Jan-Ulrich Kreft

List of Publications by Year
in descending order

61	4,990	186265 28	155660 55
papers	citations	h-index	g-index

96	96	96	5362
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Challenges in microbial ecology: building predictive understanding of community function and dynamics. ISME Journal, 2016, 10, 2557-2568.	9.8	570
2	Does efficiency sensing unify diffusion and quorum sensing?. Nature Reviews Microbiology, 2007, 5, 230-239.	28.6	439
3	Individual-based modelling of biofilms. Microbiology (United Kingdom), 2001, 147, 2897-2912.	1.8	360
4	Why is metabolic labour divided in nitrification?. Trends in Microbiology, 2006, 14, 213-219.	7.7	359
5	BacSim, a simulator for individual-based modelling of bacterial colony growth. Microbiology (United) Tj ETQq1 1 0.784314 rgBT /Over	1.8	350
6	Particle-Based Multidimensional Multispecies Biofilm Model. Applied and Environmental Microbiology, 2004, 70, 3024-3040.	3.1	273
7	Biofilms promote altruism. Microbiology (United Kingdom), 2004, 150, 2751-2760.	1.8	273
8	iDynoMiCS: nextâ€generation individualâ€based modelling of biofilms. Environmental Microbiology, 2011, 13, 2416-2434.	3.8	217
9	Advancing microbial sciences by individual-based modelling. Nature Reviews Microbiology, 2016, 14, 461-471.	28.6	193
10	Mathematical modelling of biofilm structures. Antonie Van Leeuwenhoek, 2002, 81, 245-256.	1.7	170
11	Holophaga foetida gen. nov., sp. nov., a new, homoacetogenic bacterium degrading methoxylated aromatic compounds. Archives of Microbiology, 1994, 162, 85-90.	2.2	155
12	Effect of EPS on biofilm structure and function as revealed by an individual-based model of biofilm growth. Water Science and Technology, 2001, 43, 135-135.	2.5	148
13	Comparison of antibiotic-resistant bacteria and antibiotic resistance genes abundance in hospital and community wastewater: A systematic review. Science of the Total Environment, 2020, 743, 140804.	8.0	126
14	Dynamics of development and dispersal in sessile microbial communities: examples fromPseudomonas aeruginosaandPseudomonas putidamodel biofilms. FEMS Microbiology Letters, 2006, 261, 1-11.	1.8	114
15	Holophaga foetida. Archives of Microbiology, 1994, 162, 85.	2.2	100
16	Use of Game-Theoretical Methods in Biochemistry and Biophysics. Journal of Biological Physics, 2008, 34, 1-17.	1.5	85
17	Generalized Voronoi Tessellation as a Model ofÂTwo-dimensional Cell Tissue Dynamics. Bulletin of Mathematical Biology, 2010, 72, 1696-1731.	1.9	78
18	Demethylation and degradation of phenylmethylethers by the sulfide-methylating homoacetogenic bacterium strain TMBS 4. Archives of Microbiology, 1993, 159, 308-315.	2.2	72

#	Article	IF	Citations
19	Microbial motility involvement in biofilm structure formation â€“ a 3D modelling study. Water Science and Technology, 2007, 55, 337-343.	2.5	72
20	The evolution of groups of cooperating bacteria and the growth rate versus yield trade-off. Microbiology (United Kingdom), 2005, 151, 637-641.	1.8	63
21	Growth dependence of conjugation explains limited plasmid invasion in biofilms: an individualâ€based modelling study. Environmental Microbiology, 2011, 13, 2435-2452.	3.8	57
22	Mighty small: Observing and modeling individual microbes becomes big science. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18027-18028.	7.1	54
23	Î±-1-Antitrypsin variants and the proteinase/antiproteinase imbalance in chronic obstructive pulmonary disease. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2015, 308, L179-L190.	2.9	49
24	Conditions for partial nitrification in biofilm reactors and a kinetic explanation. Biotechnology and Bioengineering, 2009, 103, 282-295.	3.3	43
25	O -Demethylation by the Homoacetogenic Anaerobe Holophaga Foetida Studied by a New Photometric Methylation Assay Using Electrochemically Produced Cob(I)Alamin. FEBS Journal, 1994, 226, 945-951.	0.2	41
26	From Genes to Ecosystems in Microbiology: Modeling Approaches and the Importance of Individuality. Frontiers in Microbiology, 2017, 8, 2299.	3.5	37
27	Conflicts of interest in biofilms. Biofilms, 2004, 1, 265-276.	0.6	36
28	Repair rather than segregation of damage is the optimal unicellular aging strategy. BMC Biology, 2014, 12, 52.	3.8	33
29	Cooperation and cheating in microbial exoenzyme production â€“ Theoretical analysis for biotechnological applications. Biotechnology Journal, 2010, 5, 751-758.	3.5	31
30	Evolutionary causes and consequences of metabolic division of labour: why anaerobes do and aerobes donâ€™t. Current Opinion in Biotechnology, 2020, 62, 80-87.	6.6	31
31	Dual Predation by Bacteriophage and Bdellovibrio bacteriovorus Can Eradicate Escherichia coli Prey in Situations where Single Predation Cannot. Journal of Bacteriology, 2020, 202, .	2.2	29
32	A mathematical model for growth and osmoregulation in halophilic bacteria. Microbiology (United) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	1.8	28
33	Effects of alternative methyl group acceptors on the growth energetics of the O-demethylating anaerobe Holophaga foetida. Microbiology (United Kingdom), 1997, 143, 1105-1114.	1.8	26
34	Cell division theory and individual-based modeling of microbial lag. International Journal of Food Microbiology, 2005, 101, 319-332.	4.7	23
35	Explaining Bacterial Dispersion on Leaf Surfaces with an Individual-Based Model (PHYLLOSIM). PLoS ONE, 2013, 8, e75633.	2.5	22
36	Toward Engineering Biosystems With Emergent Collective Functions. Frontiers in Bioengineering and Biotechnology, 2020, 8, 705.	4.1	22

