Frithjof Lutscher

List of Publications by Year
in descending order

104 papers	2,837 citations	201575 27 h-index	197736 49 g-index
107 all docs	107 docs citations	107 times ranked	1863 citing authors

#	Article	IF	Citations
1	Data cloning: easy maximum likelihood estimation for complex ecological models using Bayesian Markov chain Monte Carlo methods. Ecology Letters, 2007, 10, 551-563.	3.0	234
2	Persistence, spread and the drift paradox. Theoretical Population Biology, 2005, 67, 61-73.	0.5	167
3	Effects of Heterogeneity on Spread and Persistence in Rivers. Bulletin of Mathematical Biology, 2006, 68, 2129-2160.	0.9	158
4	The Effect of Dispersal Patterns on Stream Populations. SIAM Review, 2005, 47, 749-772.	4.2	128
5	Evolution of dispersal in open advective environments. Journal of Mathematical Biology, 2014, 69, 1319-1342.	0.8	128
6	Spatial patterns and coexistence mechanisms in systems with unidirectional flow. Theoretical Population Biology, 2007, 71, 267-277.	0.5	111
7	The Effect of Dispersal Patterns on Stream Populations. SIAM Journal on Applied Mathematics, 2005, 65, 1305-1327.	0.8	101
8	Dispersal in heterogeneous habitats: thresholds, spatial scales, and approximate rates of spread. Ecology, 2009, 90, 1338-1345.	1.5	100
9	Mechanistic models for the spatial spread of species under climate change. Ecological Applications, 2013, 23, 815-828.	1.8	80
10	Ecoâ€evolutionary dynamics of range expansion. Ecology, 2020, 101, e03139.	1.5	79
11	The Effect of Movement Behavior on Population Density in Patchy Landscapes. Bulletin of Mathematical Biology, 2020, 82, 1.	0.9	76
12	Evolution of dispersal in closed advective environments. Journal of Biological Dynamics, 2015, 9, 188-212.	0.8	75
13	Population persistence in the face of advection. Theoretical Ecology, 2010, 3, 271-284.	0.4	74
14	How Individual Movement Response to Habitat Edges Affects Population Persistence and Spatial Spread. American Naturalist, 2013, 182, 42-52.	1.0	73
15	Modeling Group Formation and Activity Patterns in Self-Organizing Collectives of Individuals. Bulletin of Mathematical Biology, 2007, 69, 1537-1565.	0.9	66
16	Emerging Patterns in a Hyperbolic Model for Locally Interacting Cell Systems. Journal of Nonlinear Science, 2003, 12, 619-640.	1.0	58
17	Bistability and limit cycles in generalist predatorâ€“prey dynamics. Ecological Complexity, 2013, 14, 48-55.	1.4	55
18	Spatially-explicit matrix models. Journal of Mathematical Biology, 2004, 48, 293-324.	0.8	48

