Jeff Hasty

List of Publications by Year
in descending order

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102 papers	11,762 citations	53794 45 h-index	34986 98 g-index
111 all docs	111 docs citations	111 times ranked	8831 citing authors

#	Article	IF	Citations
1	Synthetic Gene Circuits: Design, Implement, and Apply. Proceedings of the IEEE, 2022, 110, 613-630.	21.3	4
2	Design, mutate, screen: Multiplexed creation and arrayed screening of synchronized genetic clocks. Cell Systems, 2022, 13, 365-375.e5.	6.2	8
3	Nutrient Gradients Mediate Complex Colony-Level Antibiotic Responses in Structured Microbial Populations. Frontiers in Microbiology, 2022, 13, 740259.	3.5	4
4	The Balance of Stromal BMP Signaling Mediated by GREM1 and ISLR Drives Colorectal Carcinogenesis. Gastroenterology, 2021, 160, 1224-1239.e30.	1.3	76
5	The microbiome and human cancer. Science, 2021, 371, .	12.6	506
6	Rapid, Affordable, and Uncomplicated Production of Bacterial Cell-free Lysate. Journal of Visualized Experiments, 2021, , .	0.3	0
7	Advances in quantitative biology methods for studying replicative aging in Saccharomyces cerevisiae. Translational Medicine of Aging, 2020, 4, 151-160.	1.3	13
8	A programmable fate decision landscape underlies single-cell aging in yeast. Science, 2020, 369, 325-329.	12.6	77
9	Survival of the weakest in non-transitive asymmetric interactions among strains of E. coli. Nature Communications, 2020, 11, 6055.	12.8	23
10	Interfacing gene circuits with microelectronics through engineered population dynamics. Science Advances, 2020, 6, eaaz8344.	10.3	28
11	Inducible cell-to-cell signaling for tunable dynamics in microbial communities. Nature Communications, 2020, 11, 1193.	12.8	58
12	Genome-scale transcriptional dynamics and environmental biosensing. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 3301-3306.	7.1	21
13	One-Day Construction of Multiplex Arrays to Harness Natural CRISPR-Cas Systems. ACS Synthetic Biology, 2020, 9, 1129-1137.	3.8	9
14	Genetically engineered control of phenotypic structure in microbial colonies. Nature Microbiology, 2020, 5, 697-705.	13.3	22
15	Rock-paper-scissors: Engineered population dynamics increase genetic stability. Science, 2019, 365, 1045-1049.	12.6	115
16	Divergent Aging of Isogenic Yeast Cells Revealed through Single-Cell Phenotypic Dynamics. Cell Systems, 2019, 8, 242-253.e3.	6.2	43
17	Rational engineering of synthetic microbial systems: from single cells to consortia. Current Opinion in Microbiology, 2018, 45, 92-99.	5.1	75
18	Flavin-based metabolic cycles are integral features of growth and division in single yeast cells. Scientific Reports, 2018, 8, 18045.	3.3	17

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19	A stabilized microbial ecosystem of self-limiting bacteria using synthetic quorum-regulated lysis. Nature Microbiology, 2017, 2, 17083.	13.3	129
20	Multigenerational silencing dynamics control cell aging. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11253-11258.	7.1	60
21	Rapid and Scalable Preparation of Bacterial Lysates for Cell-Free Gene Expression. ACS Synthetic Biology, 2017, 6, 2198-2208.	3.8	85
22	Suppression of Beneficial Mutations in Dynamic Microbial Populations. Physical Review Letters, 2017, 118, 028102.	7.8	10
23	Synchronized DNA cycling across a bacterial population. Nature Genetics, 2017, 49, 1282-1285.	21.4	33
24	Posttranscriptional Regulation of Gcr1 Expression and Activity Is Crucial for Metabolic Adjustment in Response to Glucose Availability. Molecular Cell, 2016, 62, 346-358.	9.7	27
25	Quorum Sensing Communication Modules for Microbial Consortia. ACS Synthetic Biology, 2016, 5, 969-977.	3.8	168
26	Criticality and Adaptivity in Enzymatic Networks. Biophysical Journal, 2016, 111, 1078-1087.	0.5	25
27	Synchronized cycles of bacterial lysis for in vivo delivery. Nature, 2016, 536, 81-85.	27.8	487
28	Transcriptional regulation with CRISPR-Cas9: principles, advances, and applications. Current Opinion in Biotechnology, 2016, 40, 177-184.	6.6	69
29	Orthogonal Modular Gene Repression in Escherichia coli Using Engineered CRISPR/Cas9. ACS Synthetic Biology, 2016, 5, 81-88.	3.8	58
30	A Microfluidic Platform for Long-Term Monitoring of Algae in a Dynamic Environment. ACS Synthetic Biology, 2016, 5, 8-14.	3.8	33
31	Turing Patterning Using Gene Circuits with Gas-Induced Degradation of Quorum Sensing Molecules. PLoS ONE, 2016, 11, e0153679.	2.5	19
32	Programmable probiotics for detection of cancer in urine. Science Translational Medicine, 2015, 7, 289ra84.	12.4	326
33	Distributed Classifier Based on Genetically Engineered Bacterial Cell Cultures. ACS Synthetic Biology, 2015, 4, 72-82.	3.8	22
34	In-Vivo Real-Time Control of Protein Expression from Endogenous and Synthetic Gene Networks. PLoS Computational Biology, 2014, 10, e1003625.	3.2	114
35	Synchronization of Degrade-and-Fire Oscillations via a Common Activator. Physical Review Letters, 2014, 113, 128102.	7.8	21
36	Rapid and tunable post-translational coupling of genetic circuits. Nature, 2014, 508, 387-391.	27.8	194

