Frank M Hilker

List of Publications by Year
in descending order

		201674	254184
76	2,193	27	43
papers	citations	h-index	g-index

82	82	82	1655
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Experimental demonstration of chaos in a microbial food web. Nature, 2005, 435, 1226-1229.	27.8	208
2	Hunting cooperation and Allee effects in predators. Journal of Theoretical Biology, 2017, 419, 13-22.	1.7	157
3	Disease-induced stabilization of predatorâ€“prey oscillations. Journal of Theoretical Biology, 2008, 255, 299-306.	1.7	101
4	Moving forward in circles: challenges and opportunities in modelling population cycles. Ecology Letters, 2017, 20, 1074-1092.	6.4	100
5	A diffusive SI model with Allee effect and application to FIV. Mathematical Biosciences, 2007, 206, 61-80.	1.9	97
6	The Allee Effect and Infectious Diseases: Extinction, Multistability, and the (Disâ€)Appearance of Oscillations. American Naturalist, 2009, 173, 72-88.	2.1	96
7	Why are metapopulations so rare?. Ecology, 2012, 93, 1967-1978.	3.2	75
8	Pathogens can Slow Down or Reverse Invasion Fronts of their Hosts. Biological Invasions, 2005, 7, 817-832.	2.4	71
9	The hydra effect in predatorâ€“prey models. Journal of Mathematical Biology, 2012, 64, 341-360.	1.9	50
10	Oscillations and waves in a virally infected plankton system. Ecological Complexity, 2004, 1, 211-223.	2.9	49
11	Strange Periodic Attractors in a Prey-Predator System with Infected Prey. Mathematical Population Studies, 2006, 13, 119-134.	2.2	48
12	Patterns of Patchy Spread in Deterministic and Stochastic Models of Biological Invasion and Biological Control. Biological Invasions, 2005, 7, 771-793.	2.4	45
13	Population collapse to extinction: the catastrophic combination of parasitism and Allee effect. Journal of Biological Dynamics, 2010, 4, 86-101.	1.7	45
14	Spatiotemporal patterns in an excitable plankton system with lysogenic viral infection. Mathematical and Computer Modelling, 2005, 42, 1035-1048.	2.0	43
15	Implications of partial immunity on the prospects for tuberculosis control by post-exposure interventions. Journal of Theoretical Biology, 2007, 248, 608-617.	1.7	43
16	Disease-induced modification of prey competition in eco-epidemiological models. Ecological Complexity, 2014, 18, 74-82.	2.9	43
17	Target-oriented chaos control. Physics Letters, Section A: General, Atomic and Solid State Physics, 2011, 375, 3986-3992.	2.1	42
18	Modeling Virus Coinfection to Inform Management of Maize Lethal Necrosis in Kenya. Phytopathology, 2017, 107, 1095-1108.	2.2	41

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19	Complex Dynamics in an Eco-epidemiological Model. Bulletin of Mathematical Biology, 2013, 75, 2059-2078.	1.9	39
20	Harvest timing and its population dynamic consequences in a discrete single-species model. Mathematical Biosciences, 2014, 248, 78-87.	1.9	39
21	Modelling Disease Introduction as Biological Control ofÂInvasive Predators to Preserve Endangered Prey. Bulletin of Mathematical Biology, 2010, 72, 444-468.	1.9	37
22	Preventing Extinction and Outbreaks in Chaotic Populations. American Naturalist, 2007, 170, 232-241.	2.1	36
23	Predatorâ€“prey systems in streams and rivers. Theoretical Ecology, 2010, 3, 175-193.	1.0	36
24	Prey, predators, parasites: intraguild predation or simpler community modules in disguise?. Journal of Animal Ecology, 2011, 80, 414-421.	2.8	35
25	Harvesting, census timing and â€œhiddenâ€• hydra effects. Ecological Complexity, 2013, 14, 95-107.	2.9	30
26	Oscillations and waves in a virally infected plankton system. Ecological Complexity, 2006, 3, 200-208.	2.9	28
27	Paradox of simple limiter control. Physical Review E, 2006, 73, 052901.	2.1	28
28	A spatially stochastic epidemic model with partial immunization shows in mean field approximation the reinfection threshold. Journal of Biological Dynamics, 2010, 4, 634-649.	1.7	27
29	Coinfections by noninteracting pathogens are not independent and require new tests of interaction. PLoS Biology, 2019, 17, e3000551.	5.6	26
30	Hydra effect and paradox of enrichment in discrete-time predator-prey models. Mathematical Biosciences, 2019, 310, 120-127.	1.9	25
31	Predatorâ€“prey oscillations can shift when diseases become endemic. Journal of Theoretical Biology, 2013, 316, 1-8.	1.7	24
32	Seasonal Invasion Dynamics in a Spatially Heterogeneous River with Fluctuating Flows. Bulletin of Mathematical Biology, 2014, 76, 1522-1565.	1.9	23
33	Modelling Vector Transmission and Epidemiology of Co-Infecting Plant Viruses. Viruses, 2019, 11, 1153.	3.3	23
34	Disease in group-defending prey can benefit predators. Theoretical Ecology, 2014, 7, 87-100.	1.0	22
35	The Fokkerâ€“Planck law of diffusion and pattern formation in heterogeneous environments. Journal of Mathematical Biology, 2016, 73, 683-704.	1.9	22
36	Separatrix reconstruction to identify tipping points in an eco-epidemiological model. Applied Mathematics and Computation, 2018, 318, 80-91.	2.2	20

