

Vaughn S Cooper

List of Publications by Citations

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124
papers

3,334
citations

31
h-index

53
g-index

169
ext. papers

4,609
ext. citations

7.3
avg, IF

5.71
L-index

#	Paper	IF	Citations
124	The population genetics of ecological specialization in evolving <i>Escherichia coli</i> populations. <i>Nature</i> , 2000 , 407, 736-9	50.4	383
123	Mechanisms causing rapid and parallel losses of ribose catabolism in evolving populations of <i>Escherichia coli</i> B. <i>Journal of Bacteriology</i> , 2001 , 183, 2834-41	3.5	214
122	Ceftolozane-Tazobactam for the Treatment of Multidrug-Resistant <i>Pseudomonas aeruginosa</i> Infections: Clinical Effectiveness and Evolution of Resistance. <i>Clinical Infectious Diseases</i> , 2017 , 65, 110-120	11.6	167
121	Tangled bank of experimentally evolved <i>Burkholderia</i> biofilms reflects selection during chronic infections. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E250-9	11.5	132
120	Evolution of thermal dependence of growth rate of <i>Escherichia coli</i> populations during 20,000 generations in a constant environment. <i>Evolution; International Journal of Organic Evolution</i> , 2001 , 55, 889-96	3.8	121
119	Ecological succession in long-term experimentally evolved biofilms produces synergistic communities. <i>ISME Journal</i> , 2011 , 5, 369-78	11.9	113
118	TRADEOFF BETWEEN HORIZONTAL AND VERTICAL MODES OF TRANSMISSION IN BACTERIAL PLASMIDS. <i>Evolution; International Journal of Organic Evolution</i> , 1998 , 52, 315-329	3.8	101
117	Why genes evolve faster on secondary chromosomes in bacteria. <i>PLoS Computational Biology</i> , 2010 , 6, e1000732	5	71
116	The environment affects epistatic interactions to alter the topology of an empirical fitness landscape. <i>PLoS Genetics</i> , 2013 , 9, e1003426	6	67
115	Evolutionary pathways to antibiotic resistance are dependent upon environmental structure and bacterial lifestyle. <i>ELife</i> , 2019 , 8,	8.9	58
114	Genome-wide analysis of influenza viral RNA and nucleoprotein association. <i>Nucleic Acids Research</i> , 2017 , 45, 8968-8977	20.1	55
113	Long-Term Evolution of during a Chronic Cystic Fibrosis Infection Reveals Shifting Forces of Selection. <i>MSystems</i> , 2016 , 1,	7.6	55
112	RelA Mutant <i>Enterococcus faecium</i> with Multiantibiotic Tolerance Arising in an Immunocompromised Host. <i>MBio</i> , 2017 , 8,	7.8	53
111	Emergence in late 2020 of multiple lineages of SARS-CoV-2 Spike protein variants affecting amino acid position 677 2021 ,		53
110	Genome-Wide Biases in the Rate and Molecular Spectrum of Spontaneous Mutations in <i>Vibrio cholerae</i> and <i>Vibrio fischeri</i> . <i>Molecular Biology and Evolution</i> , 2017 , 34, 93-109	8.3	52
109	The Rate and Molecular Spectrum of Spontaneous Mutations in the GC-Rich Multichromosome Genome of <i>Burkholderia cenocepacia</i> . <i>Genetics</i> , 2015 , 200, 935-46	4	51
108	Experimental Evolution as a High-Throughput Screen for Genetic Adaptations. <i>MSphere</i> , 2018 , 3,	5	47

