

Natalia L Komarova

List of Publications by Year in descending order

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Version: 2024-02-01

108
papers

4,397
citations

147801

31
h-index

123424

61
g-index

122
all docs

122
docs citations

122
times ranked

4524
citing authors

#	ARTICLE	IF	CITATIONS
1	Latency reversal plus natural killer cells diminish HIV reservoir in vivo. <i>Nature Communications</i> , 2022, 13, 121.	12.8	36
2	Spatial dynamics of feedback and feedforward regulation in cell lineages. <i>PLoS Computational Biology</i> , 2022, 18, e1010039.	3.2	3
3	Mathematical and Systems Medicine Approaches to Resistance Evolution and Prevention in Cancer. , 2021, , 247-260.		0
4	Effect of feedback regulation on stem cell fractions in tissues and tumors: Understanding chemoresistance in cancer. <i>Journal of Theoretical Biology</i> , 2021, 509, 110499.	1.7	7
5	Quantifying the dynamics of viral recombination during free virus and cell-to-cell transmission in HIV-1 infection. <i>Virus Evolution</i> , 2021, 7, veab026.	4.9	5
6	CELLULAR FEEDBACK NETWORKS AND THEIR RESILIENCE AGAINST MUTATIONS. <i>Journal of Biological Systems</i> , 2021, 29, 325-374.	1.4	0
7	Role of high-dose exposure in transmission hot zones as a driver of SARS-CoV-2 dynamics. <i>Journal of the Royal Society Interface</i> , 2021, 18, 20200916.	3.4	7
8	Success probability for selectively neutral invading species in the line model with a random fitness landscape. <i>Studies in Applied Mathematics</i> , 2021, 146, 1023-1049.	2.4	0
9	Network models and the interpretation of prolonged infection plateaus in the COVID19 pandemic. <i>Epidemics</i> , 2021, 35, 100463.	3.0	8
10	Multi-scale network targeting: A holistic systems-biology approach to cancer treatment. <i>Progress in Biophysics and Molecular Biology</i> , 2021, 165, 72-79.	2.9	1
11	A hybrid stochastic-deterministic approach to explore multiple infection and evolution in HIV. <i>PLoS Computational Biology</i> , 2021, 17, e1009713.	3.2	2
12	A comprehensive in vivo and mathematic modeling-based kinetic characterization for aspirin-induced chemoprevention in colorectal cancer. <i>Carcinogenesis</i> , 2020, 41, 751-760.	2.8	12
13	Mutant Evolution in Spatially Structured and Fragmented Expanding Populations. <i>Genetics</i> , 2020, 216, 191-203.	2.9	9
14	Beyond the pair approximation: Modeling colonization population dynamics. <i>Physical Review E</i> , 2020, 101, 032404.	2.1	4
15	Aspirin and the chemoprevention of cancers: A mathematical and evolutionary dynamics perspective. <i>Wiley Interdisciplinary Reviews: Systems Biology and Medicine</i> , 2020, 12, e1487.	6.6	5
16	Evolutionary dynamics of culturally transmitted, fertility-reducing traits. <i>Proceedings of the Royal Society B: Biological Sciences</i> , 2020, 287, 20192468.	2.6	2
17	Effect of synaptic cell-to-cell transmission and recombination on the evolution of double mutants in HIV. <i>Journal of the Royal Society Interface</i> , 2020, 17, 20190832.	3.4	6
18	Patterns of the COVID-19 pandemic spread around the world: exponential versus power laws. <i>Journal of the Royal Society Interface</i> , 2020, 17, 20200518.	3.4	58

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19	Environmental spatial and temporal variability and its role in non-favoured mutant dynamics. <i>Journal of the Royal Society Interface</i> , 2019, 16, 20180781.	3.4	8
20	Objectâ€Labelâ€Order Effect When Learning From an Inconsistent Source. <i>Cognitive Science</i> , 2019, 43, e12737.	1.7	3
21	The role of telomere shortening in carcinogenesis: A hybrid stochastic-deterministic approach. <i>Journal of Theoretical Biology</i> , 2019, 460, 144-152.	1.7	7
22	Differences in color categorization manifested by males and females: a quantitative World Color Survey study. <i>Palgrave Communications</i> , 2019, 5, .	4.7	13
23	Cooperation-based branching as a mechanism of evolutionary speciation. <i>Journal of Theoretical Biology</i> , 2018, 445, 166-186.	1.7	7
24	Spatial evolution of regularization in learned behavior of animals. <i>Mathematical Biosciences</i> , 2018, 299, 103-116.	1.9	0
25	Stability of Control Networks in Autonomous Homeostatic Regulation of Stem Cell Lineages. <i>Bulletin of Mathematical Biology</i> , 2018, 80, 1345-1365.	1.9	16
26	Musical trends and predictability of success in contemporary songs in and out of the top charts. <i>Royal Society Open Science</i> , 2018, 5, 171274.	2.4	43
27	Quantitative study of color category boundaries. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2018, 35, B165.	1.5	4
28	Passenger mutations can accelerate tumour suppressor gene inactivation in cancer evolution. <i>Journal of the Royal Society Interface</i> , 2018, 15, 20170967.	3.4	26
29	Optimizing homeostatic cell renewal in hierarchical tissues. <i>PLoS Computational Biology</i> , 2018, 14, e1005967.	3.2	9
30	Aspirin-Induced Chemoprevention and Response Kinetics Are Enhanced by PIK3CA Mutations in Colorectal Cancer Cells. <i>Cancer Prevention Research</i> , 2017, 10, 208-218.	1.5	31
31	Determining the role of inflammation in the selection of JAK2 mutant cells in myeloproliferative neoplasms. <i>Journal of Theoretical Biology</i> , 2017, 425, 43-52.	1.7	10
32	Mathematical Modeling of Learning from an Inconsistent Source: A Nonlinear Approach. <i>Bulletin of Mathematical Biology</i> , 2017, 79, 635-661.	1.9	3
33	Effect of aspirin on tumour cell colony formation and evolution. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170374.	3.4	6
34	Effect of cell cycle duration on somatic evolutionary dynamics. <i>Evolutionary Applications</i> , 2017, 10, 1121-1129.	3.1	6
35	Mathematical Modeling of Normal and Cancer Stem Cells. <i>Current Stem Cell Reports</i> , 2017, 3, 232-239.	1.6	8
36	Determining the control networks regulating stem cell lineages in colonic crypts. <i>Journal of Theoretical Biology</i> , 2017, 429, 190-203.	1.7	27

