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	Propagation Phenomena in Periodic Patchy Landscapes with Interface Conditions. Journal of Dynamics and Differential Equations, 2024, 36, 435-486.	1.0	1
2	The effect of landscape fragmentation on Turing-pattern formation. Mathematical Biosciences and Engineering, 2022, 19, 2506-2537.	1.0	1
3	Correlated random walks in heterogeneous landscapes: Derivation, homogenization, and invasion fronts. AIMS Mathematics, 2021, 6, 8920-8948.	0.7	1
4	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
5	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
6	A seasonal hybrid model for the evolution of flowering onset. Journal of Theoretical Biology, 2021, 523, 110668.	0.8	1
7	Towards Building a Sustainable Future: Positioning Ecological Modelling for Impact in Ecosystems Management. Bulletin of Mathematical Biology, 2021, 83, 107.	0.9	14
8	Competitive coexistence of seasonal breeders. Journal of Mathematical Biology, 2021, 83, 38.	0.8	0
9	Moving-habitat models: A numerical approach. Mathematical Biosciences, 2021, 341, 108711.	0.9	1
10	Tracking unstable states: ecosystem dynamics in a changing world. Oikos, 2021, 130, 525-540.	1.2	15
11	Evolutionarily stable movement strategies in reactionâ€"diffusion models with edge behavior. Journal of Mathematical Biology, 2020, 80, 61-92.	0.8	8
12	Shigesada etÂal. (1986) and population spread in heterogeneous environments. Theoretical Population Biology, 2020, 133, 27-28.	0.5	2
13	Ecoâ€evolutionary dynamics of range expansion. Ecology, 2020, 101, e03139.	1.5	79
14	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
15	Pushing the Boundaries: Models for the Spatial Spread of Ecosystem Engineers. Bulletin of Mathematical Biology, 2020, 82, 138.	0.9	2
16	Reactivity of communities at equilibrium and periodic orbits. Journal of Theoretical Biology, 2020, 493, 110240.	0.8	3
17	The Effect of Movement Behavior on Population Density in Patchy Landscapes. Bulletin of Mathematical Biology, 2020, 82, 1.	0.9	76
18	Turing patterns in a predatorâ€"prey model with seasonality. Journal of Mathematical Biology, 2019, 78, 711-737.	0.8	21

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19	How Spatial Heterogeneity Affects Transient Behavior in Reactionâ€"Diffusion Systems for Ecological Interactions?. Bulletin of Mathematical Biology, 2019, 81, 3889-3917.	0.9	7
20	Faster movement in nonhabitat matrix promotes range shifts in heterogeneous landscapes. Ecology, 2019, 100, e02701.	1.5	32
21	Analysis of Integrodifference Equations with a Separable Dispersal Kernel. Acta Applicandae Mathematicae, 2019, 161, 127-151.	0.5	5
22	Movement behaviour of fish, harvesting-induced habitat degradation and the optimal size of marine reserves. Theoretical Ecology, 2019, 12, 453-466.	0.4	6
23	The emergence of phase asynchrony and frequency modulation in metacommunities. Theoretical Ecology, 2019, 12, 329-343.	0.4	7
24	Persistence and spread of stage-structured populations in heterogeneous landscapes. Journal of Mathematical Biology, 2019, 78, 1485-1527.	0.8	10
25	Dispersal Success. Interdisciplinary Applied Mathematics, 2019, , 119-132.	0.2	0
26	Modeling with Integrodifference Equations. Interdisciplinary Applied Mathematics, 2019, , 9-22.	0.2	1
27	Positive Steady States. Interdisciplinary Applied Mathematics, 2019, , 39-52.	0.2	0
28	Modeling the Dispersal Process. Interdisciplinary Applied Mathematics, 2019, , 87-104.	0.2	0
29	Further Topics and Related Models. Interdisciplinary Applied Mathematics, 2019, , 349-361.	0.2	1
30	Critical Patch-Size. Interdisciplinary Applied Mathematics, 2019, , 23-38.	0.2	0
31	Structured Populations. Interdisciplinary Applied Mathematics, 2019, , 201-230.	0.2	0
32	Spatial Variation. Interdisciplinary Applied Mathematics, 2019, , 285-330.	0.2	0
33	The Speed of Spatial Spread. Interdisciplinary Applied Mathematics, 2019, , 53-73.	0.2	0
34	Approximations for Spread. Interdisciplinary Applied Mathematics, 2019, , 133-143.	0.2	0
35	Two Interacting Populations. Interdisciplinary Applied Mathematics, 2019, , 231-283.	0.2	0
36	Choice disability as a target for non-medical HIV intervention. Mathematical Biosciences, 2018, 299, 127-137.	0.9	2

