

R Craig Maclean

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72
papers

3,648
citations

37
h-index

60
g-index

102
ext. papers

4,908
ext. citations

9.8
avg, IF

6.15
L-index

#	Paper	IF	Citations
72	Resource competition and social conflict in experimental populations of yeast. <i>Nature</i> , 2006 , 441, 498-501	56.4	211
71	The genetic basis of the fitness costs of antimicrobial resistance: a meta-analysis approach. <i>Evolutionary Applications</i> , 2015 , 8, 284-95	4.8	198
70	Fitness Costs of Plasmids: a Limit to Plasmid Transmission. <i>Microbiology Spectrum</i> , 2017 , 5,	8.9	171
69	The Beagle in a bottle. <i>Nature</i> , 2009 , 457, 824-9	50.4	167
68	The population genetics of antibiotic resistance: integrating molecular mechanisms and treatment contexts. <i>Nature Reviews Genetics</i> , 2010 , 11, 405-14	30.1	140
67	The evolution of a pleiotropic fitness tradeoff in <i>Pseudomonas fluorescens</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004 , 101, 8072-7	11.5	135
66	Diminishing returns from beneficial mutations and pervasive epistasis shape the fitness landscape for rifampicin resistance in <i>Pseudomonas aeruginosa</i> . <i>Genetics</i> , 2010 , 186, 1345-54	4	111
65	The evolution of antibiotic resistance. <i>Science</i> , 2019 , 365, 1082-1083	33.3	107
64	Positive epistasis between co-infecting plasmids promotes plasmid survival in bacterial populations. <i>ISME Journal</i> , 2014 , 8, 601-612	11.9	104
63	Interactions between horizontally acquired genes create a fitness cost in <i>Pseudomonas aeruginosa</i> . <i>Nature Communications</i> , 2015 , 6, 6845	17.4	93
62	Balancing <i>mcr-1</i> expression and bacterial survival is a delicate equilibrium between essential cellular defence mechanisms. <i>Nature Communications</i> , 2017 , 8, 2054	17.4	91
61	Evaluating evolutionary models of stress-induced mutagenesis in bacteria. <i>Nature Reviews Genetics</i> , 2013 , 14, 221-7	30.1	89
60	The distribution of fitness effects of beneficial mutations in <i>Pseudomonas aeruginosa</i> . <i>PLoS Genetics</i> , 2009 , 5, e1000406	6	88
59	Cooperation, competition and antibiotic resistance in bacterial colonies. <i>ISME Journal</i> , 2018 , 12, 1582-1593	12.9	84
58	Experimental evolution of <i>Pseudomonas fluorescens</i> in simple and complex environments. <i>American Naturalist</i> , 2005 , 166, 470-80	3.7	84
57	Multicopy plasmids potentiate the evolution of antibiotic resistance in bacteria. <i>Nature Ecology and Evolution</i> , 2016 , 1, 10	12.3	82
56	Comparative analysis of myxococcus predation on soil bacteria. <i>Applied and Environmental Microbiology</i> , 2010 , 76, 6920-7	4.8	82

