Roseanne M Ford

List of Publications by Year
in descending order

52 papers	2,393 citations	186265 28 h-index	206112 48 g-index
57 all docs	57 docs citations	57 times ranked	2655 citing authors

#	Article	IF	Citations
1	Taking the Fungal Highway:Â Mobilization of Pollutant-Degrading Bacteria by Fungi. Environmental Science & Technology, 2005, 39, 4640-4646.	10.0	367
2	Reversible and Irreversible Adhesion of Motile Escherichia coli Cells Analyzed by Total Internal Reflection Aqueous Fluorescence Microscopy. Applied and Environmental Microbiology, 2002, 68, 2794-2801.	3.1	152
3	Role of chemotaxis in the transport of bacteria through saturated porous media. Advances in Water Resources, 2007, 30, 1608-1617.	3.8	132
4	Measurement of bacterial random motility and chemotaxis coefficients: I. Stopped-flow diffusion chamber assay. Biotechnology and Bioengineering, 1991, 37, 647-660.	3.3	114
5	Quantification of Bacterial Chemotaxis in Porous Media Using Magnetic Resonance Imaging. Environmental Science & Technology, 2004, 38, 3864-3870.	10.0	93
6	Characterizing the adhesion of motile and nonmotileEscherichia coli to a glass surface using a parallel-plate flow chamber. Biotechnology and Bioengineering, 2002, 78, 179-189.	3.3	89
7	Cellular Dynamics simulations of bacterial chemotaxis. Chemical Engineering Science, 1993, 48, 687-699.	3.8	87
8	Measurement of bacterial random motility and chemotaxis coefficients: II. Application of single-cell-based mathematical model. Biotechnology and Bioengineering, 1991, 37, 661-672.	3.3	82
9	Quantification of random motility and chemotaxis bacterial transport coefficients using individual-cell and population-scale assays. Biotechnology and Bioengineering, 2001, 75, 292-304.	3.3	75
10	Reversal of Flagellar Rotation Is Important in Initial Attachment of Escherichia coli to Glass in a Dynamic System with High- and Low-Ionic-Strength Buffers. Applied and Environmental Microbiology, 2002, 68, 1280-1289.	3.1	75
11	Enhanced Transverse Migration of Bacteria by Chemotaxis in a Porous T-Sensor. Environmental Science & Technology, 2009, 43, 1546-1552.	10.0	68
12	Transformations in Flagellar Structure ofRhodobacter sphaeroides and Possible Relationship to Changes in Swimming Speed. Journal of Bacteriology, 1999, 181, 4825-4833.	2.2	58
13	Analysis of chemotactic bacterial distributions in population migration assays using a mathematical model applicable to steep or shallow attractant gradients. Bulletin of Mathematical Biology, 1991, 53, 721-749.	1.9	57
14	Analysis of Bacterial Random Motility in a Porous Medium Using Magnetic Resonance Imaging and Immunomagnetic Labeling. Environmental Science & Technology, 2003, 37, 781-785.	10.0	55
15	Perturbation Expansion of Alt's Cell Balance Equations Reduces to Segel's One-Dimensional Equations for Shallow Chemoattractant Gradients. SIAM Journal on Applied Mathematics, 1998, 59, 35-57.	1.8	53
16	Bacterial chemotaxis transverse to axial flow in a microfluidic channel. Biotechnology and Bioengineering, 2008, 100, 653-663.	3.3	53
17	Chemotaxis Increases the Residence Time of Bacteria in Granular Media Containing Distributed Contaminant Sources. Environmental Science & Technology, 2016, 50, 181-187.	10.0	43
18	Upscaling microbial chemotaxis in porous media. Advances in Water Resources, 2009, 32, 1413-1428.	3.8	40

