Hiroaki Kitano

List of Publications by Year
in descending order

138 papers	20,009 citations	31949 53 h-index	12933 131 g-index
145 all docs	145 docs citations	145 times ranked	21031 citing authors

#	Article	IF	Citations
1	Systems Biology: A Brief Overview. Science, 2002, 295, 1662-1664.	6.0	3,574
2	Computational systems biology. Nature, 2002, 420, 206-210.	13.7	1,991
3	Biological robustness. Nature Reviews Genetics, 2004, 5, 826-837.	7.7	1,937
4	A comprehensive pathway map of epidermal growth factor receptor signaling. Molecular Systems Biology, 2005, 1, 2005.0010.	3.2	902
5	The Systems Biology Graphical Notation. Nature Biotechnology, 2009, 27, 735-741.	9.4	828
6	Towards a theory of biological robustness. Molecular Systems Biology, 2007, 3, 137.	3.2	647
7	CellDesigner: a process diagram editor for gene-regulatory and biochemical networks. Biosilico, 2003, 1, 159-162.	0.5	562
8	Visualization of omics data for systems biology. Nature Methods, 2010, 7, S56-S68.	9.0	548
9	A robustness-based approach to systems-oriented drug design. Nature Reviews Drug Discovery, 2007, 6, 202-210.	21.5	451
10	Using process diagrams for the graphical representation of biological networks. Nature Biotechnology, 2005, 23, 961-966.	9.4	429
11	Cancer as a robust system: implications for anticancer therapy. Nature Reviews Cancer, 2004, 4, 227-235.	12.8	412
12	The transcriptional network that controls growth arrest and differentiation in a human myeloid leukemia cell line. Nature Genetics, 2009, 41, 553-562.	9.4	408
13	CellDesigner 3.5: A Versatile Modeling Tool for Biochemical Networks. Proceedings of the IEEE, 2008, 96, 1254-1265.	16.4	380
14	A comprehensive map of the toll€like receptor signaling network. Molecular Systems Biology, 2006, 2, 2006.0015.	3.2	302
15	Lenvatinib plus anti-PD-1 antibody combination treatment activates CD8+ T cells through reduction of tumor-associated macrophage and activation of the interferon pathway. PLoS ONE, 2019, 14, e0212513.	1.1	294
16	Combining Machine Learning Systems and Multiple Docking Simulation Packages to Improve Docking Prediction Reliability for Network Pharmacology. PLoS ONE, 2013, 8, e83922.	1.1	268
17	Next Generation Simulation Tools: The Systems Biology Workbench and BioSPICE Integration. OMICS A Journal of Integrative Biology, 2003, 7, 355-372.	1.0	254
18	Thermal performance of a solar cooker based on an evacuated tube solar collector with a PCM storage unit. Solar Energy, 2005, 78, 416-426.	2.9	249

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19	Influenza Virus-Host Interactome Screen as a Platform for Antiviral Drug Development. Cell Host and Microbe, 2014, 16, 795-805.	5.1	239
20	Integrating Pathways of Parkinson's Disease in a Molecular Interaction Map. Molecular Neurobiology, 2014, 49, 88-102.	1.9	231
21	Software for systems biology: from tools to integrated platforms. Nature Reviews Genetics, 2011, 12, 821-832.	7.7	228
22	Robustness as a Measure of Plausibility in Models of Biochemical Networks. Journal of Theoretical Biology, 2002, 216, 19-30.	0.8	226
23	A comprehensive map of the mTOR signaling network. Molecular Systems Biology, 2010, 6, 453.	3.2	201
24	Development of an Autonomous Quadruped Robot for Robot Entertainment. Autonomous Robots, 1998, 5, 7-18.	3.2	183
25	<scp>SBML</scp> Level 3: an extensible format for the exchange and reuse of biological models. Molecular Systems Biology, 2020, 16, e9110.	3.2	178
26	A quantitative characterization of the yeast heterotrimeric G protein cycle. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 10764-10769.	3.3	169
27	Looking beyond the details: a rise in system-oriented approaches in genetics and molecular biology. Current Genetics, 2002, 41, 1-10.	0.8	157
28	Robust Oscillations within the Interlocked Feedback Model of Drosophila Circadian Rhythm. Journal of Theoretical Biology, 2001, 210, 401-406.	0.8	136
29	systemsDock: a web server for network pharmacology-based prediction and analysis. Nucleic Acids Research, 2016, 44, W507-W513.	6.5	135
30	Cancer robustness: Tumour tactics. Nature, 2003, 426, 125-125.	13.7	134
31	Regulation of yeast oscillatory dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2241-2246.	3.3	133
32	Identification of dosage-sensitive genes in <i>Saccharomyces cerevisiae</i> using the genetic tug-of-war method. Genome Research, 2013, 23, 300-311.	2.4	125
33	Metabolic Syndrome and Robustness Tradeoffs. Diabetes, 2004, 53, S6-S15.	0.3	121
34	Robustness trade€offs and host–microbial symbiosis in the immune system. Molecular Systems Biology, 2006, 2, 2006.0022.	3.2	110
35	Structure of Protein Interaction Networks and Their Implications on Drug Design. PLoS Computational Biology, 2009, 5, e1000550.	1.5	102
36	COVID-19 Disease Map, building a computational repository of SARS-CoV-2 virus-host interaction mechanisms. Scientific Data, 2020, 7, 136.	2.4	99

