R Craig Maclean

List of Publications by Year
in descending order

70 papers	5,780 citations	81900 39 h-index	91884 69 g-index
102 all docs	102 docs citations	102 times ranked	6074 citing authors

#	Article	IF	Citations
1	The evolution of antibiotic resistance. Science, 2019, 365, 1082-1083.	12.6	322
2	Fitness Costs of Plasmids: a Limit to Plasmid Transmission. Microbiology Spectrum, 2017, 5, .	3.0	312
3	The genetic basis of the fitness costs of antimicrobial resistance: a metaâ€analysis approach. Evolutionary Applications, 2015, 8, 284-295.	3.1	306
4	Resource competition and social conflict in experimental populations of yeast. Nature, 2006, 441, 498-501.	27.8	258
5	The Ecology and Evolution of Pangenomes. Current Biology, 2019, 29, R1094-R1103.	3.9	206
6	Beyond horizontal gene transfer: the role of plasmids in bacterial evolution. Nature Reviews Microbiology, 2021, 19, 347-359.	28.6	194
7	The Beagle in a bottle. Nature, 2009, 457, 824-829.	27.8	185
8	The population genetics of antibiotic resistance: integrating molecular mechanisms and treatment contexts. Nature Reviews Genetics, 2010, 11, 405-414.	16.3	181
9	Cooperation, competition and antibiotic resistance in bacterial colonies. ISME Journal, 2018, 12, 1582-1593.	9.8	160
10	Balancing mcr-1 expression and bacterial survival is a delicate equilibrium between essential cellular defence mechanisms. Nature Communications, 2017, 8, 2054.	12.8	157
11	The evolution of a pleiotropic fitness tradeoff in Pseudomonas fluorescens. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 8072-8077.	7.1	156
12	Diminishing Returns From Beneficial Mutations and Pervasive Epistasis Shape the Fitness Landscape for Rifampicin Resistance in <i>Pseudomonas aeruginosa</i>. Genetics, 2010, 186, 1345-1354.	2.9	156
13	Interactions between horizontally acquired genes create a fitness cost in Pseudomonas aeruginosa. Nature Communications, 2015, 6, 6845.	12.8	147
14	Multicopy plasmids potentiate the evolution of antibiotic resistance in bacteria. Nature Ecology and Evolution, 2017, 1, 10.	7.8	147
15	Positive epistasis between co-infecting plasmids promotes plasmid survival in bacterial populations. ISME Journal, 2014, 8, 601-612.	9.8	143
16	Comparative Analysis of <i>Myxococcus</i> Predation on Soil Bacteria. Applied and Environmental Microbiology, 2010, 76, 6920-6927.	3.1	128
17	Evaluating evolutionary models of stress-induced mutagenesis in bacteria. Nature Reviews Genetics, 2013, 14, 221-227.	16.3	115
18	A Mixture of â€œCheatsâ€• and â€œCo-Operatorsâ€• Can Enable Maximal Group Benefit. PLoS Biology, 2010, 8, e1000486.	5.6	103