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37	Towards a general model for predicting minimal metal concentrations co-selecting for antibiotic resistance plasmids. Environmental Pollution, 2021, 275, 116602.	7.5	22
38	Time-resolved toxicity study reveals the dynamic interactions between uncoated silver nanoparticles and bacteria. Nanotoxicology, 2017, 11, 637-646.	3.0	20
39	New, rapid method to measure dissolved silver concentration in silver nanoparticle suspensions by aggregation combined with centrifugation. Journal of Nanoparticle Research, 2016, 18, 259.	1.9	19
40	Elucidating the impact of micro-scale heterogeneous bacterial distribution on biodegradation. Advances in Water Resources, 2018, 116, 67-76.	3.8	18
41	Individual-based modelling of growth and migration of in hens' eggs. International Journal of Food Microbiology, 2005, 100, 323-333.	4.7	16
42	Specificity of O -demethylation in extracts of the homoacetogenic Holophaga foetida and demethylation kinetics measured by a coupled photometric assay. Archives of Microbiology, 1997, 167, 363-368.	2.2	15
43	Editorial: The Individual Microbe: Single-Cell Analysis and Agent-Based Modelling. Frontiers in Microbiology, 2018, 9, 2825.	3.5	13
44	Antimicrobial and ultrastructural properties of root canal filling materials exposed to bacterial challenge. Journal of Dentistry, 2020, 93, 103283.	4.1	13
45	EMBRACE-WATERS statement: Recommendations for reporting of studies on antimicrobial resistance in wastewater and related aquatic environments. One Health, 2021, 13, 100339.	3.4	11
46	A generalised model for generalised transduction: the importance of co-evolution and stochasticity in phage mediated antimicrobial resistance transfer. FEMS Microbiology Ecology, 2020, 96, .	2.7	10
47	Potentiation of curing by a broad-host-range self-transmissible vector for displacing resistance plasmids to tackle AMR. PLoS ONE, 2020, 15, e0225202.	2.5	10
48	Exploiting additive and subtractive patterning for spatially controlled and robust bacterial co-cultures. Soft Matter, 2012, 8, 9147.	2.7	8
49	Mathematical Modeling of Microbial Ecology: Spatial Dynamics of Interactions in Biofilms and Guts. , 0, , 347-377.		6
50	Damage Repair versus Aging in an Individual-Based Model of Biofilms. MSystems, 2020, 5, .	3.8	5
51	Predation Strategies of the Bacterium Bdellovibrio bacteriovorus Result in Overexploitation and Bottlenecks. Applied and Environmental Microbiology, 2022, 88, AEM0108221.	3.1	5
52	Reducing discrepancies between 3D and 2D simulations due to cell packing density. Journal of Theoretical Biology, 2017, 423, 26-30.	1.7	4
53	Protein Nanoarrays for High-Resolution Patterning of Bacteria on Gold Surfaces. Methods in Molecular Biology, 2011, 790, 191-200.	0.9	4
54	A Novel Class of Predictive Microbial Grown Models: Implementation in an Individual-Based Framework. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2004, 37, 183-188.	0.4	2

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55	Editorial: The microbiome as a source of new enterprises and job creation. Microbial Biotechnology, 2018, 11, 145-148.	4.2	2
56	Mathematical Modeling of Plasmid Dynamics. , 2014, , 1-6.		1
57	Experimental evolution of Pseudomonas putida under silver ion versus nanoparticle stress. Environmental Microbiology, 2022, 24, 905-918.	3.8	1
58	A Multi-scale Agent-Based Distributed Simulation Framework for Groundwater Pollution Management. , 2011, , .		0
59	Mathematical Modeling of Plasmid Dynamics. , 2018, , 659-663.		0
60	The Individual Microbe: Single-Cell Analysis and Agent-Based Modelling. Frontiers Research Topics, 0, , .	0.2	0
61	Evolutionary strategies of Bdellovibrio bacteriovorus predators and prey. Access Microbiology, 2019, 1, .	0.5	0