-90.	2.0	45
36	MLK3 Is Part of a Feedback Mechanism That Regulates Different Cellular Responses to Reactive Oxygen Species. Science Signaling, 2014, 7, ra52.	3.6	45

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37	Modelling the dynamics of signalling pathways. Essays in Biochemistry, 2008, 45, 1-28.	4.7	44
38	Determining Relative Dynamic Stability of Cell States Using Boolean Network Model. Scientific Reports, 2018, 8, 12077.	3.3	43
39	Decentralized supervisory control of discrete event systems with communication delays based on conjunctive and permissive decision structures. Automatica, 2007, 43, 738-743.	5.0	37
40	Network dynamics-based cancer panel stratification for systemic prediction of anticancer drug response. Nature Communications, 2017, 8, 1940.	12.8	36
41	Protein disulfide isomerase inhibition synergistically enhances the efficacy of sorafenib for hepatocellular carcinoma. Hepatology, 2017, 66, 855-868.	7.3	35
42	Switching feedback mechanisms realize the dual role of MCIP in the regulation of calcineurin activity. FEBS Letters, 2006, 580, 5965-5973.	2.8	34
43	Systems analysis identifies potential target genes to overcome cetuximab resistance in colorectal cancer cells. FEBS Journal, 2019, 286, 1305-1318.	4.7	31
44	Inhibition of 3-phosphoinositideâ€“dependent protein kinase 1 (PDK1) can revert cellular senescence in human dermal fibroblasts. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 31535-31546.	7.1	31
45	Percolation transition of cooperative mutational effects in colorectal tumorigenesis. Nature Communications, 2017, 8, 1270.	12.8	28
46	Biphasic RLRâ€“IFN-Î² Response Controls the Balance between Antiviral Immunity and Cell Damage. Journal of Immunology, 2013, 190, 1192-1200.	0.8	27
47	The hidden switches underlying RORÎ±-mediated circuits that critically regulate uncontrolled cell proliferation. Journal of Molecular Cell Biology, 2014, 6, 338-348.	3.3	27
48	Quantitative evaluation and reversion analysis of the attractor landscapes of an intracellular regulatory network for colorectal cancer. BMC Systems Biology, 2017, 11, 45.	3.0	27
49	PRRX1 is a master transcription factor of stromal fibroblasts for myofibroblastic lineage progression. Nature Communications, 2022, 13, 2793.	12.8	27
50	The co-regulation mechanism of transcription factors in the human gene regulatory network. Nucleic Acids Research, 2012, 40, 8849-8861.	14.5	26
51	A Hierarchical Self-Repairing Architecture for Fast Fault Recovery of Digital Systems Inspired From Paralogous Gene Regulatory Circuits. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2012, 20, 2315-2328.	3.1	26
52	The reverse control of irreversible biological processes. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2016, 8, 366-377.	6.6	26
53	Locally Activating TrkB Receptor Generates Actin Waves and Specifies Axonal Fate. Cell Chemical Biology, 2019, 26, 1652-1663.e4.	5.2	26
54	Small-world networks in individuals at ultra-high risk for psychosis and first-episode schizophrenia during a working memory task. Neuroscience Letters, 2013, 535, 35-39.	2.1	25

