

Yuan Lou

List of Publications by Year in descending order

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105
papers

5,331
citations

101543

36
h-index

88630

70
g-index

106
all docs

106
docs citations

106
times ranked

1102
citing authors

#	ARTICLE	IF	CITATIONS
1	Diffusion, Self-Diffusion and Cross-Diffusion. Journal of Differential Equations, 1996, 131, 79-131.	2.2	554
2	Asymptotic profiles of the steady states for an SIS epidemic reaction-diffusion model. Discrete and Continuous Dynamical Systems, 2008, 21, 1-20.	0.9	338
3	Diffusion vs Cross-Diffusion: An Elliptic Approach. Journal of Differential Equations, 1999, 154, 157-190.	2.2	227
4	On the effects of migration and spatial heterogeneity on single and multiple species. Journal of Differential Equations, 2006, 223, 400-426.	2.2	204
5	Random dispersal vs. non-local dispersal. Discrete and Continuous Dynamical Systems, 2010, 26, 551-596.	0.9	192
6	A spatial SIS model in advective heterogeneous environments. Journal of Differential Equations, 2016, 261, 3305-3343.	2.2	143
7	Dynamics and asymptotic profiles of steady states of an epidemic model in advective environments. Journal of Differential Equations, 2017, 263, 2343-2373.	2.2	139
8	Evolution of dispersal in open advective environments. Journal of Mathematical Biology, 2014, 69, 1319-1342.	1.9	128
9	Movement toward better environments and the evolution of rapid diffusion. Mathematical Biosciences, 2006, 204, 199-214.	1.9	115
10	Evolution of dispersal in advective homogeneous environment: The effect of boundary conditions. Journal of Differential Equations, 2015, 259, 141-171.	2.2	114
11	Advection-mediated coexistence of competing species. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2007, 137, 497-518.	1.2	110
12	On the global existence of a cross-diffusion system. Discrete and Continuous Dynamical Systems, 1998, 4, 193-203.	0.9	109
13	Some uniqueness and exact multiplicity results for a predator-prey model. Transactions of the American Mathematical Society, 1997, 349, 2443-2475.	0.9	105
14	Evolution of conditional dispersal: a reaction-diffusion-advection model. Journal of Mathematical Biology, 2008, 57, 361-386.	1.9	105
15	Evolution of dispersal and the ideal free distribution. Mathematical Biosciences and Engineering, 2010, 7, 17-36.	1.9	105
16	Global dynamics of a Lotka-Volterra competition-diffusion-advection system in heterogeneous environments. Journal Des Mathematiques Pures Et Appliquees, 2019, 121, 47-82.	1.6	93
17	Does movement toward better environments always benefit a population?. Journal of Mathematical Analysis and Applications, 2003, 277, 489-503.	1.0	90
18	Qualitative behaviour of positive solutions of a predator-prey model: effects of saturation. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 2001, 131, 321-349.	1.2	85