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37	Diseased Social Predators. Bulletin of Mathematical Biology, 2017, 79, 2175-2196.	1.9	19
38	The evolution of parasitic and mutualistic plantâ€"virus symbioses through transmission-virulence trade-offs. Virus Research, 2017, 241, 77-87.	2.2	18
39	Parameterizing, evaluating and comparing metapopulation models with data from individual-based simulations. Ecological Modelling, 2006, 199, 476-485.	2.5	17
40	A Mathematical Biologistâ€™s Guide to Absolute and Convective Instability. Bulletin of Mathematical Biology, 2014, 76, 1-26.	1.9	17
41	Plankton blooms and patchiness generated by heterogeneous physical environments. Ecological Complexity, 2014, 20, 185-194.	2.9	17
42	Rabbits protecting birds: Hypopredation and limitations of hyperpredation. Journal of Theoretical Biology, 2012, 297, 103-115.	1.7	15
43	Directional biases and resourceâ€dependence in dispersal generate spatial patterning in a consumerâ€"producer model. Ecology Letters, 2012, 15, 209-217.	6.4	15
44	Eco-epidemiological interactions with predator interference and infection. Theoretical Population Biology, 2019, 130, 191-202.	1.1	14
45	Towards Building a Sustainable Future: Positioning Ecological Modelling for Impact in Ecosystems Management. Bulletin of Mathematical Biology, 2021, 83, 107.	1.9	14
46	Adaptive limiter control of unimodal population maps. Journal of Theoretical Biology, 2013, 337, 161-173.	1.7	13
47	Stabilizing Populations with Adaptive Limiters: Prospects and Fallacies. SIAM Journal on Applied Dynamical Systems, 2014, 13, 447-465.	1.6	13
48	Multiple Attractors and Long Transients in Spatially Structured Populations with an Allee Effect. Bulletin of Mathematical Biology, 2020, 82, 82.	1.9	13
49	Proportional threshold harvesting in discrete-time population models. Journal of Mathematical Biology, 2019, 79, 1927-1951.	1.9	12
50	Analyzing the mutual feedbacks between lake pollution and human behaviour in a mathematical social-ecological model. Ecological Complexity, 2020, 43, 100834.	2.9	12
51	Triggering crashes in chaotic dynamics. Physics Letters, Section A: General, Atomic and Solid State Physics, 2007, 362, 407-411.	2.1	8
52	Optimal Culling and Biocontrol in a Predatorâ€"Prey Model. Bulletin of Mathematical Biology, 2017, 79, 88-116.	1.9	8
53	On basins of attraction for a predator-prey model via meshless approximation. AIP Conference Proceedings, 2016, , .	0.4	7
54	Fish disease dynamics in changing rivers: Salmonid Ceratomyxosis in the Klamath River. Ecological Complexity, 2019, 40, 100776.	2.9	7

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55	Separate seasons of infection and reproduction can lead to multi-year population cycles. Journal of Theoretical Biology, 2020, 489, 110158.	1.7	7
56	Threshold harvesting as a conservation or exploitation strategy in population management. Theoretical Ecology, 2020, 13, 519-536.	1.0	7
57	Adaptive threshold harvesting and the suppression of transients. Journal of Theoretical Biology, 2016, 395, 103-114.	1.7	6
58	Preytaxis and Travelling Waves in an Eco-epidemiological Model. Bulletin of Mathematical Biology, 2019, 81, 995-1030.	1.9	6
59	Forecasting resilience profiles of the run-up to regime shifts in nearly-one-dimensional systems. Journal of the Royal Society Interface, 2020, 17, 20200566.	3.4	6
60	Ecological Allee effects modulate optimal strategies for conservation in agricultural landscapes. Ecological Modelling, 2020, 435, 109208.	2.5	6
61	Population control methods in stochastic extinction and outbreak scenarios. PLoS ONE, 2017, 12, e0170837.	2.5	5
62	Degenerate Period Adding Bifurcation Structure of One-Dimensional Bimodal Piecewise Linear Maps. SIAM Journal on Applied Mathematics, 2020, 80, 1356-1376.	1.8	5
63	Optimal control of harvest timing in discrete population models. Natural Resource Modelling, 2021, 34, e12321.	2.0	5
64	Harvesting and Dynamics in Some One-Dimensional Population Models. Springer Proceedings in Mathematics and Statistics, 2014, , 61-73.	0.2	5
65	Bifurcation Sequences in a Discontinuous Piecewise-Smooth Map Combining Constant-Catch and Threshold-Based Harvesting Strategies. SIAM Journal on Applied Dynamical Systems, 2022, 21, 470-499.	1.6	4
66	Enhancing population stability with combined adaptive limiter control and finding the optimal harvestingâ€“restocking balance. Theoretical Population Biology, 2019, 130, 1-12.	1.1	3
67	Resource-harvester cycles caused by delayed knowledge of the harvested population state can be dampened by harvester forecasting. Theoretical Ecology, 2020, 13, 425-434.	1.0	3
68	Comparison between best-response dynamics and replicator dynamics in a social-ecological model of lake eutrophication. Journal of Theoretical Biology, 2021, 509, 110491.	1.7	3
69	Preventing Extinction and Outbreaks in Chaotic Populations. American Naturalist, 2007, 170, 232.	2.1	3
70	Mathematical Models of Pattern Formation in Planktonic Predation-Diffusion Systems: A Review. , 2008, , 1-26.		1
71	Coinfections by noninteracting pathogens are not independent and require new tests of interaction. , 2019, 17, e3000551.		0
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76	Coinfections by noninteracting pathogens are not independent and require new tests of interaction. , 2019, 17, e3000551.		0