Martin Ackermann

List of Publications by Year
in descending order

99 papers	9,824 citations	50276 46 h-index	45317 90 g-index
119 all docs	119 docs citations	119 times ranked	11924 citing authors

#	Article	IF	Citations
1	Function and functional redundancy in microbial systems. Nature Ecology and Evolution, 2018, 2, 936-943.	7.8	912
2	Definitions and guidelines for research on antibiotic persistence. Nature Reviews Microbiology, 2019, 17, 441-448.	28.6	748
3	A functional perspective on phenotypic heterogeneity in microorganisms. Nature Reviews Microbiology, 2015, 13, 497-508.	28.6	709
4	Second Messenger-Mediated Adjustment of Bacterial Swimming Velocity. Cell, 2010, 141, 107-116.	28.9	412
5	Gut inflammation can boost horizontal gene transfer between pathogenic and commensal Enterobacteriaceae. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1269-1274.	7.1	398
6	Self-destructive cooperation mediated by phenotypic noise. Nature, 2008, 454, 987-990.	27.8	384
7	A Synthetic Community Approach Reveals Plant Genotypes Affecting the Phyllosphere Microbiota. PLoS Genetics, 2014, 10, e1004283.	3.5	369
8	Senescence in a Bacterium with Asymmetric Division. Science, 2003, 300, 1920-1920.	12.6	296
9	Stabilization of cooperative virulence by the expression of an avirulent phenotype. Nature, 2013, 494, 353-356.	27.8	289
10	The Cost of Virulence: Retarded Growth of Salmonella Typhimurium Cells Expressing Type III Secretion System 1. PLoS Pathogens, 2011, 7, e1002143.	4.7	213
11	Antagonism between Bacteriostatic and Bactericidal Antibiotics Is Prevalent. Antimicrobial Agents and Chemotherapy, 2014, 58, 4573-4582.	3.2	198
12	Second messenger signalling governs Escherichia coli biofilm induction upon ribosomal stress. Molecular Microbiology, 2009, 72, 1500-1516.	2.5	183
13	Experimental evolution of aging, growth, and reproduction in fruitflies. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 3309-3313.	7.1	176
14	Bistable Expression of Virulence Genes in Salmonella Leads to the Formation of an Antibiotic-Tolerant Subpopulation. PLoS Biology, 2014, 12, e1001928.	5.6	172
15	Short-range interactions govern the dynamics and functions of microbial communities. Nature Ecology and Evolution, 2020, 4, 366-375.	7.8	172
16	Inflammation boosts bacteriophage transfer between Salmonella spp.. Science, 2017, 355, 1211-1215.	12.6	160
17	A Genome-Wide Analysis of Promoter-Mediated Phenotypic Noise in Escherichia coli. PLoS Genetics, 2012, 8, e1002443.	3.5	155
18	Phenotypic heterogeneity driven by nutrient limitation promotes growth in fluctuating environments. Nature Microbiology, 2016, 1, 16055.	13.3	154