107	Evolution of Ecological Diversity in Biofilms of <i>Pseudomonas aeruginosa</i> by Altered Cyclic Diguanylate Signaling. <i>Journal of Bacteriology</i> , 2016 , 198, 2608-18	3.5	46
106	Evolution of the Insertion-Deletion Mutation Rate Across the Tree of Life. <i>G3: Genes, Genomes, Genetics</i> , 2016 , 6, 2583-91	3.2	45
105	Rapid phenotypic change and diversification of a soil bacterium during 1000 generations of experimental evolution. <i>Microbiology (United Kingdom)</i> , 2001 , 147, 995-1006	2.9	44
104	Genetic requirements for <i>Staphylococcus aureus</i> nitric oxide resistance and virulence. <i>PLoS Pathogens</i> , 2018 , 14, e1006907	7.6	42
103	Timing of transmission and the evolution of virulence of an insect virus. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2002 , 269, 1161-5	4.4	41
102	Phylogenomic Study of <i>Burkholderia glathei</i> -like Organisms, Proposal of 13 Novel <i>Burkholderia</i> Species and Emended Descriptions of <i>Burkholderia sordidicola</i> , <i>Burkholderia zhejiangensis</i> , and <i>Burkholderia grimmiae</i> . <i>Frontiers in Microbiology</i> , 2016 , 7, 877	5.7	40
101	Structural modification of LPS in colistin-resistant, KPC-producing <i>Klebsiella pneumoniae</i> . <i>Journal of Antimicrobial Chemotherapy</i> , 2017 , 72, 3035-3042	5.1	39
100	Laboratory Evolution of Microbial Interactions in Bacterial Biofilms. <i>Journal of Bacteriology</i> , 2016 , 198, 2564-71	3.5	39
99	Glutathione-S-transferase FosA6 of <i>Klebsiella pneumoniae</i> origin conferring fosfomycin resistance in ESBL-producing <i>Escherichia coli</i> . <i>Journal of Antimicrobial Chemotherapy</i> , 2016 , 71, 2460-5	5.1	36
98	Parallel genetic adaptation across environments differing in mode of growth or resource availability. <i>Evolution Letters</i> , 2018 , 2, 355-367	5.3	35
97	Synonymous mutations make dramatic contributions to fitness when growth is limited by a weak-link enzyme. <i>PLoS Genetics</i> , 2018 , 14, e1007615	6	35
96	Antibiotic resistance correlates with transmission in plasmid evolution. <i>Evolution; International Journal of Organic Evolution</i> , 2014 , 68, 3368-80	3.8	32
95	Parallel evolution of small colony variants in <i>Burkholderia cenocepacia</i> biofilms. <i>Genomics</i> , 2014 , 104, 447-52	4.3	32
94	Character displacement and the evolution of niche complementarity in a model biofilm community. <i>Evolution; International Journal of Organic Evolution</i> , 2015 , 69, 283-93	3.8	32
93	Genetic characterization of clinical and environmental <i>Vibrio parahaemolyticus</i> from the Northeast USA reveals emerging resident and non-indigenous pathogen lineages. <i>Frontiers in Microbiology</i> , 2015 , 6, 272	5.7	30
92	An insect pathogenic symbiosis between a <i>Caenorhabditis</i> and <i>Serratia</i> . <i>Virulence</i> , 2011 , 2, 158-61	4.7	29
91	Evolution of Outbreak-Causing Carbapenem-Resistant <i>Klebsiella pneumoniae</i> ST258 at a Tertiary Care Hospital over 8 Years. <i>MBio</i> , 2019 , 10,	7.8	27
90	Influence of seasonality on the genetic diversity of <i>Vibrio parahaemolyticus</i> in New Hampshire shellfish waters as determined by multilocus sequence analysis. <i>Applied and Environmental Microbiology</i> , 2012 , 78, 3778-82	4.8	27