#	ARTICLE	IF	CITATIONS
19	Principal eigenvalue and eigenfunctions of an elliptic operator with large advection and its application to a competition model. Indiana University Mathematics Journal, 2008, 57, 627-658.	0.9	84
20	S-Shaped Global Bifurcation Curve and Hopf Bifurcation of Positive Solutions to a Predator-Prey Model. Journal of Differential Equations, 1998, 144, 390-440.	2.2	80
21	A spatial SEIRS reaction-diffusion model in heterogeneous environment. Journal of Differential Equations, 2019, 267, 5084-5114.	2.2	79
22	Minimization of the principal eigenvalue for an elliptic boundary value problem with indefinite weight, and applications to population dynamics. Japan Journal of Industrial and Applied Mathematics, 2006, 23, 275-292.	0.9	75
23	Evolution of dispersal in closed advective environments. Journal of Biological Dynamics, 2015, 9, 188-212.	1.7	75
24	On a limiting system in the Lotka-Volterra competition with cross-diffusion. Discrete and Continuous Dynamical Systems, 2003, 10, 435-458.	0.9	75
25	Approximating the ideal free distribution via reaction-diffusion-advection equations. Journal of Differential Equations, 2008, 245, 3687-3703.	2.2	66
26	Single Phytoplankton Species Growth with Light and Advection in a Water Column. SIAM Journal on Applied Mathematics, 2010, 70, 2942-2974.	1.8	66
27	Hopf bifurcation in a delayed reaction-diffusion-advection population model. Journal of Differential Equations, 2018, 264, 5333-5359.	2.2	65
28	Uniqueness and nonuniqueness of coexistence states in the lotka-volterra competition model. Communications on Pure and Applied Mathematics, 1994, 47, 1571-1594.	3.1	64
29	On several conjectures from evolution of dispersal. Journal of Biological Dynamics, 2012, 6, 117-130.	1.7	59
30	Evolutionary stability of ideal free dispersal strategies in patchy environments. Journal of Mathematical Biology, 2012, 65, 943-965.	1.9	57
31	Dynamics of a reaction-diffusion-advection model for two competing species. Discrete and Continuous Dynamical Systems, 2012, 32, 3841-3859.	0.9	55
32	Necessary and sufficient condition for the existence of positive solutions of certain cooperative system. Nonlinear Analysis: Theory, Methods & Applications, 1996, 26, 1079-1095.	1.1	54
33	On 3×3 Lotka-Volterra competition systems with cross-diffusion. Discrete and Continuous Dynamical Systems, 2000, 6, 175-190.	0.9	54
34	A Semilinear Parabolic System for Migration and Selection in Population Genetics. Journal of Differential Equations, 2002, 181, 388-418.	2.2	49
35	Tracking prey or tracking the prey's resource? Mechanisms of movement and optimal habitat selection by predators. Journal of Theoretical Biology, 2009, 256, 187-200.	1.7	44
36	Effects of diffusion and advection on the smallest eigenvalue of an elliptic operator and their applications. Indiana University Mathematics Journal, 2012, 61, 45-80.	0.9	41

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37	On diffusion-induced blowups in a mutualistic model. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2001, 45, 329-342.	1.1	38
38	Evolution of conditional dispersal: evolutionarily stable strategies in spatial models. <i>Journal of Mathematical Biology</i> , 2014, 68, 851-877.	1.9	38
39	Patterns of Multiallelic Polymorphism Maintained by Migration and Selection. <i>Theoretical Population Biology</i> , 2001, 59, 297-313.	1.1	37
40	Pattern formation in a cross-diffusion system. <i>Discrete and Continuous Dynamical Systems</i> , 2015, 35, 1589-1607.	0.9	37
41	Evolution of mixed dispersal in periodic environments. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2012, 17, 2047-2072.	0.9	37
42	Loops and branches of coexistence states in a Lotka–Volterra competition model. <i>Journal of Differential Equations</i> , 2006, 230, 720-742.	2.2	36
43	Global Existence and Uniform Boundedness of Smooth Solutions to a Cross-Diffusion System with Equal Diffusion Rates. <i>Communications in Partial Differential Equations</i> , 2015, 40, 1905-1941.	2.2	35
44	Proof of a Conjecture for the Perturbed Gelfand Equation from Combustion Theory. <i>Journal of Differential Equations</i> , 2001, 173, 213-230.	2.2	34
45	An introduction to migration-selection PDE models. <i>Discrete and Continuous Dynamical Systems</i> , 2013, 33, 4349-4373.	0.9	34
46	The Emergence of Range Limits in Advective Environments. <i>SIAM Journal on Applied Mathematics</i> , 2016, 76, 641-662.	1.8	34
47	Local dynamics of a diffusive predator–prey model in spatially heterogeneous environment. <i>Journal of Fixed Point Theory and Applications</i> , 2017, 19, 755-772.	1.1	31
48	Coexistence and bistability of a competition model in open advective environments. <i>Mathematical Biosciences</i> , 2018, 306, 10-19.	1.9	31
49	An indefinite nonlinear diffusion problem in population genetics, II: Stability and multiplicity. <i>Discrete and Continuous Dynamical Systems</i> , 2010, 27, 643-655.	0.9	30
50	Evolutionarily Stable and Convergent Stable Strategies in Reaction–Diffusion Models for Conditional Dispersal. <i>Bulletin of Mathematical Biology</i> , 2014, 76, 261-291.	1.9	30
51	Asymptotic Behavior of the Principal Eigenvalue for Cooperative Elliptic Systems and Applications. <i>Journal of Dynamics and Differential Equations</i> , 2016, 28, 29-48.	1.9	28
52	Evolution of a semilinear parabolic system for migration and selection without dominance. <i>Journal of Differential Equations</i> , 2006, 225, 624-665.	2.2	26
53	Evolution under multiallelic migration–selection models. <i>Theoretical Population Biology</i> , 2007, 72, 21-40.	1.1	26
54	Reaction–diffusion models with large advection coefficients. <i>Applicable Analysis</i> , 2010, 89, 983-1004.	1.3	26