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19	On the evolutionary origin of aging. Aging Cell, 2007, 6, 235-244.	6.7	139
20	Cecum Lymph Node Dendritic Cells Harbor Slow-Growing Bacteria Phenotypically Tolerant to Antibiotic Treatment. PLoS Biology, 2014, 12, e1001793.	5.6	139
21	Metabolic specialization and the assembly of microbial communities. ISME Journal, 2012, 6, 1985-1991.	9.8	113
22	Prolonged bacterial lag time results in small colony variants that represent a sub-population of persisters. Nature Communications, 2018, 9, 4074.	12.8	109
23	Habitat structure and the evolution of diffusible siderophores in bacteria. Ecology Letters, 2014, 17, 1536-1544.	6.4	98
24	Association of Biodiversity with the Rates of Micropollutant Biotransformations among Full-Scale Wastewater Treatment Plant Communities. Applied and Environmental Microbiology, 2015, 81, 666-675.	3.1	98
25	Division of labour and the evolution of multicellularity. Proceedings of the Royal Society B: Biological Sciences, 2012, 279, 1768-1776.	2.6	87
26	Antibiotic Treatment Selects for Cooperative Virulence of Salmonella Typhimurium. Current Biology, 2014, 24, 2000-2005.	3.9	87
27	DECLINE IN OFFSPRING VIABILITY AS A MANIFESTATION OF AGING IN DROSOPHILA MELANOGASTER. Evolution; International Journal of Organic Evolution, 2001, 55, 1822-1831.	2.3	86
28	Phylogenetic clustering of small low nucleic acid-content bacteria across diverse freshwater ecosystems. ISME Journal, 2018, 12, 1344-1359.	9.8	84
29	Framework for Using Quantitative PCR as a Nonculture Based Method To Estimate Virus Infectivity. Environmental Science & Technology, 2011, 45, 2257-2263.	10.0	82
30	Analysis of fluorescent reporters indicates heterogeneity in glucose uptake and utilization in clonal bacterial populations. BMC Microbiology, 2013, 13, 258.	3.3	77
31	A Simple Screen to Identify Promoters Conferring High Levels of Phenotypic Noise. PLoS Genetics, 2008, 4, e1000307.	3.5	74
32	Patterns of Evolutionary Conservation of Essential Genes Correlate with Their Compensability. PLoS Genetics, 2012, 8, e1002803.	3.5	74
33	Accumulation of Deleterious Mutations During Bacterial Range Expansions. Genetics, 2017, 207, 669-684.	2.9	74
34	Emergent microscale gradients give rise to metabolic cross-feeding and antibiotic tolerance in clonal bacterial populations. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20190080.	4.0	74
35	Phenotypic heterogeneity in metabolic traits among single cells of a rare bacterial species in its natural environment quantified with a combination of flow cell sorting and NanoSIMS. Frontiers in Microbiology, 2015, 06, 243.	3.5	72
36	Wide lag time distributions break a trade-off between reproduction and survival in bacteria. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 18729-18736.	7.1	72

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37	The activity level of a microbial community function can be predicted from its metatranscriptome. ISME Journal, 2012, 6, 902-904.	9.8	70
38	The predictability of molecular evolution during functional innovation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3044-3049.	7.1	69
39	Understanding the evolution of interspecies interactions in microbial communities. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190256.	4.0	68
40	Plasmid- and strain-specific factors drive variation in ESBL-plasmid spread in vitro and in vivo. ISME Journal, 2021, 15, 862-878.	9.8	66
41	Effects of assay conditions in life history experiments with Drosophila melanogaster. Journal of Evolutionary Biology, 2001, 14, 199-209.	1.7	62
42	Why microbes secrete molecules to modify their environment: the case of iron-chelating siderophores. Journal of the Royal Society Interface, 2019, 16, 20180674.	3.4	61
43	Spatially Correlated Gene Expression in Bacterial Groups: The Role of Lineage History, Spatial Gradients, and Cell-Cell Interactions. Cell Systems, 2018, 6, 496-507.e6.	6.2	59
44	Evolution of Stress Response in the Face of Unreliable Environmental Signals. PLoS Computational Biology, 2012, 8, e1002627.	3.2	59
45	Response of single bacterial cells to stress gives rise to complex history dependence at the population level. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4224-4229.	7.1	58
46	Cell-to-cell variation and specialization in sugar metabolism in clonal bacterial populations. PLoS Genetics, 2017, 13, e1007122.	3.5	58
47	Short-range quorum sensing controls horizontal gene transfer at micron scale in bacterial communities. Nature Communications, 2021, 12, 2324.	12.8	57
48	Microbial individuality in the natural environment. ISME Journal, 2013, 7, 465-467.	9.8	56
49	The Effect of Multifunctionality on the Rate of Evolution in Yeast. Molecular Biology and Evolution, 2006, 23, 721-722.	8.9	52
50	Effect of Low- and High-Virulence Yersinia enterocolitica Strains on the Inflammatory Response of Human Umbilical Vein Endothelial Cells. Infection and Immunity, 2002, 70, 3510-3520.	2.2	51
51	Experimental evolution of aging in a bacterium. BMC Evolutionary Biology, 2007, 7, 126.	3.2	48
52	How type 1 fimbriae help Escherichia coli to evade extracellular antibiotics. Scientific Reports, 2016, 6, 18109.	3.3	47
53	The role of bacteriocins as selfish genetic elements. Biology Letters, 2013, 9, 20121173.	2.3	45
54	A passive mutualistic interaction promotes the evolution of spatial structure within microbial populations. BMC Evolutionary Biology, 2017, 17, 106.	3.2	41