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37	Dynamic Localization of the Cyanobacterial Circadian Clock Proteins. Current Biology, 2014, 24, 1836-1844.	3.9	45
38	Measuring Competitive Fitness in Dynamic Environments. Journal of Physical Chemistry B, 2013, 117, 13175-13181.	2.6	17
39	Translational Cross Talk in Gene Networks. Biophysical Journal, 2013, 104, 2564-2572.	0.5	54
40	Dual Delayed Feedback Provides Sensitivity and Robustness to the NF-Î¤B Signaling Module. PLoS Computational Biology, 2013, 9, e1003112.	3.2	42
41	Measuring Growth and Gene Expression Dynamics of Tumor-Targeted S. Typhimurium Bacteria. Journal of Visualized Experiments, 2013, , e50540.	0.3	15
42	Synthetic biology approaches to biofuel production. Biofuels, 2012, 3, 9-12.	2.4	18
43	Making gene circuits sing. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 16758-16759.	7.1	4
44	Engineered Microbes for Therapeutic Applications. ACS Synthetic Biology, 2012, 1, 438-439.	3.8	3
45	Genetic Circuits in Salmonella typhimurium. ACS Synthetic Biology, 2012, 1, 458-464.	3.8	37
46	In Vivo Gene Expression Dynamics of Tumor-Targeted Bacteria. ACS Synthetic Biology, 2012, 1, 465-470.	3.8	48
47	A sensing array of radically coupled genetic â€˜biopixelsâ€™. Nature, 2012, 481, 39-44.	27.8	351
48	Vacuum-assisted cell loading enables shear-free mammalian microfluidic culture. Lab on A Chip, 2012, 12, 4732.	6.0	89
49	Recent advances in single-cell studies of gene regulation. Current Opinion in Biotechnology, 2012, 23, 34-40.	6.6	15
50	Sensing array of radically coupled genetic biopixels. FASEB Journal, 2012, 26, 468.1.	0.5	0
51	Entrainment of a Population of Synthetic Genetic Oscillators. Science, 2011, 333, 1315-1319.	12.6	222
52	In-Silico Patterning of Vascular Mesenchymal Cells in Three Dimensions. PLoS ONE, 2011, 6, e20182.	2.5	9
53	Queueing up for enzymatic processing: correlated signaling through coupled degradation. Molecular Systems Biology, 2011, 7, 561.	7.2	170
54	Antagonistic gene transcripts regulate adaptation to new growth environments. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 21087-21092.	7.1	30

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55	Yeast Dynamically Modify Their Environment to Achieve Better Mating Efficiency. Science Signaling, 2011, 4, ra54.	3.6	48
56	Coherent activation of a synthetic mammalian gene network. Systems and Synthetic Biology, 2010, 4, 15-23.	1.0	8
57	Phenotypic impact of regulatory noise in cellular stress-response pathways. Systems and Synthetic Biology, 2010, 4, 105-116.	1.0	25
58	A synchronized quorum of genetic clocks. Nature, 2010, 463, 326-330.	27.8	916
59	Cell cycle-dependent variations in protein concentration. Nucleic Acids Research, 2010, 38, 2676-2681.	14.5	57
60	Stochastic Emergence of Groupthink. Science, 2010, 328, 987-988.	12.6	14
61	Streaming Instability in Growing Cell Populations. Physical Review Letters, 2010, 104, 208101.	7.8	92
62	Correlation Resonance Generated by Coupled Enzymatic Processing. Biophysical Journal, 2010, 99, 3172-3181.	0.5	45
63	Systems biology of cellular rhythms: from cacophony to symphony. Current Opinion in Genetics and Development, 2010, 20, 571-573.	3.3	8
64	Circadian rhythms in Neurospora crassa: Dynamics of the clock component frequency visualized using a fluorescent reporter. Fungal Genetics and Biology, 2010, 47, 332-341.	2.1	26
65	The pedestrian watchmaker: Genetic clocks from engineered oscillators. FEBS Letters, 2009, 583, 3931-3937.	2.8	25
66	Overpowering the component problem. Nature Biotechnology, 2009, 27, 450-451.	17.5	11
67	Microfluidic devices for measuring gene network dynamics in single cells. Nature Reviews Genetics, 2009, 10, 628-638.	16.3	224
68	Delay-Induced Degrade-and-Fire Oscillations in Small Genetic Circuits. Physical Review Letters, 2009, 102, 068105.	7.8	130
69	Metabolic gene regulation in a dynamically changing environment. Nature, 2008, 454, 1119-1122.	27.8	274
70	A fast, robust and tunable synthetic gene oscillator. Nature, 2008, 456, 516-519.	27.8	1,079
71	Genome rewired. Nature, 2008, 452, 824-825.	27.8	13
72	Biomechanical ordering of dense cell populations. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 15346-15351.	7.1	259