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55	Effects of Sog on Dpp-Receptor Binding. <i>SIAM Journal on Applied Mathematics</i> , 2005, 65, 1748-1771.	1.8	25
56	Approaching the Ideal Free Distribution in Two-Species Competition Models with Fitness-Dependent Dispersal. <i>SIAM Journal on Mathematical Analysis</i> , 2014, 46, 1228-1262.	1.9	25
57	On the dependence of population size upon random dispersal rate. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2012, 17, 2771-2788.	0.9	25
58	Random dispersal versus fitness-dependent dispersal. <i>Journal of Differential Equations</i> , 2013, 254, 2905-2941.	2.2	24
59	Evolution of a semilinear parabolic system for migration and selection in population genetics. <i>Journal of Differential Equations</i> , 2004, 204, 292-322.	2.2	23
60	Spatiotemporal patterns in a diffusive predator-prey system with nonlocal intraspecific prey competition. <i>Studies in Applied Mathematics</i> , 2022, 148, 396-432.	2.4	23
61	Dynamics of a consumer-resource reaction-diffusion model. <i>Journal of Mathematical Biology</i> , 2019, 78, 1605-1636.	1.9	21
62	The Role of Advection in a Two-Species Competition Model: A Bifurcation Approach. <i>Memoirs of the American Mathematical Society</i> , 2017, 245, 0-0.	0.9	20
63	Dynamics of a three species competition model. <i>Discrete and Continuous Dynamical Systems</i> , 2012, 32, 3099-3131.	0.9	20
64	Evolutionary ecology of movement by predators and prey. <i>Theoretical Ecology</i> , 2011, 4, 255-267.	1.0	18
65	Evolutionary Convergence to Ideal Free Dispersal Strategies and Coexistence. <i>Bulletin of Mathematical Biology</i> , 2012, 74, 257-299.	1.9	18
66	Multiple Reversals of Competitive Dominance in Ecological Reserves via External Habitat Degradation. <i>Journal of Dynamics and Differential Equations</i> , 2004, 16, 973-1010.	1.9	17
67	Global dynamics of a generalist predator-prey model in open advective environments. <i>Journal of Mathematical Biology</i> , 2022, 84, 46.	1.9	17
68	Evolution of cross-diffusion and self-diffusion. <i>Journal of Biological Dynamics</i> , 2009, 3, 410-429.	1.7	16
69	Evolution of natal dispersal in spatially heterogeneous environments. <i>Mathematical Biosciences</i> , 2017, 283, 136-144.	1.9	16
70	Maximizing the total population with logistic growth in a patchy environment. <i>Journal of Mathematical Biology</i> , 2021, 82, 2.	1.9	16
71	Nonexistence of nonconstant steady-state solutions in a triangular cross-diffusion model. <i>Journal of Differential Equations</i> , 2017, 262, 5160-5178.	2.2	15
72	Monotonicity and Global Dynamics of a Nonlocal Two-Species Phytoplankton Model. <i>SIAM Journal on Applied Mathematics</i> , 2019, 79, 716-742.	1.8	15

