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	Definitions and guidelines for research on antibiotic persistence. Nature Reviews Microbiology, 2019, 17, 441-448.	13.6	748
2	The biological cost of antibiotic resistance. Current Opinion in Microbiology, 1999, 2, 489-493.	2.3	747
3	Biological and biomedical implications of the co-evolution of pathogens and their hosts. Nature Genetics, 2002, 32, 569-577.	9.4	729
4	Compensatory Mutations, Antibiotic Resistance and the Population Genetics of Adaptive Evolution in Bacteria. Genetics, 2000, 154, 985-997.	1.2	498
5	Resource-Limited Growth, Competition, and Predation: A Model and Experimental Studies with Bacteria and Bacteriophage. American Naturalist, 1977, 111, 3-24.	1.0	479
6	Non-inherited antibiotic resistance. Nature Reviews Microbiology, 2006, 4, 556-562.	13.6	447
7	Population and evolutionary dynamics of phage therapy. Nature Reviews Microbiology, 2004, 2, 166-173.	13.6	434
8	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
9	Partitioning of Resources and the Outcome of Interspecific Competition: A Model and Some General Considerations. American Naturalist, 1973, 107, 171-198.	1.0	384
10	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
11	Natural Selection, Infectious Transfer and the Existence Conditions for Bacterial Plasmids. Genetics, 2000, 155, 1505-1519.	1.2	332
12	Short-sighted evolution and the virulence of pathogenic microorganisms. Trends in Microbiology, 1994, 2, 76-81.	3.5	331
13	GENETIC DIVERSITY AND TEMPORAL VARIATION IN THE <i>E. COLI</i> POPULATION OF A HUMAN HOST. Genetics, 1981, 98, 467-490.	1.2	303
14	Pharmacodynamic Functions: a Multiparameter Approach to the Design of Antibiotic Treatment Regimens. Antimicrobial Agents and Chemotherapy, 2004, 48, 3670-3676.	1.4	298
15	Within-Host Population Dynamics and the Evolution and Maintenance of Microparasite Virulence. American Naturalist, 1994, 144, 457-472.	1.0	291
16	Synergy and Order Effects of Antibiotics and Phages in Killing Pseudomonas aeruginosa Biofilms. PLoS ONE, 2017, 12, e0168615.	1.1	281
17	The high prevalence of antibiotic heteroresistance in pathogenic bacteria is mainly caused by gene amplification. Nature Microbiology, 2019, 4, 504-514.	5.9	259
18	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

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19	A Complex Community in a Simple Habitat: An Experimental Study with Bacteria and Phage. Ecology, 1977, 58, 369-378.	1.5	244
20	The kinetics of conjugative plasmid transmission: Fit of a simple mass action model. Plasmid, 1979, 2, 247-260.	0.4	231
21	The population biology of bacterial viruses: Why be temperate. Theoretical Population Biology, 1984, 26, 93-117.	0.5	227
22	Dealing with the Evolutionary Downside of CRISPR Immunity: Bacteria and Beneficial Plasmids. PLoS Genetics, 2013, 9, e1003844.	1.5	227
23	PERIODIC SELECTION, INFECTIOUS GENE EXCHANGE AND THE GENETIC STRUCTURE OF <i>E. COLI</i> POPULATIONS. Genetics, 1981, 99, 1-23.	1.2	223
24	Functional relationship between bacterial cell density and the efficacy of antibiotics. Journal of Antimicrobial Chemotherapy, 2009, 63, 745-757.	1.3	212
25	Antiviral Resistance and the Control of Pandemic Influenza. PLoS Medicine, 2007, 4, e15.	3.9	182
26	Evolution, human-microbe interactions, and life history plasticity. Lancet, The, 2017, 390, 521-530.	6.3	178
27	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
28	Pharmacodynamics, Population Dynamics, and the Evolution of Persistence in Staphylococcus aureus. PLoS Genetics, 2013, 9, e1003123.	1.5	155
29	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
30	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
31	The Population and Evolutionary Dynamics of Phage and Bacteria with CRISPRâ€"Mediated Immunity. PLoS Genetics, 2013, 9, e1003312.	1.5	147
32	Proximate and ultimate causes of the bactericidal action of antibiotics. Nature Reviews Microbiology, 2021, 19, 123-132.	13.6	140
33	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
34	Fitness Costs of Fluoroquinolone Resistance in Streptococcus pneumoniae. Antimicrobial Agents and Chemotherapy, 2007, 51, 412-416.	1.4	133
35	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
36	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