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19	The Distribution of Fitness Effects of Beneficial Mutations in Pseudomonas aeruginosa. PLoS Genetics, 2009, 5, e1000406.	3.5	100
20	Experimental Evolution ofPseudomonas fluorescensin Simple and Complex Environments. American Naturalist, 2005, 166, 470-480.	2.1	98
21	The tragedy of the commons in microbial populations: insights from theoretical, comparative and experimental studies. Heredity, 2008, 100, 233-239.	2.6	94
22	Adaptive radiation in microbial microcosms. Journal of Evolutionary Biology, 2005, 18, 1376-1386.	1.7	89
23	Microbial Evolution: Towards Resolving the Plasmid Paradox. Current Biology, 2015, 25, R764-R767.	3.9	82
24	Integrative analysis of fitness and metabolic effects of plasmids in <i>Pseudomonas aeruginosa</i> PAO1. ISME Journal, 2018, 12, 3014-3024.	9.8	80
25	Epistasis between antibiotic resistance mutations and genetic background shape the fitness effect of resistance across species of<i>Pseudomonas</i>. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160151.	2.6	79
26	Efflux pump activity potentiates the evolution of antibiotic resistance across S. aureus isolates. Nature Communications, 2020, 11, 3970.	12.8	79
27	The Fitness Cost of Rifampicin Resistance in<i>Pseudomonas aeruginosa</i>Depends on Demand for RNA Polymerase. Genetics, 2011, 187, 817-822.	2.9	77
28	Multicopy plasmids allow bacteria to escape from fitness trade-offs during evolutionary innovation. Nature Ecology and Evolution, 2018, 2, 873-881.	7.8	72
29	The Search for â€˜Evolution-Proofâ€™ Antibiotics. Trends in Microbiology, 2018, 26, 471-483.	7.7	68
30	Experimental Adaptive Radiation inPseudomonas. American Naturalist, 2002, 160, 569-581.	2.1	65
31	EPISTASIS BUFFERS THE FITNESS EFFECTS OF RIFAMPICIN- RESISTANCE MUTATIONS IN PSEUDOMONAS AERUGINOSA. Evolution; International Journal of Organic Evolution, 2011, 65, 2370-2379.	2.3	65
32	Limits to compensatory adaptation and the persistence of antibiotic resistance in pathogenic bacteria. Evolution, Medicine and Public Health, 2015, 2015, 4-12.	2.5	65
33	Mutations of intermediate effect are responsible for adaptation in evolving<i>Pseudomonas fluorescens</i>populations. Biology Letters, 2006, 2, 236-238.	2.3	63
34	Fitness Is Strongly Influenced by Rare Mutations of Large Effect in a Microbial Mutation Accumulation Experiment. Genetics, 2014, 197, 981-990.	2.9	59
35	CRISPR-Cas systems restrict horizontal gene transfer in <i>Pseudomonas aeruginosa</i>. ISME Journal, 2021, 15, 1420-1433.	9.8	59
36	The SOS response increases bacterial fitness, but not evolvability, under a sublethal dose of antibiotic. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20150885.	2.6	56

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37	Linking System-Wide Impacts of RNA Polymerase Mutations to the Fitness Cost of Rifampin Resistance in Pseudomonas aeruginosa. MBio, 2014, 5, e01562.	4.1	55
38	Testing the Role of Genetic Background in Parallel Evolution Using the Comparative Experimental Evolution of Antibiotic Resistance. Molecular Biology and Evolution, 2014, 31, 3314-3323.	8.9	54
39	Stochastic bacterial population dynamics restrict the establishment of antibiotic resistance from single cells. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19455-19464.	7.1	54
40	Divergent evolution during an experimental adaptive radiation. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, 1645-1650.	2.6	52
41	Resource competition and adaptive radiation in a microbial microcosm. Ecology Letters, 2004, 8, 38-46.	6.4	52
42	Divergent evolution peaks under intermediate population bottlenecks during bacterial experimental evolution. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20160749.	2.6	51
43	Rapid evolution and host immunity drive the rise and fall of carbapenem resistance during an acute Pseudomonas aeruginosa infection. Nature Communications, 2021, 12, 2460.	12.8	47
44	Stable public goods cooperation and dynamic social interactions in yeast. Journal of Evolutionary Biology, 2008, 21, 1836-1843.	1.7	44
45	Integron activity accelerates the evolution of antibiotic resistance. ELife, 2021, 10, .	6.0	43
46	Mutational neighbourhood and mutation supply rate constrain adaptation in<i>Pseudomonas aeruginosa</i>. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 643-650.	2.6	42
47	Identifying and exploiting genes that potentiate the evolution of antibiotic resistance. Nature Ecology and Evolution, 2018, 2, 1033-1039.	7.8	41
48	A trade-off between oxidative stress resistance and DNA repair plays a role in the evolution of elevated mutation rates in bacteria. Proceedings of the Royal Society B: Biological Sciences, 2013, 280, 20130007.	2.6	40
49	Compensatory mutations modulate the competitiveness and dynamics of plasmid-mediated colistin resistance in <i>Escherichia coli</i> clones. ISME Journal, 2020, 14, 861-865.	9.8	38
50	Assessing evolutionary risks of resistance for new antimicrobial therapies. Nature Ecology and Evolution, 2019, 3, 515-517.	7.8	37
51	Sequencing of plasmids pAMBL1 and pAMBL2 from<i>Pseudomonas aeruginosa</i>reveals a<i>bla</i>_{VIM-1}amplification causing high-level carbapenem resistance. Journal of Antimicrobial Chemotherapy, 2015, 70, 3000-3003.	3.0	35
52	The Genomic Basis of Evolutionary Innovation in Pseudomonas aeruginosa. PLoS Genetics, 2016, 12, e1006005.	3.5	35
53	Environmental variation alters the fitness effects of rifampicin resistance mutations in<i>Pseudomonas aeruginosa</i>. Evolution; International Journal of Organic Evolution, 2016, 70, 725-730.	2.3	30
54	Dispersal scales up the biodiversityâ€"productivity relationship in an experimental source-sink metacommunity. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 2339-2345.	2.6	27

