Bruce R Levin

List of Publications by Year
in descending order

83 papers	13,054 citations	38660 50 h-index	58464 82 g-index
93 all docs	93 docs citations	93 times ranked	11146 citing authors

#	Article	IF	Citations
1	Translational demand is not a major source of plasmid-associated fitness costs. Philosophical Transactions of the Royal Society B: Biological Sciences, 2022, 377, 20200463.	1.8	10
2	Proximate and ultimate causes of the bactericidal action of antibiotics. Nature Reviews Microbiology, 2021, 19, 123-132.	13.6	140
3	Evaluating the potential efficacy and limitations of a phage for joint antibiotic and phage therapy of <i>Staphylococcus aureus</i> infections. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	39
4	Human antimicrobial peptide, LL-37, induces non-inheritable reduced susceptibility to vancomycin in Staphylococcus aureus. Scientific Reports, 2020, 10, 13121.	1.6	13
5	It is unclear how important CRISPR-Cas systems are for protecting natural populations of bacteria against infections by mobile genetic elements. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27777-27785.	3.3	32
6	Antibiotic Killing of Diversely Generated Populations of Nonreplicating Bacteria. Antimicrobial Agents and Chemotherapy, 2019, 63, .	1.4	48
7	Why put up with immunity when there is resistance: an excursion into the population and evolutionary dynamics of restrictionâ€“modification and CRISPR-Cas. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20180096.	1.8	35
8	Definitions and guidelines for research on antibiotic persistence. Nature Reviews Microbiology, 2019, 17, 441-448.	13.6	748
9	The high prevalence of antibiotic heteroresistance in pathogenic bacteria is mainly caused by gene amplification. Nature Microbiology, 2019, 4, 504-514.	5.9	259
10	Promises and Pitfalls of In Vivo Evolution to Improve Phage Therapy. Viruses, 2019, 11, 1083.	1.5	24
11	Phageâ€“host population dynamics promotes prophage acquisition in bacteria with innate immunity. Nature Ecology and Evolution, 2018, 2, 359-366.	3.4	56
12	Leaky resistance and the conditions for the existence of lytic bacteriophage. PLoS Biology, 2018, 16, e2005971.	2.6	58
13	Development of macrolide resistance in Bordetella bronchiseptica is associated with the loss of virulence. Journal of Antimicrobial Chemotherapy, 2018, 73, 2797-2805.	1.3	9
14	A Numbers Game: Ribosome Densities, Bacterial Growth, and Antibiotic-Mediated Stasis and Death. MBio, 2017, 8, .	1.8	46
15	Phagocytes, Antibiotics, and Self-Limiting Bacterial Infections. Trends in Microbiology, 2017, 25, 878-892.	3.5	49
16	Evolution, human-microbe interactions, and life history plasticity. Lancet, The, 2017, 390, 521-530.	6.3	178
17	Competitive Dominance within Biofilm Consortia Regulates the Relative Distribution of Pneumococcal Nasopharyngeal Density. Applied and Environmental Microbiology, 2017, 83, .	1.4	17
18	Growth of bacteria in 3-d colonies. PLoS Computational Biology, 2017, 13, e1005679.	1.5	38

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19	Synergy and Order Effects of Antibiotics and Phages in Killing Pseudomonas aeruginosa Biofilms. PLoS ONE, 2017, 12, e0168615.	1.1	281
20	Malthusian Parameters as Estimators of the Fitness of Microbes: A Cautionary Tale about the Low Side of High Throughput. PLoS ONE, 2015, 10, e0126915.	1.1	36
21	Phenotypic Resistance and the Dynamics of Bacterial Escape from Phage Control. PLoS ONE, 2014, 9, e94690.	1.1	105
22	Evolution of Bacterial-Host Interactions: Virulence and the Immune Overresponse. , 2014, , 1-12.		1
23	Exploring the collaboration between antibiotics and the immune response in the treatment of acute, self-limiting infections. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8331-8338.	3.3	111
24	Persistence: a copacetic and parsimonious hypothesis for the existence of non-inherited resistance to antibiotics. Current Opinion in Microbiology, 2014, 21, 18-21.	2.3	73
25	Dealing with the Evolutionary Downside of CRISPR Immunity: Bacteria and Beneficial Plasmids. PLoS Genetics, 2013, 9, e1003844.	1.5	227
26	Pharmacodynamics, Population Dynamics, and the Evolution of Persistence in Staphylococcus aureus. PLoS Genetics, 2013, 9, e1003123.	1.5	155
27	The Pharmaco â€“, Population and Evolutionary Dynamics of Multi-drug Therapy: Experiments with S. aureus and E. coli and Computer Simulations. PLoS Pathogens, 2013, 9, e1003300.	2.1	39
28	The Population and Evolutionary Dynamics of Phage and Bacteria with CRISPRâ€“Mediated Immunity. PLoS Genetics, 2013, 9, e1003312.	1.5	147
29	Normal Mutation Rate Variants Arise in a Mutator (Mut S) Escherichia coli Population. PLoS ONE, 2013, 8, e72963.	1.1	37
30	Two-Drug Antimicrobial Chemotherapy: A Mathematical Model and Experiments with Mycobacterium marinum. PLoS Pathogens, 2012, 8, e1002487.	2.1	48
31	The Relative Contributions of Physical Structure and Cell Density to the Antibiotic Susceptibility of Bacteria in Biofilms. Antimicrobial Agents and Chemotherapy, 2012, 56, 2967-2975.	1.4	69
32	Staphylococcus aureus in Continuous Culture: A Tool for the Rational Design of Antibiotic Treatment Protocols. PLoS ONE, 2012, 7, e38866.	1.1	9
33	The Population and Evolutionary Dynamics of<i>Vibrio cholerae</i>and Its Bacteriophage: Conditions for Maintaining Phage-Limited Communities. American Naturalist, 2011, 178, 715-725.	1.0	35
34	The population dynamics of bacteria in physically structured habitats and the adaptive virtue of random motility. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 4047-4052.	3.3	55
35	Population Dynamics of Antibiotic Treatment: a Mathematical Model and Hypotheses for Time-Kill and Continuous-Culture Experiments. Antimicrobial Agents and Chemotherapy, 2010, 54, 3414-3426.	1.4	70
36	An experimental study of the population and evolutionary dynamics of<i>Vibrio cholerae</i>O1 and the bacteriophage JSF4. Proceedings of the Royal Society B: Biological Sciences, 2010, 277, 3247-3254.	1.2	31

