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List of Publications by Year in descending order

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41344 37204 10,500 139 49 96 citations h-index g-index papers 168 168 168 10966 times ranked docs citations citing authors all docs

#	Article	IF	Citations
1	Computational approaches to understanding Clostridioides difficile metabolism and virulence. Current Opinion in Microbiology, 2022, 65, 108-115.	5.1	O
2	Quantifying cumulative phenotypic and genomic evidence for procedural generation of metabolic network reconstructions. PLoS Computational Biology, 2022, 18, e1009341.	3.2	3
3	Comparative analyses of parasites with a comprehensive database of genome-scale metabolic models. PLoS Computational Biology, 2022, 18, e1009870.	3. 2	5
4	Fecal sphingolipids predict parenteral nutrition–associated cholestasis in the neonatal intensive care unit. Journal of Parenteral and Enteral Nutrition, 2022, 46, 1903-1913.	2.6	6
5	Advancing code sharing in the computational biology community. PLoS Computational Biology, 2022, 18, e1010193.	3.2	6
6	Mechanistic models of microbial community metabolism. Molecular Omics, 2021, 17, 365-375.	2.8	18
7	Predicting changes in renal metabolism after compound exposure with a genome-scale metabolic model. Toxicology and Applied Pharmacology, 2021, 412, 115390.	2.8	10
8	Collaborating with our community to increase code sharing. PLoS Computational Biology, 2021, 17, e1008867.	3.2	12
9	Identifying functional metabolic shifts in heart failure with the integration of omics data and a heart-specific, genome-scale model. Cell Reports, 2021, 34, 108836.	6.4	15
10	<i>Megasphaera</i> in the Stool Microbiota Is Negatively Associated With Diarrheal Cryptosporidiosis. Clinical Infectious Diseases, 2021, 73, e1242-e1251.	5.8	33
11	Untargeted Metabolomics Reveals Species-Specific Metabolite Production and Shared Nutrient Consumption by Pseudomonas aeruginosa and Staphylococcus aureus. MSystems, 2021, 6, e0048021.	3.8	9
12	Multidimensional Clinical Surveillance of Pseudomonas aeruginosa Reveals Complex Relationships between Isolate Source, Morphology, and Antimicrobial Resistance. MSphere, 2021, 6, e0039321.	2.9	3
13	An updated genome-scale metabolic network reconstruction of Pseudomonas aeruginosa PA14 to characterize mucin-driven shifts in bacterial metabolism. Npj Systems Biology and Applications, 2021, 7, 37.	3.0	12
14	Novel Drivers of Virulence in Clostridioides difficile Identified via Context-Specific Metabolic Network Analysis. MSystems, 2021, 6, e0091921.	3.8	13
15	Genome-Scale Model-Based Identification of Metabolite Indicators for Early Detection of Kidney Toxicity. Toxicological Sciences, 2020, 173, 293-312.	3.1	5
16	Gramâ€negative Microbiota Blooms in Premature Twins Discordant for Parenteral Nutritionâ€associated Cholestasis. Journal of Pediatric Gastroenterology and Nutrition, 2020, 70, 640-644.	1.8	4
17	Clostridioides difficile: Sometimes It Pays To Be Difficult. Cell Host and Microbe, 2020, 28, 358-359.	11.0	1
18	Improving reproducibility in computational biology research. PLoS Computational Biology, 2020, 16, e1007881.	3.2	22

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19	Minimum bactericidal concentration of ciprofloxacin to Pseudomonas aeruginosa determined rapidly based on pyocyanin secretion. Sensors and Actuators B: Chemical, 2020, 312, 127936.	7.8	20
20	Systems biology approaches help to facilitate interpretation of cross-species comparisons. Current Opinion in Toxicology, 2020, 23-24, 74-79.	5.0	5
21	Core Competencies for Undergraduates in Bioengineering and Biomedical Engineering: Findings, Consequences, and Recommendations. Annals of Biomedical Engineering, 2020, 48, 905-912.	2.5	37
22	MEMOTE for standardized genome-scale metabolic model testing. Nature Biotechnology, 2020, 38, 272-276.	17.5	314
23	Guiding the Refinement of Biochemical Knowledgebases with Ensembles of Metabolic Networks and Machine Learning. Cell Systems, 2020, 10, 109-119.e3.	6.2	46
24	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions. PLoS Computational Biology, 2020, 16, e1007847.	3.2	18
25	Transcriptome-guided parsimonious flux analysis improves predictions with metabolic networks in complex environments. PLoS Computational Biology, 2020, 16, e1007099.	3.2	55
26	Metabolic Network Reconstructions to Predict Drug Targets and Off-Target Effects. Methods in Molecular Biology, 2020, 2088, 315-330.	0.9	4
27	Community standards to facilitate development and address challenges in metabolic modeling. Molecular Systems Biology, 2020, 16, e9235.	7.2	37
28	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions., 2020, 16, e1007847.		0
29	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions., 2020, 16, e1007847.		0
30	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions., 2020, 16, e1007847.		0
31	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions., 2020, 16, e1007847.		0
32	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions., 2020, 16, e1007847.		0
33	Medusa: Software to build and analyze ensembles of genome-scale metabolic network reconstructions., 2020, 16, e1007847.		0
34	Evaluating the efficacy of an algae-based treatment to mitigate elicitation of antibiotic resistance. Chemosphere, 2019, 237, 124421.	8.2	18
35	Genome-Scale Characterization of Toxicity-Induced Metabolic Alterations in Primary Hepatocytes. Toxicological Sciences, 2019, 172, 279-291.	3.1	15
36	Wisdom of crowds in computational biology. PLoS Computational Biology, 2019, 15, e1007032.	3.2	2