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55	EVOLUTIONARY REVERSALS OF ANTIBIOTIC RESISTANCE IN EXPERIMENTAL POPULATIONS OF<i>PSEUDOMONAS AERUGINOSA</i>. Evolution; International Journal of Organic Evolution, 2013, 67, n/a-n/a.	2.3	26
56	Staphylococcal phages and pathogenicity islands drive plasmid evolution. Nature Communications, 2021, 12, 5845.	12.8	26
57	Predicting epistasis: an experimental test of metabolic control theory with bacterial transcription and translation. Journal of Evolutionary Biology, 2010, 23, 488-493.	1.7	25
58	The genomic basis of adaptation to the fitness cost of rifampicin resistance in<i>Pseudomonas aeruginosa</i>. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20152452.	2.6	25
59	Parasite diversity drives rapid host dynamics and evolution of resistance in a bacteria-phage system. Evolution; International Journal of Organic Evolution, 2016, 70, 969-978.	2.3	24
60	Susceptibility profiles and resistance genomics of <i>Pseudomonas aeruginosa</i> isolates from European ICUs participating in the ASPIRE-ICU trial. Journal of Antimicrobial Chemotherapy, 2022, 77, 1862-1872.	3.0	23
61	Evaluating the effect of horizontal transmission on the stability of plasmids under different selection regimes. Mobile Genetic Elements, 2015, 5, 29-33.	1.8	20
62	Evolutionary constraints on the acquisition of antimicrobial peptide resistance in bacterial pathogens. Trends in Microbiology, 2021, 29, 1058-1061.	7.7	20
63	Epistatic interactions between ancestral genotype and beneficial mutations shape evolvability in<i>Pseudomonas aeruginosa</i>. Evolution; International Journal of Organic Evolution, 2016, 70, 1659-1666.	2.3	18
64	Fitness Costs of Plasmids: A Limit to Plasmid Transmission. , 0, , 65-79.		18
65	The evolution of antibiotic resistance: insight into the roles of molecular mechanisms of resistance and treatment context. Discovery Medicine, 2010, 10, 112-8.	0.5	13
66	Evolutionary Processes Driving the Rise and Fall of <i>Staphylococcus aureus</i> ST239, a Dominant Hybrid Pathogen. MBio, 2021, 12, e0216821.	4.1	9
67	Assessing the Potential for Staphylococcus aureus to Evolve Resistance to XF-73. Trends in Microbiology, 2020, 28, 432-435.	7.7	4
68	Testing the Role of Multicopy Plasmids in the Evolution of Antibiotic Resistance. Journal of Visualized Experiments, 2018, , .	0.3	3
69	Hereâ€™s to the Losers: Evolvable Residents Accelerate the Evolution of High-Fitness Invaders. American Naturalist, 2015, 186, 41-49.	2.1	2
70	Evolution-proof Antibiotics: Response to Uecker. Trends in Microbiology, 2018, 26, 970-971.	7.7	0