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55	Microarray data clustering based on temporal variation: FCV with TSD preclustering. Applied Bioinformatics, 2003, 2, 35-45.	1.6	25
56	Systems biology. IEEE Control Systems, 2003, 23, 38-48.	0.8	24
57	Real-time preemptive scheduling of sporadic tasks based on supervisory control of discrete event systems. Information Sciences, 2008, 178, 3393-3401.	6.9	24
58	Combined Positive and Negative Feedback Allows Modulation of Neuronal Oscillation Frequency during Sensory Processing. Cell Reports, 2018, 25, 1548-1560.e3.	6.4	24
59	Robustness and Evolvability of the Human Signaling Network. PLoS Computational Biology, 2014, 10, e1003763.	3.2	23
60	Network Inference Analysis Identifies SETDB1 as a Key Regulator for Reverting Colorectal Cancer Cells into Differentiated Normal-Like Cells. Molecular Cancer Research, 2020, 18, 118-129.	3.4	23
61	Control and coordination in biochemical networks - Introduction to the special section on systems biology. IEEE Control Systems, 2004, 24, 30-34.	0.8	21
62	Realizing Cancer Precision Medicine by Integrating Systems Biology and Nanomaterial Engineering. Advanced Materials, 2020, 32, e1906783.	21.0	21
63	A hybrid systems framework for cellular processes. BioSystems, 2005, 80, 273-282.	2.0	20
64	Multiple roles of the NFâ€?B signaling pathway regulated by coupled negative feedback circuits. FASEB Journal, 2009, 23, 2796-2802.	0.5	20
65	Spatiotemporal network motif reveals the biological traits of developmental gene regulatory networks in Drosophila melanogaster. BMC Systems Biology, 2012, 6, 31.	3.0	20
66	Network-based identification of feedback modules that control RhoA activity and cell migration. Journal of Molecular Cell Biology, 2015, 7, 242-252.	3.3	20
67	The APC Network Regulates the Removal of Mutated Cells from Colonic Crypts. Cell Reports, 2014, 7, 94-103.	6.4	19
68	A systems-biological study on the identification of safe and effective molecular targets for the reduction of ultraviolet B-induced skin pigmentation. Scientific Reports, 2015, 5, 10305.	3.3	19
69	Run-to-Run Overlay Control of Steppers in Semiconductor Manufacturing Systems Based on History Data Analysis and Neural Network Modeling. IEEE Transactions on Semiconductor Manufacturing, 2005, 18, 605-613.	1.7	18
70	The core regulation module of stress-responsive regulatory networks in yeast. Nucleic Acids Research, 2012, 40, 8793-8802.	14.5	18
71	Self-Repairing Digital System With Unified Recovery Process Inspired by Endocrine Cellular Communication. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2013, 21, 1027-1040.	3.1	18
72	Evolutionary design principles and functional characteristics based on kingdom-specific network motifs. Bioinformatics, 2011, 27, 245-251.	4.1	17

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73	A unified framework for unraveling the functional interaction structure of a biomolecular network based on stimulus-response experimental data. FEBS Letters, 2005, 579, 4520-4528.	2.8	16
74	Dynamic network rewiring determines temporal regulatory functions in Drosophilamelanogaster development processes. BioEssays, 2010, 32, 505-513.	2.5	16
75	A novel prognostic factor for hepatocellular carcinoma: protein disulfide isomerase. Korean Journal of Internal Medicine, 2014, 29, 580.	1.7	16
76	Congestion control of high-speed Gigabit-Ethernet networks for industrial applications. , 0, , .		15
77	Interlinked mutual inhibitory positive feedbacks induce robust cellular memory effects. FEBS Letters, 2007, 581, 4899-4904.	2.8	15
78	An efficient algorithm for identifying primary phenotype attractors of a large-scale Boolean network. BMC Systems Biology, 2016, 10, 95.	3.0	15
79	The Hidden Control Architecture of Complex Brain Networks. IScience, 2019, 13, 154-162.	4.1	15
80	Network Analysis Identifies Regulators of Basal-Like Breast Cancer Reprogramming and Endocrine Therapy Vulnerability. Cancer Research, 2022, 82, 320-333.	0.9	15
81	System-level investigation into the regulatory mechanism of the calcineurin/NFAT signaling pathway. Cellular Signalling, 2008, 20, 1117-1124.	3.6	14
82	Silence on the relevant literature and errors in implementation. Nature Biotechnology, 2015, 33, 336-339.	17.5	14
83	Feedback analysis identifies a combination target for overcoming adaptive resistance to targeted cancer therapy. Oncogene, 2020, 39, 3803-3820.	5.9	14
84	Evolutionary design principles of modules that control cellular differentiation: consequences for hysteresis and multistationarity. Bioinformatics, 2008, 24, 1516-1522.	4.1	13
85	Topological estimation of signal flow in complex signaling networks. Scientific Reports, 2018, 8, 5262.	3.3	13
86	The phenotype control kernel of a biomolecular regulatory network. BMC Systems Biology, 2018, 12, 49.	3.0	13
87	Supervisory control for fault-tolerant scheduling of real-time multiprocessor systems with aperiodic tasks. International Journal of Control, 2009, 82, 217-227.	1.9	12
88	Cancer reversion, a renewed challenge in systems biology. Current Opinion in Systems Biology, 2017, 2, 49-58.	2.6	12
89	Minimal intervening control of biomolecular networks leading to a desired cellular state. Scientific Reports, 2019, 9, 13124.	3.3	12
90	A Systems Biology Approach to Identifying a Master Regulator That Can Transform the Fast Growing Cellular State to a Slowly Growing One in Early Colorectal Cancer Development Model. Frontiers in Genetics, 2020, 11, 570546.	2.3	12