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37	<i>In Vivo</i> Gene Essentiality and Metabolism in Bordetella pertussis. MSphere, 2019, 4, .	2.9	21
38	Leveraging the effects of chloroquine on resistant malaria parasites for combination therapies. BMC Bioinformatics, 2019, 20, 186.	2.6	6
39	Mechanistic identification of biofluid metabolite changes as markers of acetaminophen-induced liver toxicity in rats. Toxicology and Applied Pharmacology, 2019, 372, 19-32.	2.8	32
40	Reconciling high-throughput gene essentiality data with metabolic network reconstructions. PLoS Computational Biology, 2019, 15, e1006507.	3.2	19
41	A simplified metabolic network reconstruction to promote understanding and development of flux balance analysis tools. Computers in Biology and Medicine, 2019, 105, 64-71.	7.0	21
42	Integrated Experimental and Computational Analyses Reveal Differential Metabolic Functionality in Antibiotic-Resistant Pseudomonas aeruginosa. Cell Systems, 2019, 8, 3-14.e3.	6.2	56
43	Influential Parameters for the Analysis of Intracellular Parasite Metabolomics. MSphere, 2018, 3, .	2.9	11
44	Biomedical applications of genome-scale metabolic network reconstructions of human pathogens. Current Opinion in Biotechnology, 2018, 51, 70-79.	6.6	30
45	One thousand simple rules. PLoS Computational Biology, 2018, 14, e1006670.	3.2	3
46	Inferring Metabolic Mechanisms of Interaction within a Defined Gut Microbiota. Cell Systems, 2018, 7, 245-257.e7.	6.2	89
47	Ten simple rules for biologists learning to program. PLoS Computational Biology, 2018, 14, e1005871.	3.2	45
48	Reconciled rat and human metabolic networks for comparative toxicogenomics and biomarker predictions. Nature Communications, 2017, 8, 14250.	12.8	151
49	Reconstruction of the metabolic network of Pseudomonas aeruginosa to interrogate virulence factor synthesis. Nature Communications, 2017, 8, 14631.	12.8	116
50	Systems-level metabolism of the altered Schaedler flora, a complete gut microbiota. ISME Journal, 2017, 11, 426-438.	9.8	60
51	Increased Urinary Trimethylamine N-Oxide Following Cryptosporidium Infection and Protein Malnutrition Independent of Microbiome Effects. Journal of Infectious Diseases, 2017, 216, 64-71.	4.0	16
52	An engineering design approach to systems biology. Integrative Biology (United Kingdom), 2017, 9, 574-583.	1.3	22
53	Cross-modulation of pathogen-specific pathways enhances malnutrition during enteric co-infection with Giardia lamblia and enteroaggregative Escherichia coli. PLoS Pathogens, 2017, 13, e1006471.	4.7	68
54	Novel Plasmodium falciparum metabolic network reconstruction identifies shifts associated with clinical antimalarial resistance. BMC Genomics, 2017, 18, 543.	2.8	36