55	The Ecology and Evolution of Pangenomes. <i>Current Biology</i> , 2019 , 29, R1094-R1103	6.3	81
54	A mixture of "cheats" and "co-operators" can enable maximal group benefit. <i>PLoS Biology</i> , 2010 , 8, e1000486	4.86	81
53	Adaptive radiation in microbial microcosms. <i>Journal of Evolutionary Biology</i> , 2005 , 18, 1376-86	2.3	79
52	The tragedy of the commons in microbial populations: insights from theoretical, comparative and experimental studies. <i>Heredity</i> , 2008 , 100, 233-9	3.6	66
51	Experimental adaptive radiation in <i>Pseudomonas</i> . <i>American Naturalist</i> , 2002 , 160, 569-81	3.7	61
50	Mutations of intermediate effect are responsible for adaptation in evolving <i>Pseudomonas fluorescens</i> populations. <i>Biology Letters</i> , 2006 , 2, 236-8	3.6	55
49	Integrative analysis of fitness and metabolic effects of plasmids in <i>Pseudomonas aeruginosa</i> PAO1. <i>ISME Journal</i> , 2018 , 12, 3014-3024	11.9	54
48	Microbial Evolution: Towards Resolving the Plasmid Paradox. <i>Current Biology</i> , 2015 , 25, R764-7	6.3	52
47	The fitness cost of rifampicin resistance in <i>Pseudomonas aeruginosa</i> depends on demand for RNA polymerase. <i>Genetics</i> , 2011 , 187, 817-22	4	51
46	Epistasis between antibiotic resistance mutations and genetic background shape the fitness effect of resistance across species of <i>Pseudomonas</i> . <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2016 , 283,	4.4	51
45	Divergent evolution during an experimental adaptive radiation. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2003 , 270, 1645-50	4.4	49
44	Epistasis buffers the fitness effects of rifampicin- resistance mutations in <i>Pseudomonas aeruginosa</i> . <i>Evolution; International Journal of Organic Evolution</i> , 2011 , 65, 2370-9	3.8	48
43	The Search for Evolution-Proof Antibiotics. <i>Trends in Microbiology</i> , 2018 , 26, 471-483	12.4	43
42	Multicopy plasmids allow bacteria to escape from fitness trade-offs during evolutionary innovation. <i>Nature Ecology and Evolution</i> , 2018 , 2, 873-881	12.3	42
41	Resource competition and adaptive radiation in a microbial microcosm. <i>Ecology Letters</i> , 2004 , 8, 38-46	10	42
40	The SOS response increases bacterial fitness, but not evolvability, under a sublethal dose of antibiotic. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2015 , 282, 20150885	4.4	41
39	Beyond horizontal gene transfer: the role of plasmids in bacterial evolution. <i>Nature Reviews Microbiology</i> , 2021 , 19, 347-359	22.2	39
38	Limits to compensatory adaptation and the persistence of antibiotic resistance in pathogenic bacteria. <i>Evolution, Medicine and Public Health</i> , 2014 , 2015, 4-12	3	38

37	Fitness is strongly influenced by rare mutations of large effect in a microbial mutation accumulation experiment. <i>Genetics</i> , 2014 , 197, 981-90	4	38
36	Mutational neighbourhood and mutation supply rate constrain adaptation in <i>Pseudomonas aeruginosa</i> . <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2010 , 277, 643-50	4.4	37
35	Testing the role of genetic background in parallel evolution using the comparative experimental evolution of antibiotic resistance. <i>Molecular Biology and Evolution</i> , 2014 , 31, 3314-23	8.3	36
34	Stable public goods cooperation and dynamic social interactions in yeast. <i>Journal of Evolutionary Biology</i> , 2008 , 21, 1836-43	2.3	36
33	Linking system-wide impacts of RNA polymerase mutations to the fitness cost of rifampin resistance in <i>Pseudomonas aeruginosa</i> . <i>MBio</i> , 2014 , 5, e01562	7.8	35
32	Divergent evolution peaks under intermediate population bottlenecks during bacterial experimental evolution. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2016 , 283,	4.4	34
31	A trade-off between oxidative stress resistance and DNA repair plays a role in the evolution of elevated mutation rates in bacteria. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2013 , 280, 20130007	4.4	32
30	Assessing evolutionary risks of resistance for new antimicrobial therapies. <i>Nature Ecology and Evolution</i> , 2019 , 3, 515-517	12.3	29
29	Efflux pump activity potentiates the evolution of antibiotic resistance across <i>S. aureus</i> isolates. <i>Nature Communications</i> , 2020 , 11, 3970	17.4	26
28	Identifying and exploiting genes that potentiate the evolution of antibiotic resistance. <i>Nature Ecology and Evolution</i> , 2018 , 2, 1033-1039	12.3	24
27	Evolutionary reversals of antibiotic resistance in experimental populations of <i>Pseudomonas aeruginosa</i> . <i>Evolution; International Journal of Organic Evolution</i> , 2013 , 67, 2973-81	3.8	24
26	Sequencing of plasmids pAMBL1 and pAMBL2 from <i>Pseudomonas aeruginosa</i> reveals a blaVIM-1 amplification causing high-level carbapenem resistance. <i>Journal of Antimicrobial Chemotherapy</i> , 2015 , 70, 3000-3	5.1	23
25	Stochastic bacterial population dynamics restrict the establishment of antibiotic resistance from single cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 19455-19464	11.5	23
24	The Genomic Basis of Evolutionary Innovation in <i>Pseudomonas aeruginosa</i> . <i>PLoS Genetics</i> , 2016 , 12, e1006005	6.6	23
23	Dispersal scales up the biodiversity-productivity relationship in an experimental source-sink metacommunity. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2010 , 277, 2339-45	4.4	21
22	Environmental variation alters the fitness effects of rifampicin resistance mutations in <i>Pseudomonas aeruginosa</i> . <i>Evolution; International Journal of Organic Evolution</i> , 2016 , 70, 725-30	3.8	21
21	Parasite diversity drives rapid host dynamics and evolution of resistance in a bacteria-phage system. <i>Evolution; International Journal of Organic Evolution</i> , 2016 , 70, 969-78	3.8	20
20	Compensatory mutations modulate the competitiveness and dynamics of plasmid-mediated colistin resistance in <i>Escherichia coli</i> clones. <i>ISME Journal</i> , 2020 , 14, 861-865	11.9	18