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55	DNA Sequences Shaped by Selection for Stability. PLoS Genetics, 2006, 2, e22.	3.5	40
56	Environmental drivers of metabolic heterogeneity in clonal microbial populations. Current Opinion in Biotechnology, 2020, 62, 202-211.	6.6	40
57	A distinct growth physiology enhances bacterial growth under rapid nutrient fluctuations. Nature Communications, 2021, 12, 3662.	12.8	40
58	Phenotypic plasticity influences the ecoâ€evolutionary dynamics of a predatorâ€“prey system. Ecology, 2014, 95, 3080-3092.	3.2	39
59	Costs of antibiotic resistance â€“ separating trait effects and selective effects. Evolutionary Applications, 2015, 8, 261-272.	3.1	39
60	Effective polyploidy causes phenotypic delay and influences bacterial evolvability. PLoS Biology, 2018, 16, e2004644.	5.6	37
61	Metabolic activity affects the response of single cells to a nutrient switch in structured populations. Journal of the Royal Society Interface, 2019, 16, 20190182.	3.4	36
62	Disseminating antibiotic resistance during treatment. Science, 2019, 364, 737-738.	12.6	36
63	Nutrient complexity triggers transitions between solitary and colonial growth in bacterial populations. ISME Journal, 2021, 15, 2614-2626.	9.8	36
64	The rate of environmental fluctuations shapes ecological dynamics in a twoâ€species microbial system. Ecology Letters, 2019, 22, 838-846.	6.4	35
65	Quantification of the spread of SARS-CoV-2 variant B.1.1.7 in Switzerland. Epidemics, 2021, 37, 100480.	3.0	34
66	Thiouridine residues in tRNAs are responsible for a synergistic effect of UVA and UVB light in photoinactivation of Escherichia coli. Environmental Microbiology, 2017, 19, 434-442.	3.8	33
67	Magnitude and Mechanism of Siderophore-Mediated Competition at Low Iron Solubility in the Pseudomonas aeruginosa Pyochelin System. Frontiers in Microbiology, 2017, 8, 1964.	3.5	32
68	Resolution of Conflicting Signals at the Single-Cell Level in the Regulation of Cyanobacterial Photosynthesis and Nitrogen Fixation. PLoS ONE, 2013, 8, e66060.	2.5	25
69	Rapid evolution destabilizes species interactions in a fluctuating environment. ISME Journal, 2021, 15, 450-460.	9.8	24
70	The optimal deployment of synergistic antibiotics: a control-theoretic approach. Journal of the Royal Society Interface, 2012, 9, 2488-2502.	3.4	22
71	Bacterial Ventures into Multicellularity: Collectivism through Individuality. PLoS Biology, 2015, 13, e1002162.	5.6	22
72	Individualâ€versus groupâ€optimality in the production of secreted bacterial compounds. Evolution; International Journal of Organic Evolution, 2019, 73, 675-688.	2.3	21