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55	History of antibiotic adaptation influences microbial evolutionary dynamics during subsequent treatment. PLoS Biology, 2017, 15, e2001586.	5.6	90
56	Managing uncertainty in metabolic network structure and improving predictions using EnsembleFBA. PLoS Computational Biology, 2017, 13, e1005413.	3.2	55
57	Growth-altering microbial interactions are responsive to chemical context. PLoS ONE, 2017, 12, e0164919.	2.5	15
58	Novel co-culture plate enables growth dynamic-based assessment of contact-independent microbial interactions. PLoS ONE, 2017, 12, e0182163.	2.5	19
59	Computing Biology. PLoS Computational Biology, 2016, 12, e1005050.	3.2	0
60	Systems level analysis of the Chlamydomonas reinhardtii metabolic network reveals variability in evolutionary co-conservation. Molecular BioSystems, 2016, 12, 2394-2407.	2.9	12
61	Protein- and zinc-deficient diets modulate the murine microbiome and metabolic phenotype. American Journal of Clinical Nutrition, 2016, 104, 1253-1262.	4.7	83
62	Metabolic network-guided binning of metagenomic sequence fragments. Bioinformatics, 2016, 32, 867-874.	4.1	8
63	Genotypic and phenotypic analyses of a Pseudomonas aeruginosa chronic bronchiectasis isolate reveal differences from cystic fibrosis and laboratory strains. BMC Genomics, 2015, 16, 883.	2.8	30
64	Do genomeâ€scale models need exact solvers or clearer standards?. Molecular Systems Biology, 2015, 11, 831.	7.2	68
65	Metabolic network modeling ofÂmicrobial communities. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2015, 7, 317-334.	6.6	95
66	High temporal resolution of glucosyltransferase dependent and independent effects of Clostridium difficile toxins across multiple cell types. BMC Microbiology, $2015,15,7.$	3.3	12
67	Miniaturized Plate Readers for Low-Cost, High-Throughput Phenotypic Screening. Journal of the Association for Laboratory Automation, 2015, 20, 51-55.	2.8	18
68	From "What Is?―to "What Isn't?―Computational Biology. PLoS Computational Biology, 2015, 11, e1004318.	3.2	5
69	Inference of Network Dynamics and Metabolic Interactions in the Gut Microbiome. PLoS Computational Biology, 2015, 11, e1004338.	3.2	106
70	A Thirteen-Gene Expression Signature Predicts Survival of Patients with Pancreatic Cancer and Identifies New Genes of Interest. PLoS ONE, 2014, 9, e105631.	2.5	31
71	Comparative Metabolic Systems Analysis of Pathogenic Burkholderia. Journal of Bacteriology, 2014, 196, 210-226.	2.2	43
72	MetDraw: automated visualization of genome-scale metabolic network reconstructions and high-throughput data. Bioinformatics, 2014, 30, 1327-1328.	4.1	26

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73	Computational Models of Algae Metabolism for Industrial Applications. Industrial Biotechnology, 2013, 9, 185-195.	0.8	7
74	<i>In Vivo</i> Physiological and Transcriptional Profiling Reveals Host Responses to Clostridium difficile Toxin A and Toxin B. Infection and Immunity, 2013, 81, 3814-3824.	2.2	31
75	MicroRNAs induced in melanoma treated with combination targeted therapy of Temsirolimus and Bevacizumab. Journal of Translational Medicine, 2013, 11, 218.	4.4	22
76	Mechanistic systems modeling to guide drug discovery and development. Drug Discovery Today, 2013, 18, 116-127.	6.4	47
77	Linking Genome-Scale Metabolic Modeling and Genome Annotation. Methods in Molecular Biology, 2013, 985, 61-83.	0.9	8
78	A community-driven global reconstruction of human metabolism. Nature Biotechnology, 2013, 31, 419-425.	17.5	920
79	Multiscale Computational Modeling in Vascular Biology: From Molecular Mechanisms to Tissue-Level Structure and Function. Studies in Mechanobiology, Tissue Engineering and Biomaterials, 2013, , 209-240.	1.0	7
80	Multiscale Computational Models of Complex Biological Systems. Annual Review of Biomedical Engineering, 2013, 15, 137-154.	12.3	186
81	Clinical, Molecular and Genetic Validation of a Murine Orthotopic Xenograft Model of Pancreatic Adenocarcinoma Using Fresh Human Specimens. PLoS ONE, 2013, 8, e77065.	2.5	62
82	Novel Multiscale Modeling Tool Applied to Pseudomonas aeruginosa Biofilm Formation. PLoS ONE, 2013, 8, e78011.	2.5	58
83	Integration of expression data in genome-scale metabolic network reconstructions. Frontiers in Physiology, 2012, 3, 299.	2.8	235
84	A metabolic network approach for the identification and prioritization of antimicrobial drug targets. Trends in Microbiology, 2012, 20, 113-123.	7.7	94
85	Metabolic network analysis predicts efficacy of FDA-approved drugs targeting the causative agent of a neglected tropical disease. BMC Systems Biology, 2012, 6, 27.	3.0	41
86	Matrix Rigidity Regulates Cancer Cell Growth by Modulating Cellular Metabolism and Protein Synthesis. PLoS ONE, 2012, 7, e37231.	2.5	65
87	Systems analysis of the transcriptional response of human ileocecal epithelial cells to Clostridium difficile toxins and effects on cell cycle control. BMC Systems Biology, 2012, 6, 2.	3.0	17
88	Functional integration of a metabolic network model and expression data without arbitrary thresholding. Bioinformatics, 2011, 27, 541-547.	4.1	266
89	Whole-Genome Metabolic Network Reconstruction and Constraint-Based Modelingâ<†. Methods in Enzymology, 2011, 500, 411-433.	1.0	33
90	Metabolic network reconstruction of <i>Chlamydomonas</i> offers insight into lightâ€driven algal metabolism. Molecular Systems Biology, 2011, 7, 518.	7.2	264