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73	A synthetic gene network for tuning protein degradation in Saccharomyces cerevisiae. Molecular Systems Biology, 2007, 3, 127.	7.2	89
74	Phenotypic variability of growing cellular populations. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18982-18987.	7.1	39
75	Transient Dynamics of Genetic Regulatory Networks. Biophysical Journal, 2007, 92, 3501-3512.	0.5	64
76	A DNA methylationâ€“based switch generates bistable gene expression. Nature Genetics, 2007, 39, 146-147.	21.4	13
77	Origins of extrinsic variability in eukaryotic gene expression. , 2006, , .		0
78	Monitoring dynamics of single-cell gene expression over multiple cell cycles. , 2006, , .		3
79	Effective Temperature in Stochastic Kinetics and Gene Networks. Biophysical Journal, 2006, 91, 84-94.	0.5	56
80	Dynamics of singleâ€cell gene expression. Molecular Systems Biology, 2006, 2, 64.	7.2	125
81	Imaging gene expression: tiny signals make a big noise. Nature Chemical Biology, 2006, 2, 181-182.	8.0	9
82	Origins of extrinsic variability in eukaryotic gene expression. Nature, 2006, 439, 861-864.	27.8	263
83	A bottom-up approach to gene regulation. Nature, 2006, 439, 856-860.	27.8	294
84	Statistics of cellular signal transduction as a race to the nucleus by multiple random walkers in compartment/phosphorylation space. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 16752-16757.	7.1	30
85	Delay-induced stochastic oscillations in gene regulation. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 14593-14598.	7.1	498
86	Monitoring dynamics of singleâ€cell gene expression over multiple cell cycles. Molecular Systems Biology, 2005, 1, 2005.0024.	7.2	83
87	Prediction and measurement of an autoregulatory genetic module. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 7714-7719.	7.1	409
88	Reverse engineering gene networks: Integrating genetic perturbations with dynamical modeling. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 5944-5949.	7.1	380
89	Design then mutate. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 16516-16518.	7.1	17
90	Synchronizing genetic relaxation oscillators by intercell signaling. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 679-684.	7.1	258

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91	Synthetic Gene Network for Entraining and Amplifying Cellular Oscillations. Physical Review Letters, 2002, 88, 148101.	7.8	181
92	Translating the noise. Nature Genetics, 2002, 31, 13-14.	21.4	50
93	Engineered gene circuits. Nature, 2002, 420, 224-230.	27.8	660
94	Wavelets of Excitability in Sensory Neurons. Journal of Neurophysiology, 2001, 86, 2097-2101.	1.8	2
95	Complex ligand-protein systems: a globally convergent iterative method for the n Ã— m case. Journal of Mathematical Biology, 2001, 43, 313-324.	1.9	7
96	Computational studies of gene regulatory networks: in numero molecular biology. Nature Reviews Genetics, 2001, 2, 268-279.	16.3	508
97	Unspinning the web. Nature, 2001, 411, 30-31.	27.8	45
98	Designer gene networks: Towards fundamental cellular control. Chaos, 2001, 11, 207.	2.5	239
99	Renormalization of Self-Organized Critical Models. Annals of the New York Academy of Sciences, 1998, 848, 9-17.	3.8	1
100	Renormalization Group for Directed Sandpile Models. Physical Review Letters, 1998, 81, 1722-1725.	7.8	16
101	Renormalization of one-dimensional avalanche models. Journal of Statistical Physics, 1997, 86, 1179-1201.	1.2	10
102	Design, Mutate, Screen: High-Throughput Creation of Genetic Clocks with Different Period-Amplitude Characteristics. SSRN Electronic Journal, 0, , .	0.4	1