

Hyun Uk Kim

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73
papers

6,834
citations

35
h-index

82
g-index

84
ext. papers

8,687
ext. citations

10.6
avg, IF

6.21
L-index

#	Paper	IF	Citations
73	antiSMASH 3.0-a comprehensive resource for the genome mining of biosynthetic gene clusters. <i>Nucleic Acids Research</i> , 2015 , 43, W237-43	20.1	1403
72	antiSMASH 4.0-improvements in chemistry prediction and gene cluster boundary identification. <i>Nucleic Acids Research</i> , 2017 , 45, W36-W41	20.1	834
71	Minimum Information about a Biosynthetic Gene cluster. <i>Nature Chemical Biology</i> , 2015 , 11, 625-31	11.7	498
70	Systems metabolic engineering of Escherichia coli for L-threonine production. <i>Molecular Systems Biology</i> , 2007 , 3, 149	12.2	342
69	Systems strategies for developing industrial microbial strains. <i>Nature Biotechnology</i> , 2015 , 33, 1061-72	44.5	331
68	A comprehensive metabolic map for production of bio-based chemicals. <i>Nature Catalysis</i> , 2019 , 2, 18-33	36.5	237
67	Current status and applications of genome-scale metabolic models. <i>Genome Biology</i> , 2019 , 20, 121	18.3	208
66	Microbial production of building block chemicals and polymers. <i>Current Opinion in Biotechnology</i> , 2011 , 22, 758-67	11.4	174
65	Metabolic engineering of Corynebacterium glutamicum for L-arginine production. <i>Nature Communications</i> , 2014 , 5, 4618	17.4	165
64	Application of systems biology for bioprocess development. <i>Trends in Biotechnology</i> , 2008 , 26, 404-12	15.1	155
63	Deep learning improves prediction of drug-drug and drug-food interactions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E4304-E4311	11.5	154
62	Systems biology and biotechnology of Streptomyces species for the production of secondary metabolites. <i>Biotechnology Advances</i> , 2014 , 32, 255-68	17.8	141
61	Metabolic engineering of antibiotic factories: new tools for antibiotic production in actinomycetes. <i>Trends in Biotechnology</i> , 2015 , 33, 15-26	15.1	138
60	Integrative genome-scale metabolic analysis of Vibrio vulnificus for drug targeting and discovery. <i>Molecular Systems Biology</i> , 2011 , 7, 460	12.2	128
59	Metabolic flux analysis and metabolic engineering of microorganisms. <i>Molecular BioSystems</i> , 2008 , 4, 113-20		125
58	MEMOTE for standardized genome-scale metabolic model testing. <i>Nature Biotechnology</i> , 2020 , 38, 272-276	44.5	121
57	The secondary metabolite bioinformatics portal: Computational tools to facilitate synthetic biology of secondary metabolite production. <i>Synthetic and Systems Biotechnology</i> , 2016 , 1, 69-79	4.2	119