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91	Comprehensive analysis of receptor tyrosine kinase activation in human melanomas reveals autocrine signaling through IGF-1R. Melanoma Research, 2011, 21, 274-284.	1.2	32
92	Genome-wide functional annotation and structural verification of metabolic ORFeome of Chlamydomonas reinhardtii. BMC Genomics, 2011, 12, S4.	2.8	17
93	Systems Analysis of Small Signaling Modules Relevant to Eight Human Diseases. Annals of Biomedical Engineering, 2011, 39, 621-635.	2.5	10
94	TIGER: Toolbox for integrating genome-scale metabolic models, expression data, and transcriptional regulatory networks. BMC Systems Biology, 2011, 5, 147.	3.0	104
95	Reconciliation of Genome-Scale Metabolic Reconstructions for Comparative Systems Analysis. PLoS Computational Biology, 2011, 7, e1001116.	3.2	111
96	Metabolic systems analysis to advance algal biotechnology. Biotechnology Journal, 2010, 5, 660-670.	3.5	28
97	Metabolic reconstruction, constraint-based analysis and game theory to probe genome-scale metabolic networks. Current Opinion in Biotechnology, 2010, 21, 502-510.	6.6	91
98	The application of flux balance analysis in systems biology. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2010, 2, 372-382.	6.6	116
99	Metabolic Network Analysis of <i>Pseudomonas aeruginosa</i> Infection. Journal of Bacteriology, 2010, 192, 5534-5548.	2.2	133
100	Harnessing Systems Biology Approaches to Engineer Functional Microvascular Networks. Tissue Engineering - Part B: Reviews, 2010, 16, 361-370.	4.8	10
101	A scalable systems analysis approach for regulated metabolic networks. , 2009, 2009, 5464-5.		0
102	Nano-motion Dynamics are Determined by Surface-Tethered Selectin Mechanokinetics and Bond Formation. PLoS Computational Biology, 2009, 5, e1000612.	3.2	8
103	Functional States of the Genome-Scale Escherichia Coli Transcriptional Regulatory System. PLoS Computational Biology, 2009, 5, e1000403.	3.2	34
104	Proteomic and network analysis characterize stage-specific metabolism in Trypanosoma cruzi. BMC Systems Biology, 2009, 3, 52.	3.0	42
105	Phthalimide neovascular factor 1 (PNF1) modulates MT1â€MMP activity in human microvascular endothelial cells. Biotechnology and Bioengineering, 2009, 103, 796-807.	3.3	6
106	Metabolic network analysis integrated with transcript verification for sequenced genomes. Nature Methods, 2009, 6, 589-592.	19.0	83
107	Applications of genomeâ€scale metabolic reconstructions. Molecular Systems Biology, 2009, 5, 320.	7.2	7 59
108	Simple: A Sequential Immunoperoxidase Labeling and Erasing Method. Journal of Histochemistry and Cytochemistry, 2009, 57, 899-905.	2.5	135