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37	Multi-spectral fluorescent reporter influenza viruses (Color-flu) as powerful tools for in vivo studies. Nature Communications, 2015, 6, 6600.	5.8	98
38	A comprehensive map of the influenza A virus replication cycle. BMC Systems Biology, 2013, 7, 97.	3.0	97
39	In Vivo Robustness Analysis of Cell Division Cycle Genes in Saccharomyces cerevisiae. PLoS Genetics, 2006, 2, e111.	1.5	94
40	A graphical notation for biochemical networks. Biosilico, 2003, 1, 169-176.	0.5	90
41	Perspectives on systems biology. New Generation Computing, 2000, 18, 199-216.	2.5	83
42	Artificial Intelligence to Win the Nobel Prize and Beyond: Creating the Engine for Scientific Discovery. AI Magazine, 2016, 37, 39-49.	1.4	79
43	Empty Niches after Extinctions Increase Population Sizes of Modern Corals. Current Biology, 2016, 26, 3190-3194.	1.8	79
44	Modeling of Rifampicin-Induced CYP3A4 Activation Dynamics for the Prediction of Clinical Drug-Drug Interactions from In Vitro Data. PLoS ONE, 2013, 8, e70330.	1.1	78
45	Software support for SBGN maps: SBGN-ML and LibSBGN. Bioinformatics, 2012, 28, 2016-2021.	1.8	74
46	Neurogenetic learning: an integrated method of designing and training neural networks using genetic algorithms. Physica D: Nonlinear Phenomena, 1994, 75, 225-238.	1.3	72
47	Adding Protein Context to the Human Protein-Protein Interaction Network to Reveal Meaningful Interactions. PLoS Computational Biology, 2013, 9, e1002860.	1.5	70
48	Large-Scale Analysis of Network Bistability for Human Cancers. PLoS Computational Biology, 2010, 6, e1000851.	1.5	69
49	A comprehensive molecular interaction map of the budding yeast cell cycle. Molecular Systems Biology, 2010, 6, 415.	3.2	62
50	Modeling and Simulation Using CellDesigner. Methods in Molecular Biology, 2014, 1164, 121-145.	0.4	60
51	The RoboCup humanoid challenge as the millennium challenge for advanced robotics. Advanced Robotics, 1998, 13, 723-736.	1.1	58
52	Lessons from Toxicology: Developing a 21st-Century Paradigm for Medical Research. Environmental Health Perspectives, 2015, 123, A268-72.	2.8	57
53	Robustness and fragility in the yeast high osmolarity glycerol (HOG) signal–transduction pathway. Molecular Systems Biology, 2009, 5, 281.	3.2	56
54	A framework for mapping, visualisation and automatic model creation of signal–transduction networks. Molecular Systems Biology, 2012, 8, 578.	3.2	54