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37	Nasty Viruses, Costly Plasmids, Population Dynamics, and the Conditions for Establishing and Maintaining CRISPR-Mediated Adaptive Immunity in Bacteria. PLoS Genetics, 2010, 6, e1001171.	1.5	104
38	The Population and Evolutionary Dynamics of Homologous Gene Recombination in Bacteria. PLoS Genetics, 2009, 5, e1000601.	1.5	85
39	Exploring the role of the immune response in preventing antibiotic resistance. Journal of Theoretical Biology, 2009, 256, 655-662.	0.8	75
40	Functional relationship between bacterial cell density and the efficacy of antibiotics. Journal of Antimicrobial Chemotherapy, 2009, 63, 745-757.	1.3	212
41	The evolution of contact-dependent inhibition in non-growing populations of<i>Escherichia coli</i>. Proceedings of the Royal Society B: Biological Sciences, 2008, 275, 3-10.	1.2	33
42	Antiviral Resistance and the Control of Pandemic Influenza. PLoS Medicine, 2007, 4, e15.	3.9	182
43	Grazing protozoa and the evolution of the Escherichia coli O157:H7 Shiga toxin-encoding prophage. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 1921-1929.	1.2	150
44	Fitness Costs of Fluoroquinolone Resistance in Streptococcus pneumoniae. Antimicrobial Agents and Chemotherapy, 2007, 51, 412-416.	1.4	133
45	Non-inherited antibiotic resistance. Nature Reviews Microbiology, 2006, 4, 556-562.	13.6	447
46	Modeling the role of bacteriophage in the control of cholera outbreaks. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 4652-4657.	3.3	173
47	Pharmacodynamic Functions: a Multiparameter Approach to the Design of Antibiotic Treatment Regimens. Antimicrobial Agents and Chemotherapy, 2004, 48, 3670-3676.	1.4	298
48	Hypermutation and the Preexistence of Antibiotic-Resistant Pseudomonas aeruginosa Mutants: Implications for Susceptibility Testing and Treatment of Chronic Infections. Antimicrobial Agents and Chemotherapy, 2004, 48, 4226-4233.	1.4	138
49	Cycling antibiotics may not be good for your health. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 13101-13102.	3.3	47
50	Population and evolutionary dynamics of phage therapy. Nature Reviews Microbiology, 2004, 2, 166-173.	13.6	434
51	MICROBIOLOGY: Noninherited Resistance to Antibiotics. Science, 2004, 305, 1578-1579.	6.0	73
52	The Evolution of Mutator Genes in Bacterial Populations: The Roles of Environmental Change and Timing. Genetics, 2003, 164, 843-854.	1.2	100
53	Antibiotics in agriculture: When is it time to close the barn door?. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 5752-5754.	3.3	115
54	Dynamics of success and failure in phage and antibiotic therapy in experimental infections. BMC Microbiology, 2002, 2, 35.	1.3	97