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91	Precritical State Transition Dynamics in the Attractor Landscape of a Molecular Interaction Network Underlying Colorectal Tumorigenesis. PLoS ONE, 2015, 10, e0140172.	2.5	12
92	Biphasic activation of extracellular signal-regulated kinase (ERK) 1/2 in epidermal growth factor (EGF)-stimulated SW480 colorectal cancer cells. BMB Reports, 2016, 49, 220-225.	2.4	12
93	Multiagent supervisory control for antifault propagation in serial production systems. IEEE Transactions on Industrial Electronics, 2001, 48, 460-466.	7.9	11
94	Dynamical analysis of the calcium signaling pathway in cardiac myocytes based on logarithmic sensitivity analysis. Biotechnology Journal, 2008, 3, 639-647.	3.5	11
95	Context-independent essential regulatory interactions for apoptosis and hypertrophy in the cardiac signaling network. Scientific Reports, 2017, 7, 34.	3.3	11
96	Inferring biomolecular regulatory networks from phase portraits of time-series expression profiles. FEBS Letters, 2006, 580, 3511-3518.	2.8	10
97	A system-level investigation into the cellular toxic response mechanism mediated by AhR signal transduction pathway. Bioinformatics, 2010, 26, 2169-2175.	4.1	10
98	Self-Repairing Digital System Based on State Attractor Convergence Inspired by the Recovery Process of a Living Cell. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2017, 25, 648-659.	3.1	10
99	Impaired coupling of local and global functional feedbacks underlies abnormal synchronization and negative symptoms of schizophrenia. BMC Systems Biology, 2013, 7, 30.	3.0	9
100	Recurrent connections form a phase-locking neuronal tuner for frequency-dependent selective communication. Scientific Reports, 2013, 3, 2519.	3.3	9
101	An Efficient Steady-State Analysis Method for Large Boolean Networks with High Maximum Node Connectivity. PLoS ONE, 2015, 10, e0145734.	2.5	9
102	A design principle underlying the paradoxical roles of E3 ubiquitin ligases. Scientific Reports, 2014, 4, 5573.	3.3	8
103	Brain-inspired speech segmentation for automatic speech recognition using the speech envelope as a temporal reference. Scientific Reports, 2016, 6, 37647.	3.3	8
104	Robustness Analysis of Network Modularity. IEEE Transactions on Control of Network Systems, 2016, 3, 348-357.	3.7	8
105	Systems biological approaches to the cardiac signaling network. Briefings in Bioinformatics, 2016, 17, 419-428.	6.5	8
106	Global Stabilization of Boolean Networks to Control the Heterogeneity of Cellular Responses. Frontiers in Physiology, 2018, 9, 774.	2.8	8
107	Coupled feedback regulation of nuclear factor of activated T-cells (NFAT) modulates activation-induced cell death of T cells. Scientific Reports, 2019, 9, 10637.	3.3	8
108	Identifying molecular targets for reverse aging using integrated network analysis of transcriptomic and epigenomic changes during aging. Scientific Reports, 2021, 11, 12317.	3.3	8

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109	Identification of feedback loops embedded in cellular circuits by investigating non-causal impulse response components. Journal of Mathematical Biology, 2010, 60, 285-312.	1.9	7
110	Attractor landscape analysis of the cardiac signaling network reveals mechanism-based therapeutic strategies for heart failure. Journal of Molecular Cell Biology, 2018, 10, 180-194.	3.3	7
111	Reconstruction of Gene Regulatory Networks by Neuro-fuzzy Inference Systems. , 2007, , .		6
112	Topological Difference of Core Regulatory Networks Induces Different Entrainment Characteristics of Plant and Animal Circadian Clocks. Biophysical Journal, 2007, 93, L01-L03.	0.5	6
113	The regulatory circuits for hysteretic switching in cellular signal transduction pathways. FEBS Journal, 2012, 279, 3329-3337.	4.7	6
114	Signal flow control of complex signaling networks. Scientific Reports, 2019, 9, 14289.	3.3	6
115	Cotargeting <scp>BET</scp> proteins overcomes resistance arising from <scp>PI3K</scp>/<scp>mTOR</scp> blockadeâ€induced protumorigenic senescence in colorectal cancer. International Journal of Cancer, 2020, 147, 2824-2837.	5.1	6
116	Stabilizing Control of Complex Biological Networks Based on Attractor-Specific Network Reduction. IEEE Transactions on Control of Network Systems, 2021, 8, 928-939.	3.7	6
117	Towards LonWorks technology and its applications to automation. , 0, , .		5
118	Modular nonblocking state feedback control of discrete event systems and its application to dynamic oligopolistic markets. International Journal of Control, 2011, 84, 2046-2057.	1.9	5
119	Analyses of the TCR repertoire of MHC class II-restricted innate CD4+ T cells. Experimental and Molecular Medicine, 2015, 47, e154-e154.	7.7	5
120	A novel interaction perturbation analysis reveals a comprehensive regulatory principle underlying various biochemical oscillators. BMC Systems Biology, 2017, 11, 95.	3.0	5
121	Design of PLCs for automated industrial systems based on discrete event models. , 0, , .		4
122	Minimal systems analysis of mitochondria-dependent apoptosis induced by cisplatin. Korean Journal of Physiology and Pharmacology, 2016, 20, 367.	1.2	4
123	Efficient harmonic peak detection of vowel sounds for enhanced voice activity detection. IET Signal Processing, 2018, 12, 975-982.	1.5	4
124	Systems analysis identifies endothelin 1 axis blockade for enhancing the anti-tumor effect of multikinase inhibitor. Cancer Gene Therapy, 2021, , .	4.6	4
125	State feedback control of real-time discrete event systems with infinite states. International Journal of Control, 0, , 1-11.	1.9	3
126	Powerâ€based supervisory control theory of hybrid systems and its application to the analysis of financial crisis. IET Control Theory and Applications, 2016, 10, 780-788.	2.1	3