56	Metabolic engineering of microorganisms: general strategies and drug production. <i>Drug Discovery Today</i> , 2009 , 14, 78-88	8.8	110
55	Systems biology as a foundation for genome-scale synthetic biology. <i>Current Opinion in Biotechnology</i> , 2006 , 17, 488-92	11.4	100
54	Genome-scale analysis of <i>Mannheimia succiniciproducens</i> metabolism. <i>Biotechnology and Bioengineering</i> , 2007 , 97, 657-71	4.9	84
53	Recent development of antiSMASH and other computational approaches to mine secondary metabolite biosynthetic gene clusters. <i>Briefings in Bioinformatics</i> , 2019 , 20, 1103-1113	13.4	71
52	A systems approach to traditional oriental medicine. <i>Nature Biotechnology</i> , 2015 , 33, 264-8	44.5	64
51	Genome-scale metabolic network analysis and drug targeting of multi-drug resistant pathogen <i>Acinetobacter baumannii</i> AYE. <i>Molecular BioSystems</i> , 2010 , 6, 339-48		63
50	Current state and applications of microbial genome-scale metabolic models. <i>Current Opinion in Systems Biology</i> , 2017 , 2, 10-18	3.2	62
49	Machine learning applications in systems metabolic engineering. <i>Current Opinion in Biotechnology</i> , 2020 , 64, 1-9	11.4	60
48	Deep learning enables high-quality and high-throughput prediction of enzyme commission numbers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 13996-14001	11.5	59
47	Production of bulk chemicals via novel metabolic pathways in microorganisms. <i>Biotechnology Advances</i> , 2013 , 31, 925-35	17.8	57
46	Strategies for systems-level metabolic engineering. <i>Biotechnology Journal</i> , 2008 , 3, 612-23	5.6	51
45	Flux variability scanning based on enforced objective flux for identifying gene amplification targets. <i>BMC Systems Biology</i> , 2012 , 6, 106	3.5	50
44	Metabolic network modeling and simulation for drug targeting and discovery. <i>Biotechnology Journal</i> , 2012 , 7, 330-42	5.6	46
43	Metabolite-centric approaches for the discovery of antibacterials using genome-scale metabolic networks. <i>Metabolic Engineering</i> , 2010 , 12, 105-11	9.7	46
42	Bacterial cellulose as an example product for sustainable production and consumption. <i>Microbial Biotechnology</i> , 2017 , 10, 1181-1185	6.3	41
41	Data integration and analysis of biological networks. <i>Current Opinion in Biotechnology</i> , 2010 , 21, 78-84	11.4	39
40	Reconstruction of genome-scale human metabolic models using omics data. <i>Integrative Biology (United Kingdom)</i> , 2015 , 7, 859-68	3.7	38
39	Metabolic engineering with systems biology tools to optimize production of prokaryotic secondary metabolites. <i>Natural Product Reports</i> , 2016 , 33, 933-41	15.1	37

38	Metabolic engineering of <i>Corynebacterium glutamicum</i> for the production of glutaric acid, a C5 dicarboxylic acid platform chemical. <i>Metabolic Engineering</i> , 2019 , 51, 99-109	9.7	35
37	Metabolic engineering of <i>Escherichia coli</i> for the enhanced production of l-tyrosine. <i>Biotechnology and Bioengineering</i> , 2018 , 115, 2554-2564	4.9	33
36	A safe and sustainable bacterial cellulose nanofiber separator for lithium rechargeable batteries. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 19288-19293	11.5	30
35	Memote: A community driven effort towards a standardized genome-scale metabolic model test suite		26
34	Toward Systems Metabolic Engineering of Streptomycetes for Secondary Metabolites Production. <i>Biotechnology Journal</i> , 2018 , 13, 1700465	5.6	25
33	Recent development of computational resources for new antibiotics discovery. <i>Current Opinion in Microbiology</i> , 2017 , 39, 113-120	7.9	24
32	Genomic and metabolic analysis of <i>Komagataeibacter xylinus</i> DSM 2325 producing bacterial cellulose nanofiber. <i>Biotechnology and Bioengineering</i> , 2019 , 116, 3372-3381	4.9	23
31	Systems approach to characterize the metabolism of liver cancer stem cells expressing CD133. <i>Scientific Reports</i> , 2017 , 7, 45557	4.9	22
30	Design of homo-organic acid producing strains using multi-objective optimization. <i>Metabolic Engineering</i> , 2015 , 28, 63-73	9.7	22
29	Current status of pan-genome analysis for pathogenic bacteria. <i>Current Opinion in Biotechnology</i> , 2020 , 63, 54-62	11.4	20
28	Systematic engineering of TCA cycle for optimal production of a four-carbon platform chemical 4-hydroxybutyric acid in <i>Escherichia coli</i> . <i>Metabolic Engineering</i> , 2016 , 38, 264-273	9.7	19
27	Production of 4-hydroxybutyric acid by metabolically engineered <i>Mannheimia succiniciproducens</i> and its conversion to γ -butyrolactone by acid treatment. <i>Metabolic Engineering</i> , 2013 , 20, 73-83	9.7	19
26	Systems metabolic engineering as an enabling technology in accomplishing sustainable development goals. <i>Microbial Biotechnology</i> , 2017 , 10, 1254-1258	6.3	19
25	Enhanced production of poly-3-hydroxybutyrate (PHB) by expression of response regulator DR1558 in recombinant <i>Escherichia coli</i> . <i>International Journal of Biological Macromolecules</i> , 2019 , 131, 29-35	7.9	17
24	Framework and resource for more than 11,000 gene-transcript-protein-reaction associations in human metabolism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E9740-E9749	11.5	16
23	Genome-Scale Metabolic Reconstruction of Actinomycetes for Antibiotics Production. <i>Biotechnology Journal</i> , 2019 , 14, e1800377	5.6	13
22	Metabolic engineering of <i>Mannheimia succiniciproducens</i> for succinic acid production based on elementary mode analysis with clustering. <i>Biotechnology Journal</i> , 2017 , 12, 1600701	5.6	12
21	Flux-coupled genes and their use in metabolic flux analysis. <i>Biotechnology Journal</i> , 2013 , 8, 1035-42	5.6	11