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19	Density-dependent dispersal in integrodifference equations. Journal of Mathematical Biology, 2008, 56, 499-524.	0.8	45
20	Competition of three species in an advective environment. Nonlinear Analysis: Real World Applications, 2012, 13, 1730-1748.	0.9	42
21	How Flow Speed Alters Competitive Outcome in Advective Environments. Bulletin of Mathematical Biology, 2012, 74, 2935-2958.	0.9	41
22	Average Dispersal Success: Linking Home Range, Dispersal, And Metapopulation Dynamics To Reserve Design. , 2006, 16, 820-828.		38
23	Existence of Weak Solutions for a Hyperbolic Model of Chemosensitive Movement. Journal of Mathematical Analysis and Applications, 2001, 260, 173-199.	0.5	36
24	Allee effects and population spread in patchy landscapes. Journal of Biological Dynamics, 2015, 9, 109-123.	0.8	36
25	The Emergence of Range Limits in Advective Environments. SIAM Journal on Applied Mathematics, 2016, 76, 641-662.	0.8	34
26	Modeling alignment and movement of animals and cells. Journal of Mathematical Biology, 2002, 45, 234-260.	0.8	33
27	Faster movement in nonhabitat matrix promotes range shifts in heterogeneous landscapes. Ecology, 2019, 100, e02701.	1.5	32
28	THE LANGEVIN OR KRAMERS APPROACH TO BIOLOGICAL MODELING. Mathematical Models and Methods in Applied Sciences, 2004, 14, 1561-1583.	1.7	30
29	The effect of temporal variability on persistence conditions in rivers. Journal of Theoretical Biology, 2011, 283, 53-59.	0.8	28
30	Population and Community Consequences of Spatial Subsidies Derived from Centralâ€Place Foraging. American Naturalist, 2007, 170, 902-915.	1.0	27
31	Seasonally Varying Predation Behavior and Climate Shifts Are Predicted to Affect Predator-Prey Cycles. American Naturalist, 2016, 188, 539-553.	1.0	27
32	Competition, facilitation and the Allee effect. Oikos, 2013, 122, 621-631.	1.2	24
33	Behavioral responses to resource heterogeneity can accelerate biological invasions. Ecology, 2017, 98, 1229-1238.	1.5	24
34	Integrodifference equations in patchy landscapes. Journal of Mathematical Biology, 2014, 69, 617-658.	0.8	22
35	Recommendations for increasing the use of HIV/AIDS resource allocation models. BMC Public Health, 2009, 9, S8.	1.2	21
36	Connectivity, passability and heterogeneity interact to determine fish population persistence in river networks. Journal of the Royal Society Interface, 2015, 12, 20150435.	1.5	21

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37	Turing patterns in a predatorâ€"prey model with seasonality. Journal of Mathematical Biology, 2019, 78, 711-737.	0.8	21
38	A Short Note on Short Dispersal Events. Bulletin of Mathematical Biology, 2007, 69, 1615-1630.	0.9	20
39	Modeling seasonal behavior changes and disease transmission with application to chronic wasting disease. Journal of Theoretical Biology, 2014, 340, 50-59.	0.8	20
40	Diffusion-driven instabilities and emerging spatial patterns in patchy landscapes. Ecological Complexity, 2015, 24, 69-81.	1.4	19
41	Analysis of spread and persistence for stream insects with winged adult stages. Journal of Mathematical Biology, 2016, 72, 851-875.	0.8	19
42	Modelling the dynamics of invasion and control of competing green crab genotypes. Theoretical Ecology, 2014, 7, 391-406.	0.4	18
43	Mean occupancy time: linking mechanistic movement models, population dynamics and landscape ecology to population persistence. Journal of Mathematical Biology, 2014, 68, 549-579.	0.8	17
44	Nonlocal dispersal and averaging in heterogeneous landscapes. Applicable Analysis, 2010, 89, 1091-1108.	0.6	16
45	Persistence and extinction dynamics driven by the rate of environmental change in a predatorâ€"prey metacommunity. Theoretical Ecology, 2020, 13, 629-643.	0.4	15
46	Tracking unstable states: ecosystem dynamics in a changing world. Oikos, 2021, 130, 525-540.	1.2	15
47	The importance of census times in discrete-time growth-dispersal models. Journal of Biological Dynamics, 2008, 2, 55-63.	0.8	14
48	Coexistence and Spread of Competitors in Heterogeneous Landscapes. Bulletin of Mathematical Biology, 2010, 72, 2089-2112.	0.9	14
49	The effect of predator avoidance and travel time delay on the stability of predator-prey metacommunities. Theoretical Ecology, 2015, 8, 273-283.	0.4	14
50	Towards Building a Sustainable Future: Positioning Ecological Modelling for Impact in Ecosystems Management. Bulletin of Mathematical Biology, 2021, 83, 107.	0.9	14
51	Dynamics and coexistence in a system with intraguild mutualism. Ecological Complexity, 2013, 14, 64-74.	1.4	13
52	Population spread in patchy landscapes under a strong Allee effect. Theoretical Ecology, 2015, 8, 313-326.	0.4	13
53	Cell-cycle times and the tumour control probability. Mathematical Medicine and Biology, 2010, 27, 313-342.	0.8	12
54	SPREAD RATES UNDER TEMPORAL VARIABILITY: CALCULATION AND APPLICATION TO BIOLOGICAL INVASIONS. Mathematical Models and Methods in Applied Sciences, 2011, 21, 2469-2489.	1.7	12