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55	Biological and biomedical implications of the co-evolution of pathogens and their hosts. Nature Genetics, 2002, 32, 569-577.	9.4	729
56	Epidemiology, Evolution, and Future of the HIV/AIDS Pandemic. Emerging Infectious Diseases, 2001, 7, 505-511.	2.0	15
57	Concentration-Dependent Selection of Small Phenotypic Differences in TEM Î²-Lactamase-Mediated Antibiotic Resistance. Antimicrobial Agents and Chemotherapy, 2000, 44, 2485-2491.	1.4	114
58	Effects of Antiviral Usage on Transmission Dynamics of Herpes Simplex Virus Type 1 and on Antiviral Resistance: Predictions of Mathematical Models. Antimicrobial Agents and Chemotherapy, 2000, 44, 2824-2835.	1.4	18
59	Compensatory Mutations, Antibiotic Resistance and the Population Genetics of Adaptive Evolution in Bacteria. Genetics, 2000, 154, 985-997.	1.2	498
60	Natural Selection, Infectious Transfer and the Existence Conditions for Bacterial Plasmids. Genetics, 2000, 155, 1505-1519.	1.2	332
61	The biological cost of antibiotic resistance. Current Opinion in Microbiology, 1999, 2, 489-493.	2.3	747
62	Adaptation to the fitness costs of antibiotic resistance inEscherichia coli. Proceedings of the Royal Society B: Biological Sciences, 1997, 264, 1287-1291.	1.2	368
63	The Withinâ€Host Population Dynamics of Antibacterial Chemotherapy: Conditions for the Evolution of Resistance. Novartis Foundation Symposium, 1997, 207, 112-130.	1.2	6
64	Phage Therapy Revisited: The Population Biology of a Bacterial Infection and Its Treatment with Bacteriophage and Antibiotics. American Naturalist, 1996, 147, 881-898.	1.0	147
65	Short-sighted evolution and the virulence of pathogenic microorganisms. Trends in Microbiology, 1994, 2, 76-81.	3.5	331
66	Within-Host Population Dynamics and the Evolution and Maintenance of Microparasite Virulence. American Naturalist, 1994, 144, 457-472.	1.0	291
67	The accessory genetic elements of bacteria: existence conditions and (co)evolution. Current Opinion in Genetics and Development, 1993, 3, 849-854.	1.5	32
68	PHAGE-MEDIATED SELECTION AND THE EVOLUTION AND MAINTENANCE OF RESTRICTION-MODIFICATION. Evolution; International Journal of Organic Evolution, 1993, 47, 556-575.	1.1	58
69	Evaluating the risk of releasing genetically engineered organisms. Trends in Ecology and Evolution, 1988, 3, S27-S30.	4.2	7
70	The Population Biology of Bacterial Transposons: A Priori Conditions for Maintenance as Parasitic DNA. American Naturalist, 1988, 132, 129-147.	1.0	37
71	TRANSITORY DEREPRESSION AND THE MAINTENANCE OF CONJUGATIVE PLASMIDS. Genetics, 1986, 113, 483-497.	1.2	97
72	Constraints on the Coevolution of Bacteria and Virulent Phage: A Model, Some Experiments, and Predictions for Natural Communities. American Naturalist, 1985, 125, 585-602.	1.0	404

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73	The population biology of bacterial viruses: Why be temperate. Theoretical Population Biology, 1984, 26, 93-117.	0.5	227
74	GENETIC DIVERSITY AND TEMPORAL VARIATION IN THE <i>E. COLI</i> POPULATION OF A HUMAN HOST. Genetics, 1981, 98, 467-490.	1.2	303
75	PERIODIC SELECTION, INFECTIOUS GENE EXCHANGE AND THE GENETIC STRUCTURE OF <i>E. COLI</i> POPULATIONS. Genetics, 1981, 99, 1-23.	1.2	223
76	The kinetics of transfer of nonconjugative plasmids by mobilizing conjugative factors. Genetical Research, 1980, 35, 241-259.	0.3	32
77	THE POPULATION BIOLOGY OF BACTERIAL PLASMIDS: <i>A PRIORI</i> CONDITIONS FOR THE EXISTENCE OF MOBILIZABLE NONCONJUGATIVE FACTORS. Genetics, 1980, 94, 425-443.	1.2	89
78	The kinetics of conjugative plasmid transmission: Fit of a simple mass action model. Plasmid, 1979, 2, 247-260.	0.4	231
79	Resource-Limited Growth, Competition, and Predation: A Model and Experimental Studies with Bacteria and Bacteriophage. American Naturalist, 1977, 111, 3-24.	1.0	479
80	A Complex Community in a Simple Habitat: An Experimental Study with Bacteria and Phage. Ecology, 1977, 58, 369-378.	1.5	244
81	THE POPULATION BIOLOGY OF BACTERIAL PLASMIDS: <i>A PRIORI</i> CONDITIONS FOR THE EXISTENCE OF CONJUGATIONALLY TRANSMITTED FACTORS. Genetics, 1977, 87, 209-228.	1.2	245
82	Partitioning of Resources and the Outcome of Interspecific Competition: A Model and Some General Considerations. American Naturalist, 1973, 107, 171-198.	1.0	384
83	Population Geneticists Discover Bacteria and Their Genetic/Molecular Epidemiology. , 0, , 5-13.		0