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73	Monotonicity of the principal eigenvalue for a linear time-periodic parabolic operator. Proceedings of the American Mathematical Society, 2019, 147, 5291-5302.	0.8	15
74	Global dynamics of a competition model with non-local dispersal I: The shadow system. Journal of Mathematical Analysis and Applications, 2014, 412, 485-497.	1.0	14
75	An integro-PDE model for evolution of random dispersal. Journal of Functional Analysis, 2017, 272, 1755-1790.	1.4	14
76	Are Two-Patch Models Sufficient? The Evolution of Dispersal and Topology of River Network Modules. Bulletin of Mathematical Biology, 2020, 82, 131.	1.9	14
77	Three-patch Models for the Evolution of Dispersal in Advective Environments: Varying Drift and Network Topology. Bulletin of Mathematical Biology, 2021, 83, 109.	1.9	14
78	Evolution under the multiallelic Levene model. Theoretical Population Biology, 2006, 70, 401-411.	1.1	13
79	The Effect of Travel Loss on Evolutionarily Stable Distributions of Populations in Space. American Naturalist, 2011, 178, 15-29.	2.1	13
80	The generalised principal eigenvalue of time-periodic nonlocal dispersal operators and applications. Journal of Differential Equations, 2020, 269, 4960-4997.	2.2	13
81	Qualitative analysis for a Lotka-Volterra competition system in advective homogeneous environment. Discrete and Continuous Dynamical Systems, 2015, 36, 953-969.	0.9	13
82	Evolution of dispersal in spatial population models with multiple timescales. Journal of Mathematical Biology, 2020, 80, 3-37.	1.9	12
83	Impact of State-Dependent Dispersal on Disease Prevalence. Journal of Nonlinear Science, 2021, 31, 73.	2.1	12
84	An integro-PDE model from population genetics. Journal of Differential Equations, 2013, 254, 2367-2392.	2.2	11
85	Global dynamics for two-species competition in patchy environment. Mathematical Biosciences and Engineering, 2014, 11, 947-970.	1.9	11
86	Multiple steady-states in phytoplankton population induced by photoinhibition. Journal of Differential Equations, 2015, 258, 2408-2434.	2.2	10
87	Classifying the level set of principal eigenvalue for time-periodic parabolic operators and applications. Journal of Functional Analysis, 2022, 282, 109338.	1.4	10
88	Multiallelic selection polymorphism. Theoretical Population Biology, 2006, 69, 217-229.	1.1	9
89	Evolution of dispersal in heterogeneous landscapes. Chapman & Hall/CRC Mathematical and Computational Biology Series, 2009, , 213-229.	0.1	9
90	Some reaction diffusion models in spatial ecology. Scientia Sinica Mathematica, 2015, 45, 1619-1634.	0.2	9

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91	Evolution at a multiallelic locus under migration and uniform selection. <i>Journal of Mathematical Biology</i> , 2007, 54, 787-796.	1.9	8
92	A New Monotonicity for Principal Eigenvalues with Applications to Time-Periodic Patch Models. <i>SIAM Journal on Applied Mathematics</i> , 2022, 82, 576-601.	1.8	8
93	Asymptotics of the Principal Eigenvalue for a Linear Time-Periodic Parabolic Operator I: Large Advection. <i>SIAM Journal on Mathematical Analysis</i> , 2021, 53, 5243-5277.	1.9	7
94	Control Strategies for a Multi-strain Epidemic Model. <i>Bulletin of Mathematical Biology</i> , 2022, 84, 10.	1.9	7
95	Global Dynamics of a Tritrophic Model for Two Patches with Cost of Dispersal. <i>SIAM Journal on Applied Mathematics</i> , 2011, 71, 1801-1820.	1.8	6
96	Dimorphism by Singularity Theory in a Model for River Ecology. <i>Bulletin of Mathematical Biology</i> , 2017, 79, 1051-1069.	1.9	6
97	Directed movement changes coexistence outcomes in heterogeneous environments. <i>Ecology Letters</i> , 2022, 25, 366-377.	6.4	6
98	Total biomass of a single population in two-patch environments. <i>Theoretical Population Biology</i> , 2022, 146, 1-14.	1.1	6
99	Concentration phenomena in an integro-PDE model for evolution of conditional dispersal. <i>Indiana University Mathematics Journal</i> , 2019, 68, 881-923.	0.9	4
100	Dynamics of a parabolic-ODE competition system in heterogeneous environments. <i>Proceedings of the American Mathematical Society</i> , 2020, 148, 3025-3038.	0.8	4
101	Competitive exclusion in a nonlocal reaction-diffusion-advection model of phytoplankton populations. <i>Nonlinear Analysis: Real World Applications</i> , 2021, 61, 103350.	1.7	4
102	Persistence, Competition, and Evolution. <i>Mathematics of Planet Earth</i> , 2019, , 205-238.	0.1	4
103	Competition between two similar species in the unstirred chemostat. <i>Discrete and Continuous Dynamical Systems - Series B</i> , 2015, 21, 621-639.	0.9	3
104	Evolution of anisotropic diffusion in two-dimensional heterogeneous environments. <i>Journal of Mathematical Biology</i> , 2021, 82, 36.	1.9	1
105	Ecological and evolutionary dynamics in periodic and advective habitats. <i>Methods and Applications of Analysis</i> , 2021, 28, 423-452.	0.5	1