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55	Traveling waves in discrete models of biological populations with sessile stages. Nonlinear Analysis: Real World Applications, 2013, 14, 495-506.	0.9	12
56	Integrodifference equations in patchy landscapes. Journal of Mathematical Biology, 2014, 69, 583-615.	0.8	12
57	Movement behaviour determines competitive outcome and spread rates in strongly heterogeneous landscapes. Theoretical Ecology, 2018, 11, 351-365.	0.4	12
58	Spreading Phenomena in Integrodifference Equations with Nonmonotone Growth Functions. SIAM Journal on Applied Mathematics, 2018, 78, 2950-2972.	0.8	10
59	Individual behavior at habitat edges may help populations persist in moving habitats. Journal of Mathematical Biology, 2018, 77, 2049-2077.	0.8	10
60	Persistence and spread of stage-structured populations in heterogeneous landscapes. Journal of Mathematical Biology, 2019, 78, 1485-1527.	0.8	10
61	Aggregation and environmental transmission in chronic wasting disease. Mathematical Biosciences and Engineering, 2015, 12, 209-231.	1.0	9
62	Evolutionarily stable movement strategies in reactionâ€“diffusion models with edge behavior. Journal of Mathematical Biology, 2020, 80, 61-92.	0.8	8
63	Harvesting and predation of a sex- and age-structured population. Journal of Biological Dynamics, 2011, 5, 600-618.	0.8	7
64	How Spatial Heterogeneity Affects Transient Behavior in Reactionâ€“Diffusion Systems for Ecological Interactions?. Bulletin of Mathematical Biology, 2019, 81, 3889-3917.	0.9	7
65	The emergence of phase asynchrony and frequency modulation in metacommunities. Theoretical Ecology, 2019, 12, 329-343.	0.4	7
66	How robust is dispersal-induced spatial synchrony?. Chaos, 2015, 25, 036402.	1.0	6
67	Movement behaviour of fish, harvesting-induced habitat degradation and the optimal size of marine reserves. Theoretical Ecology, 2019, 12, 453-466.	0.4	6
68	Meandering Rivers: How Important is Lateral Variability for Species Persistence?. Bulletin of Mathematical Biology, 2017, 79, 2954-2985.	0.9	6
69	Quiescent phases with distributed exit times. Discrete and Continuous Dynamical Systems - Series B, 2012, 17, 849-869.	0.5	6
70	Persistence Probabilities for Stream Populations. Bulletin of Mathematical Biology, 2012, 74, 1629-1650.	0.9	5
71	From Individual Movement Rules to Population Level Patterns: The Case of Central-Place Foragers. Lecture Notes in Mathematics, 2013, , 159-175.	0.1	5
72	Analysis of Integrodifference Equations with a Separable Dispersal Kernel. Acta Applicandae Mathematicae, 2019, 161, 127-151.	0.5	5