89	Host-selected mutations converging on a global regulator drive an adaptive leap towards symbiosis in bacteria. <i>ELife</i> , 2017 , 6,	8.9	27
88	Evolutionary rates and gene dispensability associate with replication timing in the archaeon <i>Sulfolobus islandicus</i> . <i>Genome Biology and Evolution</i> , 2010 , 2, 859-69	3.9	25
87	Role of bacterial motility in differential resistance mechanisms of silver nanoparticles and silver ions. <i>Nature Nanotechnology</i> , 2021 , 16, 996-1003	28.7	25
86	Experimental adaptation of <i>Burkholderia cenocepacia</i> to onion medium reduces host range. <i>Applied and Environmental Microbiology</i> , 2010 , 76, 2387-96	4.8	24
85	Benefit of transferred mutations is better predicted by the fitness of recipients than by their ecological or genetic relatedness. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 5047-52	11.5	24
84	Parallel Evolution of Tobramycin Resistance across Species and Environments. <i>MBio</i> , 2020 , 11,	7.8	23
83	<i>Pseudomonas aeruginosa</i> Interstrain Dynamics and Selection of Hyperbiofilm Mutants during a Chronic Infection. <i>MBio</i> , 2019 , 10,	7.8	23
82	Ecology and genetic structure of a northern temperate <i>Vibrio cholerae</i> population related to toxigenic isolates. <i>Applied and Environmental Microbiology</i> , 2011 , 77, 7568-75	4.8	23
81	Susceptibility of <i>Caenorhabditis elegans</i> to <i>Burkholderia</i> infection depends on prior diet and secreted bacterial attractants. <i>PLoS ONE</i> , 2009 , 4, e7961	3.7	23
80	Frequency and Mechanisms of Spontaneous Fosfomycin Nonsusceptibility Observed upon Disk Diffusion Testing of <i>Escherichia coli</i> . <i>Journal of Clinical Microbiology</i> , 2018 , 56,	9.7	23
79	New Insights from Elucidating the Role of LMP1 in Nasopharyngeal Carcinoma. <i>Cancers</i> , 2018 , 10,	6.6	22
78	Evolutionary effects of translocations in bacterial genomes. <i>Genome Biology and Evolution</i> , 2012 , 4, 1256-62	3.6	21
77	Long-term experimental evolution in <i>Escherichia coli</i> . X. Quantifying the fundamental and realized niche. <i>BMC Evolutionary Biology</i> , 2002 , 2, 12	3	21
76	Thrombospondin-1 protects against pathogen-induced lung injury by limiting extracellular matrix proteolysis. <i>JCI Insight</i> , 2018 , 3,	9.9	21
75	Systematic detection of horizontal gene transfer across genera among multidrug-resistant bacteria in a single hospital. <i>ELife</i> , 2020 , 9,	8.9	21
74	Mapping of Influenza Virus RNA-RNA Interactions Reveals a Flexible Network. <i>Cell Reports</i> , 2020 , 31, 107823	10.6	19
73	There and back again: consequences of biofilm specialization under selection for dispersal. <i>Frontiers in Genetics</i> , 2015 , 6, 18	4.5	18
72	Environmental Conditions Associated with Elevated <i>Vibrio parahaemolyticus</i> Concentrations in Great Bay Estuary, New Hampshire. <i>PLoS ONE</i> , 2016 , 11, e0155018	3.7	17

