

Hiroaki Kitano

List of Publications by Year in descending order

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138
papers

20,009
citations

31902

53
h-index

12910

131
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145
all docs

145
docs citations

145
times ranked

21031
citing authors

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

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19	Influenza Virus-Host Interactome Screen as a Platform for Antiviral Drug Development. <i>Cell Host and Microbe</i> , 2014, 16, 795-805.	5.1	239
20	Integrating Pathways of Parkinson's Disease in a Molecular Interaction Map. <i>Molecular Neurobiology</i> , 2014, 49, 88-102.	1.9	231
21	Software for systems biology: from tools to integrated platforms. <i>Nature Reviews Genetics</i> , 2011, 12, 821-832.	7.7	228
22	Robustness as a Measure of Plausibility in Models of Biochemical Networks. <i>Journal of Theoretical Biology</i> , 2002, 216, 19-30.	0.8	226
23	A comprehensive map of the mTOR signaling network. <i>Molecular Systems Biology</i> , 2010, 6, 453.	3.2	201
24	Development of an Autonomous Quadruped Robot for Robot Entertainment. <i>Autonomous Robots</i> , 1998, 5, 7-18.	3.2	183
25	<scp>SBML</scp> Level 3: an extensible format for the exchange and reuse of biological models. <i>Molecular Systems Biology</i> , 2020, 16, e9110.	3.2	178
26	A quantitative characterization of the yeast heterotrimeric G protein cycle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003, 100, 10764-10769.	3.3	169
27	Looking beyond the details: a rise in system-oriented approaches in genetics and molecular biology. <i>Current Genetics</i> , 2002, 41, 1-10.	0.8	157
28	Robust Oscillations within the Interlocked Feedback Model of <i>Drosophila</i> Circadian Rhythm. <i>Journal of Theoretical Biology</i> , 2001, 210, 401-406.	0.8	136
29	systemsDock: a web server for network pharmacology-based prediction and analysis. <i>Nucleic Acids Research</i> , 2016, 44, W507-W513.	6.5	135
30	Cancer robustness: Tumour tactics. <i>Nature</i> , 2003, 426, 125-125.	13.7	134
31	Regulation of yeast oscillatory dynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 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. <i>Genome Research</i> , 2013, 23, 300-311.	2.4	125
33	Metabolic Syndrome and Robustness Tradeoffs. <i>Diabetes</i> , 2004, 53, S6-S15.	0.3	121
34	Robustness tradeoffs and host-microbial symbiosis in the immune system. <i>Molecular Systems Biology</i> , 2006, 2, 2006.0022.	3.2	110
35	Structure of Protein Interaction Networks and Their Implications on Drug Design. <i>PLoS Computational Biology</i> , 2009, 5, e1000550.	1.5	102
36	COVID-19 Disease Map, building a computational repository of SARS-CoV-2 virus-host interaction mechanisms. <i>Scientific Data</i> , 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. <i>Nature Communications</i> , 2015, 6, 6600.	5.8	98
38	A comprehensive map of the influenza A virus replication cycle. <i>BMC Systems Biology</i> , 2013, 7, 97.	3.0	97
39	In Vivo Robustness Analysis of Cell Division Cycle Genes in <i>Saccharomyces cerevisiae</i> . <i>PLoS Genetics</i> , 2006, 2, e111.	1.5	94
40	A graphical notation for biochemical networks. <i>Biosilico</i> , 2003, 1, 169-176.	0.5	90
41	Perspectives on systems biology. <i>New Generation Computing</i> , 2000, 18, 199-216.	2.5	83
42	Artificial Intelligence to Win the Nobel Prize and Beyond: Creating the Engine for Scientific Discovery. <i>AI Magazine</i> , 2016, 37, 39-49.	1.4	79
43	Empty Niches after Extinctions Increase Population Sizes of Modern Corals. <i>Current Biology</i> , 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. <i>PLoS ONE</i> , 2013, 8, e70330.	1.1	78
45	Software support for SBGN maps: SBGN-ML and LibSBGN. <i>Bioinformatics</i> , 2012, 28, 2016-2021.	1.8	74
46	Neurogenetic learning: an integrated method of designing and training neural networks using genetic algorithms. <i>Physica D: Nonlinear Phenomena</i> , 1994, 75, 225-238.	1.3	72
47	Adding Protein Context to the Human Protein-Protein Interaction Network to Reveal Meaningful Interactions. <i>PLoS Computational Biology</i> , 2013, 9, e1002860.	1.5	70
48	Large-Scale Analysis of Network Bistability for Human Cancers. <i>PLoS Computational Biology</i> , 2010, 6, e1000851.	1.5	69
49	A comprehensive molecular interaction map of the budding yeast cell cycle. <i>Molecular Systems Biology</i> , 2010, 6, 415.	3.2	62
50	Modeling and Simulation Using CellDesigner. <i>Methods in Molecular Biology</i> , 2014, 1164, 121-145.	0.4	60
51	The RoboCup humanoid challenge as the millennium challenge for advanced robotics. <i>Advanced Robotics</i> , 1998, 13, 723-736.	1.1	58
52	Lessons from Toxicology: Developing a 21st-Century Paradigm for Medical Research. <i>Environmental Health Perspectives</i> , 2015, 123, A268-72.	2.8	57
53	Robustness and fragility in the yeast high osmolarity glycerol (HOG) signal transduction pathway. <i>Molecular Systems Biology</i> , 2009, 5, 281.	3.2	56
54	A framework for mapping, visualisation and automatic model creation of signal transduction networks. <i>Molecular Systems Biology</i> , 2012, 8, 578.	3.2	54

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

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

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91	Computational cellular dynamics: a networkâ€“physics integral. Nature Reviews Molecular Cell Biology, 2006, 7, 163-163.	16.1	14
92	Humanâ€“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