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37	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
38	Phenotypic Resistance and the Dynamics of Bacterial Escape from Phage Control. PLoS ONE, 2014, 9, e94690.	1.1	105
39	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
40	The Evolution of Mutator Genes in Bacterial Populations: The Roles of Environmental Change and Timing. Genetics, 2003, 164, 843-854.	1.2	100
41	Dynamics of success and failure in phage and antibiotic therapy in experimental infections. BMC Microbiology, 2002, 2, 35.	1.3	97
42	TRANSITORY DEREPRESSION AND THE MAINTENANCE OF CONJUGATIVE PLASMIDS. Genetics, 1986, 113, 483-497.	1.2	97
43	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
44	The Population and Evolutionary Dynamics of Homologous Gene Recombination in Bacteria. PLoS Genetics, 2009, 5, e1000601.	1.5	85
45	Exploring the role of the immune response in preventing antibiotic resistance. Journal of Theoretical Biology, 2009, 256, 655-662.	0.8	75
46	MICROBIOLOGY: Noninherited Resistance to Antibiotics. Science, 2004, 305, 1578-1579.	6.0	73
47	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
48	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
49	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
50	PHAGE-MEDIATED SELECTION AND THE EVOLUTION AND MAINTENANCE OF RESTRICTION-MODIFICATION. Evolution; International Journal of Organic Evolution, 1993, 47, 556-575.	1.1	58
51	Leaky resistance and the conditions for the existence of lytic bacteriophage. PLoS Biology, 2018, 16, e2005971.	2.6	58
52	Phageâ€“host population dynamics promotes prophage acquisition in bacteria with innate immunity. Nature Ecology and Evolution, 2018, 2, 359-366.	3.4	56
53	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
54	Phagocytes, Antibiotics, and Self-Limiting Bacterial Infections. Trends in Microbiology, 2017, 25, 878-892.	3.5	49

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55	Two-Drug Antimicrobial Chemotherapy: A Mathematical Model and Experiments with Mycobacterium marinum. PLoS Pathogens, 2012, 8, e1002487.	2.1	48
56	Antibiotic Killing of Diversely Generated Populations of Nonreplicating Bacteria. Antimicrobial Agents and Chemotherapy, 2019, 63, .	1.4	48
57	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
58	A Numbers Game: Ribosome Densities, Bacterial Growth, and Antibiotic-Mediated Stasis and Death. MBio, 2017, 8, .	1.8	46
59	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
60	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
61	Growth of bacteria in 3-d colonies. PLoS Computational Biology, 2017, 13, e1005679.	1.5	38
62	The Population Biology of Bacterial Transposons: A Priori Conditions for Maintenance as Parasitic DNA. American Naturalist, 1988, 132, 129-147.	1.0	37
63	Normal Mutation Rate Variants Arise in a Mutator (Mut S) Escherichia coli Population. PLoS ONE, 2013, 8, e72963.	1.1	37
64	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
65	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
66	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
67	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
68	The kinetics of transfer of nonconjugative plasmids by mobilizing conjugative factors. Genetical Research, 1980, 35, 241-259.	0.3	32
69	The accessory genetic elements of bacteria: existence conditions and (co)evolution. Current Opinion in Genetics and Development, 1993, 3, 849-854.	1.5	32
70	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
71	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
72	Promises and Pitfalls of In Vivo Evolution to Improve Phage Therapy. Viruses, 2019, 11, 1083.	1.5	24

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73	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
74	Competitive Dominance within Biofilm Consortia Regulates the Relative Distribution of Pneumococcal Nasopharyngeal Density. Applied and Environmental Microbiology, 2017, 83, .	1.4	17
75	Epidemiology, Evolution, and Future of the HIV/AIDS Pandemic. Emerging Infectious Diseases, 2001, 7, 505-511.	2.0	15
76	Human antimicrobial peptide, LL-37, induces non-inheritable reduced susceptibility to vancomycin in Staphylococcus aureus. Scientific Reports, 2020, 10, 13121.	1.6	13
77	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
78	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
79	Staphylococcus aureus in Continuous Culture: A Tool for the Rational Design of Antibiotic Treatment Protocols. PLoS ONE, 2012, 7, e38866.	1.1	9
80	Evaluating the risk of releasing genetically engineered organisms. Trends in Ecology and Evolution, 1988, 3, S27-S30.	4.2	7
81	The Withinâ€Host Population Dynamics of Antibacterial Chemotherapy: Conditions for the Evolution of Resistance. Novartis Foundation Symposium, 1997, 207, 112-130.	1.2	6
82	Evolution of Bacterial-Host Interactions: Virulence and the Immune Overresponse. , 2014, , 1-12.		1
83	Population Geneticists Discover Bacteria and Their Genetic/Molecular Epidemiology. , 0, , 5-13.		0