Timothy Cooper

List of Publications by Year
in descending order

44 papers	2,990 citations	257450 24 h-index	265206 42 g-index
46 all docs	46 docs citations	46 times ranked	3238 citing authors

#	Article	IF	Citations
1	Negative Epistasis Between Beneficial Mutations in an Evolving Bacterial Population. Science, 2011, 332, 1193-1196.	12.6	497
2	Parallel changes in gene expression after 20,000 generations of evolution in Escherichia coli. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 1072-1077.	7.1	409
3	Second-Order Selection for Evolvability in a Large <i>Escherichia coli</i> Population. Science, 2011, 331, 1433-1436.	12.6	300
4	Recombination Speeds Adaptation by Reducing Competition between Beneficial Mutations in Populations of Escherichia coli. PLoS Biology, 2007, 5, e225.	5.6	182
5	The causes of epistasis. Proceedings of the Royal Society B: Biological Sciences, 2011, 278, 3617-3624.	2.6	175
6	Postsegregational killing does not increase plasmid stability but acts to mediate the exclusion of competing plasmids. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 12643-12648.	7.1	122
7	Experimental evolution with E. coli in diverse resource environments. I. Fluctuating environments promote divergence of replicate populations. BMC Evolutionary Biology, 2010, 10, 11.	3.2	102
8	Predicting microbial growth in a mixed culture from growth curve data. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 14698-14707.	7.1	102
9	The Environment Affects Epistatic Interactions to Alter the Topology of an Empirical Fitness Landscape. PLoS Genetics, 2013, 9, e1003426.	3.5	94
10	Diminishing-returns epistasis decreases adaptability along an evolutionary trajectory. Nature Ecology and Evolution, 2017, 1, 61.	7.8	79
11	Measuring Selection Coefficients Below 10âˆ'3: Method, Questions, and Prospects. Genetics, 2012, 190, 175-186.	2.9	75
12	Systematic Perturbation of Cytoskeletal Function Reveals a Linear Scaling Relationship between Cell Geometry and Fitness. Cell Reports, 2014, 9, 1528-1537.	6.4	61
13	Expression Profiles Reveal Parallel Evolution of Epistatic Interactions Involving the CRP Regulon in Escherichia coli. PLoS Genetics, 2008, 4, e35.	3.5	59
14	Adaptive Evolution of the Lactose Utilization Network in Experimentally Evolved Populations of Escherichia coli. PLoS Genetics, 2012, 8, e1002444.	3.5	56
15	A NEGATIVE RELATIONSHIP BETWEEN MUTATION PLEIOTROPY AND FITNESS EFFECT IN YEAST. Evolution; International Journal of Organic Evolution, 2007, 61, 1495-1499.	2.3	52
16	The distribution of fitness effects of new beneficial mutations in<i>Pseudomonas fluorescens</i>. Biology Letters, 2011, 7, 98-100.	2.3	48
17	Genetic background affects epistatic interactions between two beneficial mutations. Biology Letters, 2013, 9, 20120328.	2.3	47
18	Constraints on adaptation of<i>Escherichia coli</i>to mixed-resource environments increase over time. Evolution; International Journal of Organic Evolution, 2015, 69, 2067-2078.	2.3	44

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19	Parasites and mutational load: an experimental test of a pluralistic theory for the evolution of sex. Proceedings of the Royal Society B: Biological Sciences, 2005, 272, 311-317.	2.6	43
20	Benefit of transferred mutations is better predicted by the fitness of recipients than by their ecological or genetic relatedness. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5047-5052.	7.1	41
21	Identification and dynamics of a beneficial mutation in a long-term evolution experiment with Escherichia coli. BMC Evolutionary Biology, 2009, 9, 302.	3.2	35
22	Robust Detection of Hierarchical Communities from Escherichia coli Gene Expression Data. PLoS Computational Biology, 2012, 8, e1002391.	3.2	35
23	Effect of random and hub gene disruptions on environmental and mutational robustness in Escherichia coli. BMC Genomics, 2006, 7, 237.	2.8	32
24	Cellular Growth Arrest and Persistence from Enzyme Saturation. PLoS Computational Biology, 2016, 12, e1004825.	3.2	30
25	Within-host competition selects for plasmid-encoded toxinâ€"antitoxin systems. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 3149-3155.	2.6	29
26	Effects of Beneficial Mutations in pykF Gene Vary over Time and across Replicate Populations in a Long-Term Experiment with Bacteria. Molecular Biology and Evolution, 2018, 35, 202-210.	8.9	28
27	Environment changes epistasis to alter tradeâ€offs along alternative evolutionary paths. Evolution; International Journal of Organic Evolution, 2019, 73, 2094-2105.	2.3	28
28	Evolution of bacterial diversity and the origins of modularity. Research in Microbiology, 2004, 155, 370-375.	2.1	27
29	Evolutionary history and genetic parallelism affect correlated responses to evolution. Molecular Ecology, 2013, 22, 3292-3303.	3.9	23
30	Effects of Fe nanoparticles on bacterial growth and biosurfactant production. Journal of Nanoparticle Research, 2013, 15, 1.	1.9	21
31	Mechanisms and selection of evolvability: experimental evidence. FEMS Microbiology Reviews, 2013, 37, 572-582.	8.6	19
32	Estimation of the rate and effect of new beneficial mutations in asexual populations. Theoretical Population Biology, 2012, 81, 168-178.	1.1	16
33	Transfer of Conjugative Plasmids and Bacteriophage Î» Occurs in the Presence of Antibiotics That Prevent de Novo Gene Expression. Plasmid, 2000, 43, 171-175.	1.4	13
34	Adaptation of<i>Escherichia coli</i>to glucose promotes evolvability in lactose. Evolution; International Journal of Organic Evolution, 2016, 70, 465-470.	2.3	13
35	Bacterial Evolution in High-Osmolarity Environments. MBio, 2020, 11, .	4.1	12
36	Grappling with anisotropic data, pseudo-merohedral twinning and pseudo-translational noncrystallographic symmetry: a case study involving pyruvate kinase. Acta Crystallographica Section D: Structural Biology, 2016, 72, 512-519.	2.3	10

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37	Diversity in <i>lac</i> Operon Regulation among Diverse Escherichia coli Isolates Depends on the Broader Genetic Background but Is Not Explained by Genetic Relatedness. MBio, 2019, 10, .	4.1	10
38	Historical Contingency Causes Divergence in Adaptive Expression of the <i>lac</i> Operon. Molecular Biology and Evolution, 2021, 38, 2869-2879.	8.9	6
39	The fitness challenge of studying molecular adaptation. Biochemical Society Transactions, 2019, 47, 1533-1542.	3.4	5
40	The cost of evolved constitutive <i>lac</i> gene expression is usually, but not always, maintained during evolution of generalist populations. Ecology and Evolution, 2021, 11, 12497-12507.	1.9	4
41	Metabolism gets lucky. Molecular Systems Biology, 2010, 6, 439.	7.2	3
42	Microbes exploit groundhog day. Nature, 2009, 460, 181-181.	27.8	2
43	Environmentâ€dependent costs and benefits of recombination in independently evolved populations of Escherichia coli *. Evolution; International Journal of Organic Evolution, 2020, 74, 1865-1873.	2.3	1
44	Dynamics of bacterial adaptation. Biochemical Society Transactions, 2021, 49, 945-951.	3.4	0