19	Evaluating the effect of horizontal transmission on the stability of plasmids under different selection regimes. <i>Mobile Genetic Elements</i> , 2015 , 5, 1-5		16
18	The genomic basis of adaptation to the fitness cost of rifampicin resistance in <i>Pseudomonas aeruginosa</i> . <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2016 , 283,	4.4	15
17	Predicting epistasis: an experimental test of metabolic control theory with bacterial transcription and translation. <i>Journal of Evolutionary Biology</i> , 2010 , 23, 488-93	2.3	15
16	Rapid evolution and host immunity drive the rise and fall of carbapenem resistance during an acute <i>Pseudomonas aeruginosa</i> infection. <i>Nature Communications</i> , 2021 , 12, 2460	17.4	14
15	The evolution of antibiotic resistance: insight into the roles of molecular mechanisms of resistance and treatment context. <i>Discovery Medicine</i> , 2010 , 10, 112-8	2.5	13
14	Integron activity accelerates the evolution of antibiotic resistance. <i>ELife</i> , 2021 , 10,	8.9	11
13	CRISPR-Cas systems restrict horizontal gene transfer in <i>Pseudomonas aeruginosa</i> . <i>ISME Journal</i> , 2021 , 15, 1420-1433	11.9	10
12	Epistatic interactions between ancestral genotype and beneficial mutations shape evolvability in <i>Pseudomonas aeruginosa</i> . <i>Evolution; International Journal of Organic Evolution</i> , 2016 , 70, 1659-66	3.8	9
11	Fitness Costs of Plasmids: A Limit to Plasmid Transmission 2019 , 65-79		9
10	Stochastic bacterial population dynamics prevent the emergence of antibiotic resistance from single cells		5
9	Evolutionary Processes Driving the Rise and Fall of ST239, a Dominant Hybrid Pathogen.. <i>MBio</i> , 2021 , e0216821	7.8	4
8	Staphylococcal phages and pathogenicity islands drive plasmid evolution. <i>Nature Communications</i> , 2021 , 12, 5845	17.4	3
7	Susceptibility profiles and resistance genomics of <i>Pseudomonas aeruginosa</i> isolates from European ICUs participating in the ASPIRE-ICU trial.. <i>Journal of Antimicrobial Chemotherapy</i> , 2022 ,	5.1	3
6	Here's to the losers: evolvable residents accelerate the evolution of high-fitness invaders. <i>American Naturalist</i> , 2015 , 186, 41-9	3.7	2
5	Assessing the Potential for <i>Staphylococcus aureus</i> to Evolve Resistance to XF-73. <i>Trends in Microbiology</i> , 2020 , 28, 432-435	12.4	2
4	Evolutionary constraints on the acquisition of antimicrobial peptide resistance in bacterial pathogens. <i>Trends in Microbiology</i> , 2021 , 29, 1058-1061	12.4	2
3	Testing the Role of Multicopy Plasmids in the Evolution of Antibiotic Resistance. <i>Journal of Visualized Experiments</i> , 2018 ,	1.6	1
2	Evolutionary processes driving the rise and fall of <i>Staphylococcus aureus</i> ST239, a dominant hybrid pathogen		1

1 Evolution-proof Antibiotics: Response to Uecker. *Trends in Microbiology*, **2018**, 26, 970-971

12.4