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73	Pole Age Affects Cell Size and the Timing of Cell Division in Methylobacterium extorquens AM1. Journal of Bacteriology, 2011, 193, 5216-5221.	2.2	20
74	Microbiota-derived metabolites inhibit Salmonella virulent subpopulation development by acting on single-cell behaviors. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	20
75	Single-cell time-lapse analysis of depletion of the universally conserved essential protein YgjD. BMC Microbiology, 2011, 11, 118.	3.3	19
76	Population dynamics, demographic stochasticity, and the evolution of cooperation. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 5167-5171.	7.1	18
77	Microbial life cycles link global modularity in regulation to mosaic evolution. Nature Ecology and Evolution, 2019, 3, 1184-1196.	7.8	18
78	The experimental evolution of aging in fruitflies. Experimental Gerontology, 1998, 33, 785-792.	2.8	17
79	The constancy of gene conservation across divergent bacterial orders. BMC Research Notes, 2009, 2, 2.	1.4	17
80	Selecting Against Antibiotic-Resistant Pathogens: Optimal Treatments in the Presence of Commensal Bacteria. Bulletin of Mathematical Biology, 2012, 74, 908-934.	1.9	17
81	Stabilization of the genome of the mismatch repair deficient Mycobacterium tuberculosis by context-dependent codon choice. BMC Genomics, 2008, 9, 249.	2.8	15
82	Dynamic character displacement among a pair of bacterial phyllosphere commensals in situ. Nature Communications, 2022, 13, .	12.8	15
83	A growing focus on bacterial individuality. Environmental Microbiology, 2015, 17, 2193-2195.	3.8	14
84	Global dynamics of microbial communities emerge from local interaction rules. PLoS Computational Biology, 2022, 18, e1009877.	3.2	13
85	Bacteria as a New Model System for Aging Studies: Investigations Using Light Microscopy. BioTechniques, 2008, 44, 564-567.	1.8	12
86	Asymmetric cellular memory in bacteria exposed to antibiotics. BMC Evolutionary Biology, 2017, 17, 73.	3.2	12
87	Mutational and Selective Processes Involved in Evolution during Bacterial Range Expansions. Molecular Biology and Evolution, 2019, 36, 2313-2327.	8.9	11
88	Evolution of cooperation: Two for One?. Current Biology, 2004, 14, R73-R74.	3.9	10
89	Bacterial growth properties at low optical densities. Antonie Van Leeuwenhoek, 2009, 96, 267-274.	1.7	10
90	Genetic Manipulation of Glycogen Allocation Affects Replicative Lifespan in E. coli. PLoS Genetics, 2016, 12, e1005974.	3.5	10

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91	Stochastic Gene Expression Influences the Selection of Antibiotic Resistance Mutations. Molecular Biology and Evolution, 2020, 37, 58-70.	8.9	8
92	Dissection of the mutation accumulation process during bacterial range expansions. BMC Genomics, 2020, 21, 253.	2.8	8
93	The Microbial Olympics 2016. Nature Microbiology, 2016, 1, 16122.	13.3	7
94	Division of labor in bacteria. ELife, 2018, 7, .	6.0	7
95	EVOLUTION OF NICHE WIDTH AND ADAPTIVE DIVERSIFICATION. Evolution; International Journal of Organic Evolution, 2004, 58, 2599.	2.3	4
96	Stochastic gene expression: bacterial elites in chemotaxis. Molecular Systems Biology, 2017, 13, 909.	7.2	4
97	Microfluidics for Single-Cell Study of Antibiotic Tolerance and Persistence Induced by Nutrient Limitation. Methods in Molecular Biology, 2021, 2357, 107-124.	0.9	3
98	The usefulness of evolutionary principles: predicting the unexpected. Environmental Microbiology Reports, 2015, 7, 4-5.	2.4	0
99	Local Interactions Contribute to Spatial Correlations in Gene Expression Levels in Bacterial Groups. SSRN Electronic Journal, 0, , .	0.4	0