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55	COVID19 Disease Map, a computational knowledge repository of virus–host interaction mechanisms. Molecular Systems Biology, 2021, 17, e10387.	3.2	53
56	Payao: a community platform for SBML pathway model curation. Bioinformatics, 2010, 26, 1381-1383.	1.8	50
57	PathText: a text mining integrator for biological pathway visualizations. Bioinformatics, 2010, 26, i374-i381.	1.8	47
58	Violations of robustness trade–offs. Molecular Systems Biology, 2010, 6, 384.	3.2	46
59	Disease Severity Is Associated with Differential Gene Expression at the Early and Late Phases of Infection in Nonhuman Primates Infected with Different H5N1 Highly Pathogenic Avian Influenza Viruses. Journal of Virology, 2014, 88, 8981-8997.	1.5	45
60	Integrated Quantitative Analysis of the Phosphoproteome and Transcriptome in Tamoxifen-resistant Breast Cancer. Journal of Biological Chemistry, 2011, 286, 818-829.	1.6	42
61	Digital health revolution: perfect storm or perfect opportunity for pharmaceutical R&D?. Drug Discovery Today, 2016, 21, 900-911.	3.2	42
62	G-Protein Coupled Receptor Signaling Architecture of Mammalian Immune Cells. PLoS ONE, 2009, 4, e4189.	1.1	37
63	Self-Extending Symbiosis: A Mechanism for Increasing Robustness Through Evolution. Biological Theory, 2006, 1, 61-66.	0.8	36
64	Social engineering for virtual 'big science' in systems biology. Nature Chemical Biology, 2011, 7, 323-326.	3.9	35
65	A machine learning approach for the identification of key markers involved in brain development from single-cell transcriptomic data. BMC Genomics, 2016, 17, 1025.	1.2	35
66	Fragilities Caused by Dosage Imbalance in Regulation of the Budding Yeast Cell Cycle. PLoS Genetics, 2010, 6, e1000919.	1.5	33
67	Identification of potential inhibitors based on compound proposal contest: Tyrosine-protein kinase Yes as a target. Scientific Reports, 2015, 5, 17209.	1.6	33
68	Harnessing Diversity towards the Reconstructing of Large Scale Gene Regulatory Networks. PLoS Computational Biology, 2013, 9, e1003361.	1.5	32
69	An Ultrasensitive Mechanism Regulates Influenza Virus-Induced Inflammation. PLoS Pathogens, 2015, 11, e1004856.	2.1	32
70	Grand challenges in systems physiology. Frontiers in Physiology, 2010, 1, 3.	1.3	31
71	Weighted enrichment method for prediction of transcription regulators from transcriptome and global chromatin immunoprecipitation data. Nucleic Acids Research, 2016, 44, 5010-5021.	6.5	31
72	Nobel Turing Challenge: creating the engine for scientific discovery. Npj Systems Biology and Applications, 2021, 7, 29.	1.4	31

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73	A reconfigurable robot platform. Robotics and Autonomous Systems, 1999, 29, 119-132.	3.0	30
74	The robocup physical agent challenge: Phase i. Applied Artificial Intelligence, 1998, 12, 251-263.	2.0	29
75	Artificial intelligence-based computational framework for drug-target prioritization and inference of novel repositionable drugs for Alzheimerâ€™s disease. Alzheimer's Research and Therapy, 2021, 13, 92.	3.0	29
76	Precise Temporal Profiling of Signaling Complexes in Primary Cells Using SWATH Mass Spectrometry. Cell Reports, 2017, 18, 3219-3226.	2.9	28
77	Network analyses based on comprehensive molecular interaction maps reveal robust control structures in yeast stress response pathways. Npj Systems Biology and Applications, 2016, 2, 15018.	1.4	27
78	Deconstructing the traditional Japanese medicine â€œKampoâ€ compounds, metabolites and pharmacological profile of maoto, a remedy for flu-like symptoms. Npj Systems Biology and Applications, 2017, 3, 32.	1.4	25
79	The RoboCup Challenge. Robotics and Autonomous Systems, 1999, 29, 3-12.	3.0	24
80	Modeling the impact of store-operated Ca2+ entry on intracellular Ca2+ oscillations. Mathematical Biosciences, 2006, 204, 232-249.	0.9	24
81	CARFMAP: A Curated Pathway Map of Cardiac Fibroblasts. PLoS ONE, 2015, 10, e0143274.	1.1	19
82	A Simple Model of Neurogenesis and Cell Differentiation Based on Evolutionary Large-Scale Chaos. Artificial Life, 1994, 2, 79-99.	1.0	18
83	Sound and Visual Tracking for Humanoid Robot. Applied Intelligence, 2004, 20, 253-266.	3.3	18
84	Toward an integrated software platform for systems pharmacology. Biopharmaceutics and Drug Disposition, 2013, 34, 508-526.	1.1	18
85	Elucidation of the molecular mechanisms underlying adverse reactions associated with a kinase inhibitor using systems toxicology. Npj Systems Biology and Applications, 2015, 1, 15005.	1.4	16
86	The two-process model of cellular aging. Experimental Gerontology, 1998, 33, 393-419.	1.2	15
87	The PerfectC. ELEGANSProject: An Initial Report. Artificial Life, 1998, 4, 141-156.	1.0	15
88	A Versatile Platform for Multilevel Modeling of Physiological Systems: SBML-PHML Hybrid Modeling and Simulation. Advanced Biomedical Engineering, 2014, 3, 50-58.	0.4	15
89	Oscillation of cAMP and Ca2+ in cardiac myocytes: a systems biology approach. Journal of Physiological Sciences, 2015, 65, 195-200.	0.9	15
90	A prospective compound screening contest identified broader inhibitors for Sirtuin 1. Scientific Reports, 2019, 9, 19585.	1.6	15