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37	Movement behaviour determines competitive outcome and spread rates in strongly heterogeneous landscapes. Theoretical Ecology, 2018, 11, 351-365.	0.4	12
38	Invasion pinning in a periodically fragmented habitat. Journal of Mathematical Biology, 2018, 77, 55-78.	0.8	3
39	Spreading Phenomena in Integrodifference Equations with Nonmonotone Growth Functions. SIAM Journal on Applied Mathematics, 2018, 78, 2950-2972.	0.8	10
40	Individual behavior at habitat edges may help populations persist in moving habitats. Journal of Mathematical Biology, 2018, 77, 2049-2077.	0.8	10
41	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
42	Behavioral responses to resource heterogeneity can accelerate biological invasions. Ecology, 2017, 98, 1229-1238.	1.5	24
43	Meandering Rivers: How Important is Lateral Variability for Species Persistence?. Bulletin of Mathematical Biology, 2017, 79, 2954-2985.	0.9	6
44	The importance of choice disability and structural intervention in the HIV epidemic in Sub-Saharan Africa. PLoS ONE, 2017, 12, e0175297.	1.1	1
45	The Emergence of Range Limits in Advective Environments. SIAM Journal on Applied Mathematics, 2016, 76, 641-662.	0.8	34
46	Seasonally Varying Predation Behavior and Climate Shifts Are Predicted to Affect Predator-Prey Cycles. American Naturalist, 2016, 188, 539-553.	1.0	27
47	Analysis of spread and persistence for stream insects with winged adult stages. Journal of Mathematical Biology, 2016, 72, 851-875.	0.8	19
48	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
49	Population spread in patchy landscapes under a strong Allee effect. Theoretical Ecology, 2015, 8, 313-326.	0.4	13
50	How robust is dispersal-induced spatial synchrony?. Chaos, 2015, 25, 036402.	1.0	6
51	Allee effects and population spread in patchy landscapes. Journal of Biological Dynamics, 2015, 9, 109-123.	0.8	36
52	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
53	Diffusion-driven instabilities and emerging spatial patterns in patchy landscapes. Ecological Complexity, 2015, 24, 69-81.	1.4	19
54	Evolution of dispersal in closed advective environments. Journal of Biological Dynamics, 2015, 9, 188-212.	0.8	75

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55	Aggregation and environmental transmission in chronic wasting disease. Mathematical Biosciences and Engineering, 2015, 12, 209-231.	1.0	9
56	Integrodifference equations in patchy landscapes. Journal of Mathematical Biology, 2014, 69, 617-658.	0.8	22
57	Integrodifference equations in patchy landscapes. Journal of Mathematical Biology, 2014, 69, 583-615.	0.8	12
58	Evolution of dispersal in open advective environments. Journal of Mathematical Biology, 2014, 69, 1319-1342.	0.8	128
59	Modelling the dynamics of invasion and control of competing green crab genotypes. Theoretical Ecology, 2014, 7, 391-406.	0.4	18
60	Modeling seasonal behavior changes and disease transmission with application to chronic wasting disease. Journal of Theoretical Biology, 2014, 340, 50-59.	0.8	20
61	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
62	Dynamics and coexistence in a system with intraguild mutualism. Ecological Complexity, 2013, 14, 64-74.	1.4	13
63	Competition, facilitation and the Allee effect. Oikos, 2013, 122, 621-631.	1.2	24
64	Mechanistic models for the spatial spread of species under climate change. Ecological Applications, 2013, 23, 815-828.	1.8	80
65	A probabilistic framework for nutrient uptake length. Theoretical Ecology, 2013, 6, 71-86.	0.4	2
66	From Individual Movement Rules to Population Level Patterns: The Case of Central-Place Foragers. Lecture Notes in Mathematics, 2013, , 159-175.	0.1	5
67	Bistability and limit cycles in generalist predatorâ€"prey dynamics. Ecological Complexity, 2013, 14, 48-55.	1.4	55
68	How Individual Movement Response to Habitat Edges Affects Population Persistence and Spatial Spread. American Naturalist, 2013, 182, 42-52.	1.0	73
69	Traveling waves in discrete models of biological populations with sessile stages. Nonlinear Analysis: Real World Applications, 2013, 14, 495-506.	0.9	12
70	How Flow Speed Alters Competitive Outcome in Advective Environments. Bulletin of Mathematical Biology, 2012, 74, 2935-2958.	0.9	41
71	Persistence Probabilities for Stream Populations. Bulletin of Mathematical Biology, 2012, 74, 1629-1650.	0.9	5
72	Competition of three species in an advective environment. Nonlinear Analysis: Real World Applications, 2012, 13, 1730-1748.	0.9	42