20	Framework for network modularization and Bayesian network analysis to investigate the perturbed metabolic network. <i>BMC Systems Biology</i> , 2011 , 5 Suppl 2, S14	3.5	11
19	In silico analysis of the effects of H ₂ and CO ₂ on the metabolism of a capnophilic bacterium <i>Mannheimia succiniciproducens</i> . <i>Journal of Biotechnology</i> , 2009 , 144, 184-9	3.7	11
18	High-Level Production of the Natural Blue Pigment Indigoidine from Metabolically Engineered <i>Corynebacterium glutamicum</i> for Sustainable Fabric Dyes. <i>ACS Sustainable Chemistry and Engineering</i> , 2021 , 9, 6613-6622	8.3	11
17	Systems and synthetic biology to elucidate secondary metabolite biosynthetic gene clusters encoded in genomes. <i>Natural Product Reports</i> , 2021 , 38, 1330-1361	15.1	11
16	Human genes with a greater number of transcript variants tend to show biological features of housekeeping and essential genes. <i>Molecular BioSystems</i> , 2015 , 11, 2798-807		8
15	Modeling regulatory networks using machine learning for systems metabolic engineering. <i>Current Opinion in Biotechnology</i> , 2020 , 65, 163-170	11.4	6
14	A deep learning approach to evaluate the feasibility of enzymatic reactions generated by retrobiosynthesis. <i>Biotechnology Journal</i> , 2021 , 16, e2000605	5.6	6
13	Effects of introducing heterologous pathways on microbial metabolism with respect to metabolic optimality. <i>Biotechnology and Bioprocess Engineering</i> , 2014 , 19, 660-667	3.1	4
12	Microbial production of multiple short-chain primary amines via retrobiosynthesis. <i>Nature Communications</i> , 2021 , 12, 173	17.4	4
11	Predicting biochemical and physiological effects of natural products from molecular structures using machine learning. <i>Natural Product Reports</i> , 2021 , 38, 1954-1966	15.1	4
10	Metabolic Engineering Strategies for the Enhanced Microalgal Production of Long-Chain Polyunsaturated Fatty Acids (LC-PUFAs). <i>Biotechnology Journal</i> , 2019 , 14, e1900043	5.6	3
9	Systematic and Comparative Evaluation of Software Programs for Template-Based Modeling of Protein Structures. <i>Biotechnology Journal</i> , 2020 , 15, e1900343	5.6	2
8	Setup of a scientific computing environment for computational biology: Simulation of a genome-scale metabolic model of <i>Escherichia coli</i> as an example. <i>Journal of Microbiology</i> , 2020 , 58, 227-234	3.3	2
7	Genome-Scale Network Modeling 2012 , 1-23		2
6	Applications of genome-scale metabolic network models in the biopharmaceutical industry. <i>Pharmaceutical Bioprocessing</i> , 2013 , 1, 337-339		2
5	Omics and Computational Modeling Approaches for the Effective Treatment of Drug-Resistant Cancer Cells. <i>Frontiers in Genetics</i> , 2021 , 12, 742902	4.5	1
4	Engineering Heterologous Hosts for the Enhanced Production of Non-ribosomal Peptides. <i>Biotechnology and Bioprocess Engineering</i> , 2020 , 25, 795-809	3.1	1
3	Development of computational models using omics data for the identification of effective cancer metabolic biomarkers. <i>Molecular Omics</i> , 2021 , 17, 881-893	4.4	0

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1 Korean Systems Biology and Biotechnology Research. *Asia Pacific Biotech News*, 2006, 10, 967-977 ○