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109	Dephosphorylation of \hat{l}^2 -Arrestin 1 in Glioblastomas. Journal of Neuropathology and Experimental Neurology, 2009, 68, 535-541.	1.7	13
110	Flux Balance Analysis: Interrogating Genome-Scale Metabolic Networks. Methods in Molecular Biology, 2009, 500, 61-80.	0.9	68
111	Predicting biological system objectives de novo from internal state measurements. BMC Bioinformatics, 2008, 9, 43.	2.6	89
112	Systems analysis of metabolism in the pathogenic trypanosomatid <i>Leishmania major</i> Systems Biology, 2008, 4, 177.	7.2	145
113	Characterizing emergent properties of immunological systems with multi-cellular rule-based computational modeling. Trends in Immunology, 2008, 29, 589-599.	6.8	94
114	Genome-Scale Metabolic Network Analysis of the Opportunistic Pathogen <i>Pseudomonas aeruginosa</i> PAO1. Journal of Bacteriology, 2008, 190, 2790-2803.	2.2	283
115	Dynamic Analysis of Integrated Signaling, Metabolic, and Regulatory Networks. PLoS Computational Biology, 2008, 4, e1000086.	3.2	182
116	Novel pathway compendium analysis elucidates mechanism of pro-angiogenic synthetic small molecule. Bioinformatics, 2008, 24, 2384-2390.	4.1	8
117	Application of a novel optimization-based approach to characterize integrated signalling, regulatory, and metabolic biochemical networks. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2008, 41, 11630-11635.	0.4	0
118	Genome-Scale Reconstruction and Analysis of the Pseudomonas putida KT2440 Metabolic Network Facilitates Applications in Biotechnology. PLoS Computational Biology, 2008, 4, e1000210.	3.2	237
119	Mechanistic Exploration of Phthalimide Neovascular Factor 1 Using Network Analysis Tools. Tissue Engineering, 2007, 13, 2561-2575.	4.6	11
120	Multiscale computational analysis of Xenopus laevis morphogenesis reveals key insights of systems-level behavior. BMC Systems Biology, 2007, 1, 46.	3.0	27
121	Flux balance analysis in the era of metabolomics. Briefings in Bioinformatics, 2006, 7, 140-150.	6.5	227
122	Systems analyses characterize integrated functions of biochemical networks. Trends in Biochemical Sciences, 2006, 31, 284-291.	7.5	28
123	Matrix Formalism to Describe Functional States of Transcriptional Regulatory Systems. PLoS Computational Biology, 2006, 2, e101.	3.2	84
124	Reconstruction of cellular signalling networks and analysis of their properties. Nature Reviews Molecular Cell Biology, 2005, 6, 99-111.	37.0	472
125	Hierarchical thinking in network biology: the unbiased modularization of biochemical networks. Trends in Biochemical Sciences, 2004, 29, 641-647.	7.5	189
126	Comparison of network-based pathway analysis methods. Trends in Biotechnology, 2004, 22, 400-405.	9.3	347

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127	Topological analysis of mass-balanced signaling networks: a framework to obtain network properties including crosstalk. Journal of Theoretical Biology, 2004, 227, 283-297.	1.7	97
128	Bioinformatics and cellular signaling. Current Opinion in Biotechnology, 2004, 15, 78-81.	6.6	29
129	The JAK-STAT Signaling Network in the Human B-Cell: An Extreme Signaling Pathway Analysis. Biophysical Journal, 2004, 87, 37-46.	0.5	117
130	Metabolic pathways in the post-genome era. Trends in Biochemical Sciences, 2003, 28, 250-258.	7.5	347
131	Genome-scale microbial in silico models: the constraints-based approach. Trends in Biotechnology, 2003, 21, 162-169.	9.3	365
132	Development of network-based pathway definitions: the need to analyze real metabolic networks. Trends in Biotechnology, 2003, 21, 195-198.	9.3	51
133	Network-based analysis of metabolic regulation in the human red blood cell. Journal of Theoretical Biology, 2003, 225, 185-194.	1.7	64
134	Analysis of Metabolic Capabilities Using Singular Value Decomposition of Extreme Pathway Matrices. Biophysical Journal, 2003, 84, 794-804.	0.5	73
135	Determination of Redundancy and Systems Properties of the Metabolic Network of Helicobacter pylori Using Genome-Scale Extreme Pathway Analysis. Genome Research, 2002, 12, 760-769.	5 . 5	106
136	Extreme Pathway Lengths and Reaction Participation in Genome-Scale Metabolic Networks. Genome Research, 2002, 12, 1889-1900.	5 . 5	125
137	The Genome-Scale Metabolic Extreme Pathway Structure in Haemophilus influenzae Shows Significant Network Redundancy. Journal of Theoretical Biology, 2002, 215, 67-82.	1.7	115
138	Determination of Redundancy and Systems Properties of the Metabolic Network of Helicobacter pylori Using Genome-Scale Extreme Pathway Analysis. Genome Research, 2002, 12, 760-769.	5.5	5
139	Conserved Virulence-Linked Metabolic Reprogramming in <i>Clostridioides Difficile</i> Through Genome-Scale Metabolic Network Analysis. SSRN Electronic Journal, 0, , .	0.4	1