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91	Computational cellular dynamics: a network–physics integral. Nature Reviews Molecular Cell Biology, 2006, 7, 163-163.	16.1	14
92	Human–robot non-verbal interaction empowered by real-time auditory and visual multiple-talker tracking. Advanced Robotics, 2003, 17, 115-130.	1.1	13
93	On interaction and grammar. Pragmatics, 1999, 9, 383-400.	0.4	13
94	Integrative knowledge management to enhance pharmaceutical R&D. Nature Reviews Drug Discovery, 2014, 13, 239-240.	21.5	12
95	Real-time Auditory and Visual Multiple-speaker Tracking For Human-robot Interaction. Journal of Robotics and Mechatronics, 2002, 14, 479-489.	0.5	12
96	Multilevel Modeling of Physiological Systems and Simulation Platform: PhysioDesigner, Flint and Flint K3 Service. , 2012, , .		11
97	Identifying problematic drugs based on the characteristics of their targets. Frontiers in Pharmacology, 2015, 6, 186.	1.6	11
98	?DmDialog: A speech-to-speech dialogue translation system. Machine Translation, 1990, 5, 301-338.	1.3	9
99	An Open Platform toward Large-Scale Multilevel Modeling and Simulation of Physiological Systems. , 2011, , .		9
100	Deduction of intracellular sub-systems from a topological description of the network. Molecular BioSystems, 2007, 3, 523.	2.9	8
101	History of RoboCup and Prospects for RoboCup-2002. Journal of the Robotics Society of Japan, 2002, 20, 2-6.	0.0	8
102	morph3: a compact-size humanoid robot system capable of acrobatic behavior. Advanced Robotics, 2004, 18, 699-710.	1.1	7
103	A system for measuring cell division patterns of early <i>Caenorhabditis elegans</i> embryos by using image processing and object tracking. Systems and Computers in Japan, 2007, 38, 12-24.	0.2	7
104	Accelerating ODE-Based Simulation of General and Heterogeneous Biophysical Models Using a GPU. IEEE Transactions on Parallel and Distributed Systems, 2014, 25, 1966-1975.	4.0	7
105	Databases for multilevel biophysiology research available at Physiome.jp. Frontiers in Physiology, 2015, 6, 251.	1.3	7
106	Research program of robocup. Applied Artificial Intelligence, 1998, 12, 117-125.	2.0	6
107	RoboCup Rescue project. Advanced Robotics, 2000, 14, 423-425.	1.1	6
108	Connecting the dots: role of standardization and technology sharing in biological simulation. Drug Discovery Today, 2010, 15, 1024-1031.	3.2	6