71	Diverse phenotypic and genetic responses to short-term selection in evolving <i>Escherichia coli</i> populations. <i>Evolution; International Journal of Organic Evolution</i> , 2016 , 70, 586-99	3.8	17
70	Outbreak of Vancomycin-resistant <i>Enterococcus faecium</i> in Interventional Radiology: Detection Through Whole-genome Sequencing-based Surveillance. <i>Clinical Infectious Diseases</i> , 2020 , 70, 2336-2343 ^{11.6}		17
69	Periodic Variation of Mutation Rates in Bacterial Genomes Associated with Replication Timing. <i>MBio</i> , 2018 , 9,	7.8	16
68	Breaking the language barrier: experimental evolution of non-native <i>Vibrio fischeri</i> in squid tailors luminescence to the host. <i>Symbiosis</i> , 2010 , 51, 85-96	3	16
67	Outbreak of <i>Klebsiella pneumoniae</i> Carbapenemase-Producing <i>Citrobacter freundii</i> at a Tertiary Acute Care Facility in Miami, Florida. <i>Infection Control and Hospital Epidemiology</i> , 2017 , 38, 320-326	2	15
66	Genomic and Chemical Diversity of <i>Bacillus subtilis</i> Secondary Metabolites against Plant Pathogenic Fungi. <i>MSystems</i> , 2021 , 6,	7.6	15
65	Structural basis of DSF recognition by its receptor RpfR and its regulatory interaction with the DSF synthase RpfF. <i>PLoS Biology</i> , 2019 , 17, e3000123	9.7	14
64	Use of Whole-Genome Phylogeny and Comparisons for Development of a Multiplex PCR Assay To Identify Sequence Type 36 <i>Vibrio parahaemolyticus</i> . <i>Journal of Clinical Microbiology</i> , 2015 , 53, 1864-72	9.7	14
63	Genome sequence and comparative analysis of a putative entomopathogenic <i>Serratia</i> isolated from <i>Caenorhabditis briggsae</i> . <i>BMC Genomics</i> , 2015 , 16, 531	4.5	14
62	Phylogenomics of colistin-susceptible and resistant XDR <i>Acinetobacter baumannii</i> . <i>Journal of Antimicrobial Chemotherapy</i> , 2018 , 73, 2952-2959	5.1	14
61	Parallel Evolution of Two Clades of an Atlantic-Endemic Pathogenic Lineage of <i>Vibrio parahaemolyticus</i> by Independent Acquisition of Related Pathogenicity Islands. <i>Applied and Environmental Microbiology</i> , 2017 , 83,	4.8	14
60	High-Level Fosfomycin Resistance in Vancomycin-Resistant <i>Enterococcus faecium</i> . <i>Emerging Infectious Diseases</i> , 2017 , 23, 1902-1904	10.2	13
59	The origins of specialization: insights from bacteria held 25 years in captivity. <i>PLoS Biology</i> , 2014 , 12, e1001790	9.7	13
58	Non-Uniform and Non-Random Binding of Nucleoprotein to Influenza A and B Viral RNA. <i>Viruses</i> , 2018 , 10,	6.2	13
57	Sequence Type 631 <i>Vibrio parahaemolyticus</i> , an Emerging Foodborne Pathogen in North America. <i>Journal of Clinical Microbiology</i> , 2017 , 55, 645-648	9.7	12
56	Forecasting Seasonal Concentrations in New England Shellfish. <i>International Journal of Environmental Research and Public Health</i> , 2019 , 16,	4.6	12
55	Hidden resources in the genome restore PLP synthesis and robust growth after deletion of the essential gene. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 24164-24173	11.5	12
54	Experimental Evolution To Identify Selective Pressures during Pneumococcal Colonization. <i>MSystems</i> , 2020 , 5,	7.6	11