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127	A Regulated Double-Negative Feedback Decodes the Temporal Gradient of Input Stimulation in a Cell Signaling Network. PLoS ONE, 2016, 11, e0162153.	2.5	3
128	Unravelling the functional interaction structure of a cellular network from temporal slope information of experimental data. FEBS Journal, 2005, 272, 3950-3959.	4.7	2
129	Delay-coobservability and its algebraic properties for the decentralized supervisory control of discrete event systems with communication delays. Automatica, 2009, 45, 1252-1259.	5.0	2
130	Evolutionary design of complex digital circuits based on hierarchical module composition and predominant component prevention. Electronics Letters, 2015, 51, 1568-1570.	1.0	2
131	Identification of Gene Networks with Time Delayed Regulation Based on Temporal Expression Profiles. IEEE/ACM Transactions on Computational Biology and Bioinformatics, 2015, 12, 1161-1168.	3.0	2
132	A Low-Power Timing-Error-Tolerant Circuit by Controlling a Clock. IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 2021, 29, 512-518.	3.1	2
133	Robust supervisory control of communication networks. , 0, , .		1
134	Unraveling the functional interaction structure of a biomolecular network through alternate perturbation of initial conditions. Journal of Proteomics, 2007, 70, 701-707.	2.4	1
135	Identification of Intra-Cellular Feedback Loops by Intermittent Step Perturbation Method. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 289-294.	0.4	1
136	Achieving a global objective with competing networked agents in the framework of discrete event systems. International Journal of Control, 2020, 93, 889-897.	1.9	1
137	Boolean Feedforward Neural Network Modeling of Molecular Regulatory Networks for Cellular State Conversion. Frontiers in Physiology, 2020, 11, 594151.	2.8	1
138	Discrete event dynamic modeling and analysis of the democratic progress in a society controlled by networked agents. IEEE Transactions on Automatic Control, 2021, , 1-1.	5.7	1
139	The hidden community architecture of human brain networks. Scientific Reports, 2022, 12, 3540.	3.3	1
140	A study on fault-tolerant control and operation of serial production systems. , 0, , .		0
141	Congestion control for virtual-connection using a Smith predictor in high-speed Gigabit Ethernet networks. , 0, , .		0
142	A new consolidation algorithm in point-to-multipoint ABR service of ATM networks for industrial applications. , 0, , .		0
143	Cover Image, Volume 8, Issue 5. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2016, 8, i-i.	6.6	0
144	Transient-error correction system with real-time logic switching inspired from attractor-conversion characteristics of a cancer cell. Microelectronics Reliability, 2019, 96, 51-59.	1.7	0

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145	Precision Medicine: Realizing Cancer Precision Medicine by Integrating Systems Biology and Nanomaterial Engineering (Adv. Mater. 35/2020). Advanced Materials, 2020, 32, 2070265.	21.0	0
146	Systems biology for reverse aging. Aging, 2021, 13, 14549-14551.	3.1	0
147	Signaling networks, network pathology and computational chemotherapy. Oncotarget, 2013, 4, 178-179.	1.8	0