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109	VISIONET: intuitive visualisation of overlapping transcription factor networks, with applications in cardiogenic gene discovery. BMC Bioinformatics, 2015, 16, 141.	1.2	6
110	Viva Europa, a Land of Excellence in Research and Innovation for Health and Wellbeing. Progress in Preventive Medicine (New York, N Y), 2017, 2, e006.	0.7	6
111	Real-Time Human Tracking by Audio-Visual Integration for Humanoids-Integration of Active Audition and Face Recognition-. Journal of the Robotics Society of Japan, 2003, 21, 517-525.	0.0	6
112	Effects of maoto (ma-huang-tang) on host lipid mediator and transcriptome signature in influenza virus infection. Scientific Reports, 2021, 11, 4232.	1.6	5
113	Genome-wide prediction of genetic interactions in a metazoan. BioEssays, 2006, 28, 1087-1090.	1.2	4
114	Identification of drug-target modules in the human protein–protein interaction network. Artificial Life and Robotics, 2014, 19, 406-413.	0.7	4
115	Accelerating systems biology research and its real world deployment. Npj Systems Biology and Applications, 2015, 1, 15009.	1.4	4
116	Scientific Challenges in Systems Biology. , 2007, , 3-13.		4
117	Multi-dimensional computational pipeline for large-scale deep screening of compound effect assessment: an in silico case study on ageing-related compounds. Npj Systems Biology and Applications, 2019, 5, 42.	1.4	3
118	A Geometric Clustering Tool (AGCT) to robustly unravel the inner cluster structures of time-series gene expressions. PLoS ONE, 2020, 15, e0233755.	1.1	3
119	Parallel Real-Time PCR on a Chip for Genetic Tug-of-War (gTOW) Method. Analytical Sciences, 2013, 29, 367-371.	0.8	2
120	Biological Complexity and the Need for Computational Approaches. History, Philosophy and Theory of the Life Sciences, 2017, , 169-180.	0.4	2
121	RoboCup Initiative as a New Research Project. Journal of the Robotics Society of Japan, 2000, 18, 1081-1084.	0.0	2
122	RoboCup Humanoid League. Journal of the Robotics Society of Japan, 2002, 20, 24-29.	0.0	2
123	Toward Massively Parallel Spoken Language Translation. Machine Intelligence and Pattern Recognition, 1994, 15, 177-184.	0.2	2
124	Control design principle of a low-cost humanoid system using a genetic algorithm. Advanced Robotics, 2003, 17, 779-790.	1.1	1
125	Editorial [Hot Topic: Yeast Systems Biology Special Issue (Guest Editor: Hiroaki Kitano)]. Current Genomics, 2004, 5, 613-613.	0.7	1
126	Software Platform for Metabolic Network Reconstruction of Mycobacterium tuberculosis. , 2013, , 21-35.		1

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127	Integrative and theoretical research on the architecture of a biological system and its disorder. Journal of Physiological Sciences, 2019, 69, 433-451.	0.9	1
128	Issues in Humanoid Audition and Sound Source Localization by Active Audition.. Transactions of the Japanese Society for Artificial Intelligence, 2003, 18, 104-113.	0.1	1
129	News. IET Systems Biology, 2005, 152, 53.	2.0	1
130	Cancer Robustness and Therapy Strategies. , 2011, , 429-446.		1
131	Toxicity Analysis of Pentachlorophenol Data with a Bioinformatics Tool Set. Methods in Molecular Biology, 2022, 2486, 105-125.	0.4	1
132	Effects of increasing modalities in recognizing three simultaneous speeches. Speech Communication, 2004, 43, 347-359.	1.6	0
133	Cancer Systems Biology. , 2013, , 469-479.		0
134	Software Platform for Systems Biology. Drug Delivery System, 2014, 29, 386-396.	0.0	0
135	Versatile Modeling Platform for Multilevel Hybrid Modeling of Physiological Systems. Seibutsu Butsuri, 2016, 56, 120-124.	0.0	0
136	RoboCup and Industry-Government-University Collaboration. Journal of the Robotics Society of Japan, 2000, 18, 641-646.	0.0	0
137	Title is missing!. Journal of the Robotics Society of Japan, 2004, 22, 847-852.	0.0	0
138	Robot Contests. Research Activity and Robot Contest (RoboCup).. Journal of the Robotics Society of Japan, 1997, 15, 13-16.	0.0	0