53	The Fitness Effects of Spontaneous Mutations Nearly Unseen by Selection in a Bacterium with Multiple Chromosomes. <i>Genetics</i> , 2016 , 204, 1225-1238	4	11
52	The OmpR Regulator of Burkholderia multivorans Controls Mucoïd-to-Nonmucoïd Transition and Other Cell Envelope Properties Associated with Persistence in the Cystic Fibrosis Lung. <i>Journal of Bacteriology</i> , 2018 , 200,	3.5	11
51	Environment changes epistasis to alter trade-offs along alternative evolutionary paths. <i>Evolution; International Journal of Organic Evolution</i> , 2019 , 73, 2094-2105	3.8	11
50	One gene, multiple ecological strategies: A biofilm regulator is a capacitor for sustainable diversity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 21647-21657	11.5	11
49	NADH Dehydrogenases in Growth and Virulence. <i>Frontiers in Microbiology</i> , 2019 , 10, 75	5.7	10
48	Characterization of a Novel IncHI2 Plasmid Carrying Tandem Copies of blaCTX-M-2 in a fosA6-Harboring Escherichia coli Sequence Type 410 Strain. <i>Antimicrobial Agents and Chemotherapy</i> , 2016 , 60, 6742-6747	5.9	10
47	Complete Genome Sequences of 13 Bacillus subtilis Soil Isolates for Studying Secondary Metabolite Diversity. <i>Microbiology Resource Announcements</i> , 2020 , 9,	1.3	9
46	Structure of O-Antigen and Hybrid Biosynthetic Locus in Clonal Variants Recovered from a Cystic Fibrosis Patient. <i>Frontiers in Microbiology</i> , 2017 , 8, 1027	5.7	9
45	Susceptibility of Multidrug-Resistant Pseudomonas aeruginosa Following Treatment-Emergent Resistance to Ceftolozane-Tazobactam. <i>Antimicrobial Agents and Chemotherapy</i> , 2021 , 65,	5.9	9
44	Expression of myeloid Src-family kinases is associated with poor prognosis in AML and influences Flt3-ITD kinase inhibitor acquired resistance. <i>PLoS ONE</i> , 2019 , 14, e0225887	3.7	9
43	Clostridioides difficile: a potential source of NpmA in the clinical environment. <i>Journal of Antimicrobial Chemotherapy</i> , 2019 , 74, 521-523	5.1	9
42	Quorum sensing provides a molecular mechanism for evolution to tune and maintain investment in cooperation. <i>ISME Journal</i> , 2021 , 15, 1236-1247	11.9	9
41	High-Level Carbapenem Resistance in OXA-232-Producing Raoultella ornithinolytica Triggered by Ertapenem Therapy. <i>Antimicrobial Agents and Chemotherapy</i> , 2019 , 64,	5.9	8
40	Use of online tools for antimicrobial resistance prediction by whole-genome sequencing in methicillin-resistant Staphylococcus aureus (MRSA) and vancomycin-resistant enterococci (VRE). <i>Journal of Global Antimicrobial Resistance</i> , 2019 , 19, 136-143	3.4	8
39	A method of processing nasopharyngeal swabs to enable multiple testing. <i>Pediatric Research</i> , 2019 , 86, 651-654	3.2	8
38	Comparative genomics of Burkholderia multivorans, a ubiquitous pathogen with a highly conserved genomic structure. <i>PLoS ONE</i> , 2017 , 12, e0176191	3.7	8
37	EVOLUTION OF THERMAL DEPENDENCE OF GROWTH RATE OF ESCHERICHIA COLI POPULATIONS DURING 20,000 GENERATIONS IN A CONSTANT ENVIRONMENT. <i>Evolution; International Journal of Organic Evolution</i> , 2007 , 55, 889-896	3.8	7
36	Mutations that improve efficiency of a weak-link enzyme are rare compared to adaptive mutations elsewhere in the genome. <i>ELife</i> , 2019 , 8,	8.9	7

35	EvolvingSTEM: a microbial evolution-in-action curriculum that enhances learning of evolutionary biology and biotechnology. <i>Evolution: Education and Outreach</i> , 2019 , 12, 12	1.6	5
34	Use of a cohorting-unit and systematic surveillance cultures to control a Klebsiella pneumoniae carbapenemase (KPC)-producing Enterobacteriaceae outbreak. <i>Infection Control and Hospital Epidemiology</i> , 2019 , 40, 767-773	2	5
33	Negative frequency-dependent selection maintains coexisting genotypes during fluctuating selection. <i>Molecular Ecology</i> , 2020 , 29, 138-148	5.7	5
32	Polygenic Adaptation and Clonal Interference Enable Sustained Diversity in Experimental Pseudomonas aeruginosa Populations. <i>Molecular Biology and Evolution</i> , 2021 , 38, 5359-5375	8.3	4
31	Adaptation and Survival of and During Long-Term Incubation in Saline Solutions Containing Benzalkonium Chloride. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020 , 8, 630	5.8	3
30	Whole Genome Sequencing Surveillance and Machine Learning of the Electronic Health Record for Enhanced Healthcare Outbreak Detection. <i>Clinical Infectious Diseases</i> , 2021 ,	11.6	3
29	Adaptation and genomic erosion in fragmented Pseudomonas aeruginosa populations in the sinuses of people with cystic fibrosis. <i>Cell Reports</i> , 2021 , 37, 109829	10.6	3
28	Outbreak of Pseudomonas aeruginosa Infections from a Contaminated Gastroscope Detected by Whole Genome Sequencing Surveillance. <i>Clinical Infectious Diseases</i> , 2021 , 73, e638-e642	11.6	3
27	SARS-CoV-2 genome evolution exposes early human adaptations		3
26	Rampant prophage movement among transient competitors drives rapid adaptation during infection. <i>Science Advances</i> , 2021 , 7,	14.3	3
25	Emergence of an early SARS-CoV-2 epidemic in the United States 2021 ,		3
24	Improved Detection of Culprit Pathogens by Bacterial DNA Sequencing Affects Antibiotic Management Decisions in Severe Pneumonia. <i>American Journal of Case Reports</i> , 2018 , 19, 1405-1409	1.3	3
23	The roles of history, chance, and natural selection in the evolution of antibiotic resistance. <i>ELife</i> , 2021 , 10,	8.9	3
22	The Study of Microbial Adaptation by Long-Term Experimental Evolution55-81		2
21	Author response: Systematic detection of horizontal gene transfer across genera among multidrug-resistant bacteria in a single hospital 2020 ,		2
20	The roles of history, chance, and natural selection in the evolution of antibiotic resistance		2
19	Genomic and chemical diversity of Bacillus subtilis secondary metabolites against plant pathogenic fungi		2
18	Evolutionary pathways to antibiotic resistance are dependent upon environmental structure and bacterial lifestyle		2