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19	Glass micromodel study of bacterial dispersion in spatially periodic porous networks. Biotechnology and Bioengineering, 2002, 78, 556-566.	3.3	38
20	Transverse Bacterial Migration Induced by Chemotaxis in a Packed Column with Structured Physical Heterogeneity. Environmental Science & Technology, 2009, 43, 5921-5927.	10.0	37
21	Mathematical Models for Motile Bacterial Transport in Cylindrical Tubes. Journal of Theoretical Biology, 1998, 195, 481-504.	1.7	35
22	Quantitative analysis of chemotaxis towards toluene by Pseudomonas putida in a convectionâ€free microfluidic device. Biotechnology and Bioengineering, 2015, 112, 896-904.	3.3	35
23	Temperature-Sensitive Motility of Sulfolobus acidocaldarius Influences Population Distribution in Extreme Environments. Journal of Bacteriology, 1999, 181, 4020-4025.	2.2	35
24	Mathematical model for characterization of bacterial migration through sand cores. Biotechnology and Bioengineering, 1997, 53, 487-496.	3.3	34
25	Analysis of Column Tortuosity for MnCl2and Bacterial Diffusion Using Magnetic Resonance Imaging. Environmental Science & Technology, 2005, 39, 149-154.	10.0	34
26	Self-Partitioned Droplet Array on Laser-Patterned Superhydrophilic Glass Surface for Wall-less Cell Arrays. Analytical Chemistry, 2016, 88, 2652-2658.	6.5	30
27	Bacterial chemotaxis toward a NAPL source within a poreâ€scale microfluidic chamber. Biotechnology and Bioengineering, 2012, 109, 1622-1628.	3.3	29
28	Enhanced Retention of Chemotactic Bacteria in a Pore Network with Residual NAPL Contamination. Environmental Science & Technology, 2016, 50, 165-172.	10.0	29
29	Coupled Effect of Chemotaxis and Growth on Microbial Distributions in Organic-Amended Aquifer Sediments: Observations from Laboratory and Field Studies. Environmental Science & Technology, 2008, 42, 3556-3562.	10.0	28
30	Chemotaxis Increases the Retention of Bacteria in Porous Media with Residual NAPL Entrapment. Environmental Science & Technology, 2018, 52, 7289-7295.	10.0	28
31	Idling Time of Motile Bacteria Contributes to Retardation and Dispersion in Sand Porous Medium. Environmental Science & Technology, 2011, 45, 3945-3951.	10.0	27
32	An engineering design approach to systems biology. Integrative Biology (United Kingdom), 2017, 9, 574-583.	1.3	22
33	Chemotaxis increases vertical migration and apparent transverse dispersion of bacteria in a benchâ€scale microcosm. Biotechnology and Bioengineering, 2011, 108, 2070-2077.	3.3	20
34	A simple expression for quantifying bacterial chemotaxis using capillary assay data: application to the analysis of enhanced chemotactic responses from growth-limited cultures. Mathematical Biosciences, 1992, 109, 127-149.	1.9	19
35	Numerical Solution of Transport Equations for Bacterial Chemotaxis: Effect of Discretization of Directional Motion. SIAM Journal on Applied Mathematics, 1996, 56, 1639-1663.	1.8	18
36	Quantitative Analysis of Transverse Bacterial Migration Induced by Chemotaxis in a Packed Column with Structured Physical Heterogeneity. Environmental Science & Technology, 2010, 44, 780-786.	10.0	18

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37	Growth rate effects on fundamental transport properties of bacterial populations. Biotechnology and Bioengineering, 1993, 42, 1277-1286.	3.3	17
38	Mathematical Modeling of Chemotactic Bacterial Transport through a Two-Dimensional Heterogeneous Porous Medium. Bioremediation Journal, 2006, 10, 13-23.	2.0	16
39	Monte Carlo Simulations Derived from Direct Observations of Individual Bacteria Inform Macroscopic Migration Models at Granular Porous Media Interfaces. Environmental Science & Technology, 2007, 41, 6403-6409.	10.0	12
40	Modeling Transport of Chemotactic Bacteria in Granular Media with Distributed Contaminant Sources. Environmental Science & Technology, 2017, 51, 14192-14198.	10.0	11
41	Idling Time of Swimming Bacteria near Particulate Surfaces Contributes to Apparent Adsorption Coefficients at the Macroscopic Scale under Static Conditions. Environmental Science & Technology, 2009, 43, 8874-8880.	10.0	9
42	Surface Association of Motile Bacteria at Granular Porous Media Interfaces. Environmental Science & Technology, 2009, 43, 3712-3719.	10.0	7
43	Stopped-flow chamber and image analysis system for quantitative characterization of bacterial population migration: Motility and chemotaxis ofEscherichia coli K12 to fucose. Microbial Ecology, 1991, 22, 127-138.	2.8	5
44	Impact of fluorochrome stains used to study bacterial transport in shallow aquifers on motility and chemotaxis of Pseudomonas species. FEMS Microbiology Ecology, 2012, 81, 163-171.	2.7	4
45	A mathematical model for Escherichia coli chemotaxis to competing stimuli. Biotechnology and Bioengineering, 2021, 118, 4678-4686.	3.3	4
46	Surface association of motile bacteria and apparent tortuosity values in packed column experiments. Water Resources Research, 2009, 45, .	4.2	3
47	Transport of chemotactic bacteria in granular media with randomly distributed chemoattractant-containing NAPL ganglia: Modeling and simulation. Advances in Water Resources, 2021, , 104065.	3.8	3
48	Escherichia coli chemotaxis to competing stimuli in a microfluidic device with a constant gradient. Biotechnology and Bioengineering, 2022, 119, 2564-2573.	3.3	3
49	Chemotaxis in shear flow: Similarity solutions of the steadyâ€state chemoattractant and bacterial distributions. AICHE Journal, 2019, 65, e16713.	3.6	2
50	Mathematical model for characterization of bacterial migration through sand cores. , 1997, 53, 487.		1
51	Preliminary Study on Dimensionless Expression of Bacterial Chemotaxis in Simulated Contaminated System. IOP Conference Series: Earth and Environmental Science, 2018, 178, 012009.	0.3	0
52	Investigation of Nutrient Limitation On Oil Spill Bioremediation Using a 1-D Mathematical Model. International Oil Spill Conference Proceedings, 1999, 1999, 1043-1047.	0.1	0