Ferdi L Hellweger

List of Publications by Year
in descending order

59 papers	2,074 citations	257101 24 h-index	253896 43 g-index
59 all docs	59 docs citations	59 times ranked	2826 citing authors

#	Article	IF	Citations
1	Advancing microbial sciences by individual-based modelling. Nature Reviews Microbiology, 2016, 14, 461-471.	13.6	193
2	Use of satellite imagery for water quality studies in New York Harbor. Estuarine, Coastal and Shelf Science, 2004, 61, 437-448.	0.9	175
3	Biogeographic patterns in ocean microbes emerge in a neutral agent-based model. Science, 2014, 345, 1346-1349.	6.0	141
4	A bunch of tiny individualsâ€"Individual-based modeling for microbes. Ecological Modelling, 2009, 220, 8-22.	1.2	139
5	Greedy algae reduce arsenate. Limnology and Oceanography, 2003, 48, 2275-2288.	1.6	104
6	Tracing Amazon River water into the Caribbean Sea. Journal of Marine Research, 2002, 60, 537-549.	0.3	92
7	VALIDATION OF THE NARCOSIS TARGET LIPID MODEL FOR PETROLEUM PRODUCTS: GASOLINE AS A CASE STUDY. Environmental Toxicology and Chemistry, 2005, 24, 2382.	2.2	78
8	Carrying photosynthesis genes increases ecological fitness of cyanophage <i>in silico</i>. Environmental Microbiology, 2009, 11, 1386-1394.	1.8	74
9	Modeling the Effect of Algal Dynamics on Arsenic Speciation in Lake Biwa. Environmental Science & Technology, 2004, 38, 6716-6723.	4.6	73
10	Models predict planned phosphorus load reduction will make Lake Erie more toxic. Science, 2022, 376, 1001-1005.	6.0	62
11	Agentâ€based modeling of the complex life cycle of a cyanobacterium (Anabaena) in a shallow reservoir. Limnology and Oceanography, 2008, 53, 1227-1241.	1.6	58
12	Community Biological Ammonium Demand: A Conceptual Model for Cyanobacteria Blooms in Eutrophic Lakes. Environmental Science & Technology, 2017, 51, 7785-7793.	4.6	56
13	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.	3.3	54
14	Effects of Spatial Resolution in Urban Hydrologic Simulations. Journal of Hydrologic Engineering - ASCE, 2012, 17, 129-137.	0.8	52
15	Carbon limitation drives GC content evolution of a marine bacterium in an individual-based genome-scale model. ISME Journal, 2018, 12, 1180-1187.	4.4	44
16	Investigating the Fate and Transport of <i>Escherichia coli</i> in the Charles River, Boston, Using Highâ€Resolution Observation and Modeling¹. Journal of the American Water Resources Association, 2008, 44, 509-522.	1.0	43
17	Equivalent Porous Media (EPM) Simulation of Groundwater Hydraulics and Contaminant Transport in Karst Aquifers. PLoS ONE, 2015, 10, e0138954.	1.1	40
18	A Simple Model of Tetracycline Antibiotic Resistance in the Aquatic Environment (with Application to) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	1.2	39

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19	Definition and Connection of Hydrologic Elements using Geographic Data. Journal of Hydrologic Engineering - ASCE, 1999, 4, 10-18.	0.8	38
20	From Genes to Ecosystems in Microbiology: Modeling Approaches and the Importance of Individuality. Frontiers in Microbiology, 2017, 8, 2299.	1.5	37
21	Heterogeneity of Intracellular Polymer Storage States in Enhanced Biological Phosphorus Removal (EBPR) â€“ Observation and Modeling. Environmental Science & Technology, 2012, 46, 3244-3252.	4.6	32
22	Urban hydrology in a computer game?. Environmental Modelling and Software, 2007, 22, 1679-1684.	1.9	28
23	Mapping Turbidity in the Charles River, Boston Using a High-resolution Satellite. Environmental Monitoring and Assessment, 2007, 132, 311-320.	1.3	27
24	Resonating circadian clocks enhance fitness in cyanobacteria in silico. Ecological Modelling, 2010, 221, 1620-1629.	1.2	27
25	Microscale patchiness leads to large and important intraspecific internal nutrient heterogeneity in phytoplankton. Aquatic Ecology, 2012, 46, 101-118.	0.7	26
26	Dynamic, mechanistic, molecularâ€level modelling of cyanobacteria: <i>Anabaena</i> and nitrogen interaction. Environmental Microbiology, 2016, 18, 2721-2731.	1.8	25
27	Episodic Decrease in Temperature Increases mcy Gene Transcription and Cellular Microcystin in Continuous Cultures of Microcystis aeruginosa PCC 7806. Frontiers in Microbiology, 2020, 11, 601864.	1.5	23
28	Transport in the Hudson estuary: A modeling study of estuarine circulation and tidal trapping. Estuaries and Coasts, 2004, 27, 527-538.	1.7	22
29	Accounting for Intrapopulation Variability in Biogeochemical Models Using Agent-Based Methods. Environmental Science & Technology, 2007, 41, 2855-2860.	4.6	22
30	Individual-based modeling of phytoplankton: Evaluating approaches for applying the cell quota model. Journal of Theoretical Biology, 2007, 249, 554-565.	0.8	22
31	<i>Escherichia coli</i>adapts to tetracycline resistance plasmid (pBR322) by mutating endogenous potassium transport:<i>in silico</i>hypothesis testing. FEMS Microbiology Ecology, 2013, 83, 622-631.	1.3	18
32	Spatially explicit individual-based modeling using a fixed super-individual density. Computers and Geosciences, 2008, 34, 144-152.	2.0	16
33	The Role of Ocean Currents in the Temperature Selection of Plankton: Insights from an Individual-Based Model. PLoS ONE, 2016, 11, e0167010.	1.1	16
34	Circadian clock helps cyanobacteria manage energy in coastal and high latitude ocean. ISME Journal, 2020, 14, 560-568.	4.4	16
35	Editorial: The Individual Microbe: Single-Cell Analysis and Agent-Based Modelling. Frontiers in Microbiology, 2018, 9, 2825.	1.5	13
36	Dynamics of arsenic speciation in surface waters: As(III) production by algae. Applied Organometallic Chemistry, 2005, 19, 727-735.	1.7	12