17	Staphylococcus aureus genotype variation among and within periprosthetic joint infections. <i>Journal of Orthopaedic Research</i> , 2021 ,	3.8	2
16	Quantitative mapping of mRNA 3' ends in <i>Pseudomonas aeruginosa</i> reveals a pervasive role for premature 3' end formation in response to azithromycin. <i>PLoS Genetics</i> , 2021 , 17, e1009634	6	2
15	Evolutionary Divergence of the Wsp Signal Transduction Systems in Beta- and Gammaproteobacteria. <i>Applied and Environmental Microbiology</i> , 2021 , 87, e0130621	4.8	2
14	Emergence of an early SARS-CoV-2 epidemic in the United States. <i>Cell</i> , 2021 , 184, 4939-4952.e15	56.2	2
13	Reduced ceftazidime and ertapenem susceptibility due to production of OXA-2 in <i>Klebsiella pneumoniae</i> ST258. <i>Journal of Antimicrobial Chemotherapy</i> , 2019 , 74, 2203-2208	5.1	1
12	Comparative Evolutionary Patterns of and During Chronic Co-infection of a Cystic Fibrosis Patient Lung. <i>Frontiers in Microbiology</i> , 2020 , 11, 574626	5.7	1
11	Experimental evolution to identify undescribed mechanisms of resistance to a novel cationic peptide antibiotic		1
10	Bacterial community profiles and <i>Vibrio parahaemolyticus</i> abundance in individual oysters and their association with estuarine ecology		1
9	The <i>Pseudomonas aeruginosa</i> Wsp pathway undergoes positive evolutionary selection during chronic infection		1
8	Parallel evolution of tobramycin resistance across species and environments		1
7	SprayNPray: user-friendly taxonomic profiling of genome and metagenome contigs		1
6	Evolution towards Virulence in a Two-Component System. <i>MBio</i> , 2021 , 12, e0182321	7.8	1
5	The nutritional environment is sufficient to select coexisting biofilm and quorum-sensing mutants of .. <i>Journal of Bacteriology</i> , 2022 , JB0044421	3.5	0
4	Carbapenem-Resistant <i>Acinetobacter baumannii</i> in U.S. Hospitals: Diversification of Circulating Lineages and Antimicrobial Resistance.. <i>MBio</i> , 2022 , e0275921	7.8	0
3	Immunosuppression broadens evolutionary pathways to drug resistance and treatment failure during <i>Acinetobacter baumannii</i> pneumonia in mice. <i>Nature Microbiology</i> , 2022 , 7, 796-809	26.6	0
2	Experimental Evolution of Pathogens		
1	SprayNPray: user-friendly taxonomic profiling of genome and metagenome contigs.. <i>BMC Genomics</i> , 2022 , 23, 202	4.5	