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73	Modeling Gender-Structured Wildlife Diseases with Harvesting: Chronic Wasting Disease as an Example. , 2012, 2012, 1-18.		5
74	Invasion pinning in a periodically fragmented habitat. Journal of Mathematical Biology, 2018, 77, 55-78.	0.8	3
75	Reactivity of communities at equilibrium and periodic orbits. Journal of Theoretical Biology, 2020, 493, 110240.	0.8	3
76	A probabilistic framework for nutrient uptake length. Theoretical Ecology, 2013, 6, 71-86.	0.4	2
77	Choice disability as a target for non-medical HIV intervention. Mathematical Biosciences, 2018, 299, 127-137.	0.9	2
78	Shigesada etÂal. (1986) and population spread in heterogeneous environments. Theoretical Population Biology, 2020, 133, 27-28.	0.5	2
79	Pushing the Boundaries: Models for the Spatial Spread of Ecosystem Engineers. Bulletin of Mathematical Biology, 2020, 82, 138.	0.9	2
80	Bridging the scale gap: Predicting largeâ€scale population dynamics from smallâ€scale variation in strongly heterogeneous landscapes. Methods in Ecology and Evolution, 0, , .	2.2	2
81	Exactly Solvable Models for Biological Invasion by S. Petrovskii and B.-L. Li. Mathematical Medicine and Biology, 2006, 23, 389-390.	0.8	1
82	Correlated random walks in heterogeneous landscapes: Derivation, homogenization, and invasion fronts. AIMS Mathematics, 2021, 6, 8920-8948.	0.7	1
83	Coexistence of competing consumers on a single resource in a hybrid model. Discrete and Continuous Dynamical Systems - Series B, 2021, 26, 269-297.	0.5	1
84	The Existence of Solutions for a Free Boundary Problem Modeling the Spread of Ecosystem Engineers. Journal of Nonlinear Science, 2021, 31, 1.	1.0	1
85	A seasonal hybrid model for the evolution of flowering onset. Journal of Theoretical Biology, 2021, 523, 110668.	0.8	1
86	Moving-habitat models: A numerical approach. Mathematical Biosciences, 2021, 341, 108711.	0.9	1
87	The importance of choice disability and structural intervention in the HIV epidemic in Sub-Saharan Africa. PLoS ONE, 2017, 12, e0175297.	1.1	1
88	Modeling with Integrodifference Equations. Interdisciplinary Applied Mathematics, 2019, , 9-22.	0.2	1
89	Further Topics and Related Models. Interdisciplinary Applied Mathematics, 2019, , 349-361.	0.2	1
90	The effect of landscape fragmentation on Turing-pattern formation. Mathematical Biosciences and Engineering, 2022, 19, 2506-2537.	1.0	1

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91	Propagation Phenomena in Periodic Patchy Landscapes with Interface Conditions. Journal of Dynamics and Differential Equations, 2024, 36, 435-486.	1.0	1
92	How mutation shapes the rate of population spread in the presence of a mate-finding Allee effect. Theoretical Ecology, 0, , .	0.4	1
93	Downstream flow and upstream movement determine the value of a stream reach for potadromous fish populations. Theoretical Ecology, 2017, 10, 21-34.	0.4	0
94	Competitive coexistence of seasonal breeders. Journal of Mathematical Biology, 2021, 83, 38.	0.8	0
95	Dispersal Success. Interdisciplinary Applied Mathematics, 2019, , 119-132.	0.2	0
96	Positive Steady States. Interdisciplinary Applied Mathematics, 2019, , 39-52.	0.2	0
97	Modeling the Dispersal Process. Interdisciplinary Applied Mathematics, 2019, , 87-104.	0.2	0
98	Critical Patch-Size. Interdisciplinary Applied Mathematics, 2019, , 23-38.	0.2	0
99	Structured Populations. Interdisciplinary Applied Mathematics, 2019, , 201-230.	0.2	0
100	Spatial Variation. Interdisciplinary Applied Mathematics, 2019, , 285-330.	0.2	0
101	The Speed of Spatial Spread. Interdisciplinary Applied Mathematics, 2019, , 53-73.	0.2	0
102	Approximations for Spread. Interdisciplinary Applied Mathematics, 2019, , 133-143.	0.2	0
103	Two Interacting Populations. Interdisciplinary Applied Mathematics, 2019, , 231-283.	0.2	0
104	Population and Community Consequences of Spatial Subsidies Derived from Central-Place Foraging. American Naturalist, 2007, 170, 902.	1.0	0