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37	Age-correlated stress resistance improves fitness of yeast: support from agent-based simulations. BMC Systems Biology, 2014, 8, 18.	3.0	12
38	100 Years since Streeter and Phelps: It Is Time To Update the Biology in Our Water Quality Models. Environmental Science & Technology, 2015, 49, 6372-6373.	4.6	12
39	Population Dynamics of Escherichia coli in Surface Water1. Journal of the American Water Resources Association, 2011, 47, 611-619.	1.0	11
40	Is the whole the sumof its parts? Agent-basedmodelling of wastewater treatment systems. Water Science and Technology, 2011, 63, 1590-1598.	1.2	10
41	From protein damage to cell aging to population fitness in E. coli: Insights from a multi-level agent-based model. Ecological Modelling, 2015, 301, 62-71.	1.2	10
42	Phosphorus loading from onsite wastewater systems to a lake (at long time scales). Lake and Reservoir Management, 2019, 35, 90-101.	0.4	10
43	Neutral Evolution and Dispersal Limitation Produce Biogeographic Patterns in Microcystis aeruginosa Populations of Lake Systems. Microbial Ecology, 2017, 74, 416-426.	1.4	9
44	Combining Molecular Observations and Microbial Ecosystem Modeling: A Practical Guide. Annual Review of Marine Science, 2020, 12, 267-289.	5.1	9
45	Modeling Adaptive Mutation of Enteric Bacteria in Surface Water Using Agent-Based Methods. Water, Air, and Soil Pollution, 2012, 223, 2035-2049.	1.1	8
46	Use of Agent-Based Modeling To Explore the Mechanisms of Intracellular Phosphorus Heterogeneity in Cultured Phytoplankton. Applied and Environmental Microbiology, 2013, 79, 4359-4368.	1.4	8
47	Adding Human Health Risk Analysis Tools to Geographic Information Systems. Transactions in GIS, 2002, 6, 471-484.	1.0	7
48	Dynamic carbon flux network of a diverse marine microbial community. ISME Communications, 2021, 1, .	1.7	7
49	The role of inter-generation memory in diel phytoplankton division patterns. Ecological Modelling, 2008, 212, 382-396.	1.2	6
50	Heterotrophic substrate specificity in the aquatic environment: The role of microscale patchiness investigated using modelling. Environmental Microbiology, 2018, 20, 3825-3835.	1.8	5
51	A Three-Dimensional Model for Cohesive Sediment Dynamics in Shallow Bays. , 2000, , 1.		3
52	Anatomy of an urban waterbody: A case study of Bostonâ€™s Muddy River. Environmental Pollution, 2011, 159, 1996-2002.	3.7	3
53	Fresh Ideas Bloom in Gut Healthcare to Cross-Fertilize Lake Management. Environmental Science & Technology, 2019, 53, 14099-14112.	4.6	2
54	A Shared Environmental Geographic Information System to Build an Inter-Agency Relationship. , 2000, , 1.		1

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55	SWMOD: A Simple GIS Based Toxics Modeling Framework. Proceedings of the Water Environment Federation, 2000, 2000, 1418-1434.	0.0	1
56	MEASURING AND MODELING LARGE-SCALE POLLUTANT DISPERSION IN SURFACE WATERS. Proceedings of the Water Environment Federation, 2005, 2005, 807-830.	0.0	1
57	IS IT TIME TO ABANDON THE CHEMISTRY APPROACH TO BIOGEOCHEMISTRY? (AGENT-BASED WATER QUALITY) Tj ETQq1 1 0.784314	0.0	1
58	Copper leaching from recreational vessel antifouling paints in freshwater: A Berlin case study. Journal of Environmental Management, 2022, 301, 113895.	3.8	1
59	Challenges to Returning Public Access Swimming to the Charles River in an Urban Environment. Proceedings of the Water Environment Federation, 2010, 2010, 913-927.	0.0	0