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73	Quiescent phases with distributed exit times. Discrete and Continuous Dynamical Systems - Series B, 2012, 17, 849-869.	0.5	6
74	Modeling Gender-Structured Wildlife Diseases with Harvesting: Chronic Wasting Disease as an Example. , 2012, 2012, 1-18.		5
75	The effect of temporal variability on persistence conditions in rivers. Journal of Theoretical Biology, 2011, 283, 53-59.	0.8	28
76	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
77	Harvesting and predation of a sex- and age-structured population. Journal of Biological Dynamics, 2011, 5, 600-618.	0.8	7
78	Coexistence and Spread of Competitors in Heterogeneous Landscapes. Bulletin of Mathematical Biology, 2010, 72, 2089-2112.	0.9	14
79	Population persistence in the face of advection. Theoretical Ecology, 2010, 3, 271-284.	0.4	74
80	Nonlocal dispersal and averaging in heterogeneous landscapes. Applicable Analysis, 2010, 89, 1091-1108.	0.6	16
81	Cell-cycle times and the tumour control probability. Mathematical Medicine and Biology, 2010, 27, 313-342.	0.8	12
82	Dispersal in heterogeneous habitats: thresholds, spatial scales, and approximate rates of spread. Ecology, 2009, 90, 1338-1345.	1.5	100
83	Recommendations for increasing the use of HIV/AIDS resource allocation models. BMC Public Health, 2009, 9, S8.	1.2	21
84	Density-dependent dispersal in integrodifference equations. Journal of Mathematical Biology, 2008, 56, 499-524.	0.8	45
85	The importance of census times in discrete-time growth-dispersal models. Journal of Biological Dynamics, 2008, 2, 55-63.	0.8	14
86	Population and Community Consequences of Spatial Subsidies Derived from Centralâ€Place Foraging. American Naturalist, 2007, 170, 902-915.	1.0	27
87	Spatial patterns and coexistence mechanisms in systems with unidirectional flow. Theoretical Population Biology, 2007, 71, 267-277.	0.5	111
88	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
89	Modeling Group Formation and Activity Patterns in Self-Organizing Collectives of Individuals. Bulletin of Mathematical Biology, 2007, 69, 1537-1565.	0.9	66
90	A Short Note on Short Dispersal Events. Bulletin of Mathematical Biology, 2007, 69, 1615-1630.	0.9	20

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91	Population and Community Consequences of Spatial Subsidies Derived from Central-Place Foraging. American Naturalist, 2007, 170, 902.	1.0	0
92	Effects of Heterogeneity on Spread and Persistence in Rivers. Bulletin of Mathematical Biology, 2006, 68, 2129-2160.	0.9	158
93	Exactly Solvable Models for Biological Invasion by S. Petrovskii and B.-L. Li. Mathematical Medicine and Biology, 2006, 23, 389-390.	0.8	1
94	Average Dispersal Success: Linking Home Range, Dispersal, And Metapopulation Dynamics To Reserve Design. , 2006, 16, 820-828.		38
95	The Effect of Dispersal Patterns on Stream Populations. SIAM Journal on Applied Mathematics, 2005, 65, 1305-1327.	0.8	101
96	The Effect of Dispersal Patterns on Stream Populations. SIAM Review, 2005, 47, 749-772.	4.2	128
97	Persistence, spread and the drift paradox. Theoretical Population Biology, 2005, 67, 61-73.	0.5	167
98	THE LANGEVIN OR KRAMERS APPROACH TO BIOLOGICAL MODELING. Mathematical Models and Methods in Applied Sciences, 2004, 14, 1561-1583.	1.7	30
99	Spatially-explicit matrix models. Journal of Mathematical Biology, 2004, 48, 293-324.	0.8	48
100	Emerging Patterns in a Hyperbolic Model for Locally Interacting Cell Systems. Journal of Nonlinear Science, 2003, 12, 619-640.	1.0	58
101	Modeling alignment and movement of animals and cells. Journal of Mathematical Biology, 2002, 45, 234-260.	0.8	33
102	Existence of Weak Solutions for a Hyperbolic Model of Chemosensitive Movement. Journal of Mathematical Analysis and Applications, 2001, 260, 173-199.	0.5	36
103	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
104	How mutation shapes the rate of population spread in the presence of a mate-finding Allee effect. Theoretical Ecology, 0, , .	0.4	1