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37	Quantitative approach for defining basic color terms and color category best exemplars. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2017, 34, 1285.	1.5	9
38	The effect of spatial randomness on the average fixation time of mutants. <i>PLoS Computational Biology</i> , 2017, 13, e1005864.	3.2	19
39	Near Equilibrium Calculus of Stem Cells in Application to the Airway Epithelium Lineage. <i>PLoS Computational Biology</i> , 2016, 12, e1004990.	3.2	7
40	InÂVivo HIV-1 Cell-to-Cell Transmission Promotes Multicopy Micro-compartmentalized Infection. <i>Cell Reports</i> , 2016, 15, 2771-2783.	6.4	101
41	The role of cell location and spatial gradients in the evolutionary dynamics of colon and intestinal crypts. <i>Biology Direct</i> , 2016, 11, 42.	4.6	19
42	Evolution of genetic instability in heterogeneous tumors. <i>Journal of Theoretical Biology</i> , 2016, 396, 1-12.	1.7	28
43	Regularization of languages by adults and children: A mathematical framework. <i>Cognitive Psychology</i> , 2016, 84, 1-30.	2.2	15
44	The Role of Symmetric Stem Cell Divisions in Tissue Homeostasis. <i>PLoS Computational Biology</i> , 2015, 11, e1004629.	3.2	39
45	The duality of spatial deathâ€“birth and birthâ€“death processes and limitations of the isothermal theorem. <i>Royal Society Open Science</i> , 2015, 2, 140465.	2.4	69
46	Curcumin mediates chemosensitization to 5-fluorouracil through miRNA-induced suppression of epithelial-to-mesenchymal transition in chemoresistant colorectal cancer. <i>Carcinogenesis</i> , 2015, 36, 355-367.	2.8	200
47	Analysis of stochastic stem cell models with control. <i>Mathematical Biosciences</i> , 2015, 266, 93-107.	1.9	12
48	New virus dynamics in the presence of multiple infection. <i>Journal of Theoretical Biology</i> , 2015, 377, 98-109.	1.7	12
49	A moving target. <i>Nature</i> , 2015, 525, 198-199.	27.8	7
50	Characterizing inhibited tumor growth in stem-cell-driven non-spatial cancers. <i>Mathematical Biosciences</i> , 2015, 270, 135-141.	1.9	13
51	The benefits of treating undetectable tumors. <i>ELife</i> , 2015, 4, e09713.	6.0	0
52	Dynamics of Cellular Responses to Radiation. <i>PLoS Computational Biology</i> , 2014, 10, e1003513.	3.2	23
53	Cancer-Associated Mutations in Healthy Individuals: Assessing the Risk of Carcinogenesis. <i>Cancer Research</i> , 2014, 74, 1661-1669.	0.9	17
54	Complex role of space in the crossing of fitness valleys by asexual populations. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140014.	3.4	35

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55	Spatial interactions and cooperation can change the speed of evolution of complex phenotypes. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10789-10795.	7.1	39
56	On the Laws of Virus Spread through Cell Populations. Journal of Virology, 2014, 88, 13240-13248.	3.4	16
57	Evolution of ibrutinib resistance in chronic lymphocytic leukemia (CLL). Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13906-13911.	7.1	86
58	Kinetics of CLL cells in tissues and blood during therapy with the BTK inhibitor ibrutinib. Blood, 2014, 123, 4132-4135.	1.4	86
59	Tumor growth dynamics: insights into evolutionary processes. Trends in Ecology and Evolution, 2013, 28, 597-604.	8.7	103
60	Calculated treatment. Nature, 2013, 499, 291-292.	27.8	74
61	Nearest-Neighbor Interactions, Habitat Fragmentation, and the Persistence of Host-Pathogen Systems. American Naturalist, 2013, 182, E94-E111.	2.1	9
62	Virus dynamics in the presence of synaptic transmission. Mathematical Biosciences, 2013, 242, 161-171.	1.9	61
63	Stem Cell Control, Oscillations, and Tissue Regeneration in Spatial and Non-Spatial Models. Frontiers in Oncology, 2013, 3, 82.	2.8	32
64	Minimizing the risk of cancer: tissue architecture and cellular replication limits. Journal of the Royal Society Interface, 2013, 10, 20130410.	3.4	30
65	Relative contribution of free-virus and synaptic transmission to the spread of HIV-1 through target cell populations. Biology Letters, 2013, 9, 20121049.	2.3	48
66	Synaptic transmission and the susceptibility of HIV infection to anti-viral drugs. Scientific Reports, 2013, 3, 2103.	3.3	34
67	Symmetric vs. Asymmetric Stem Cell Divisions: An Adaptation against Cancer?. PLoS ONE, 2013, 8, e76195.	2.5	103
68	A Quantitative Theory of Human Color Choices. PLoS ONE, 2013, 8, e55986.	2.5	16
69	Principles of Regulation of Self-Renewing Cell Lineages. PLoS ONE, 2013, 8, e72847.	2.5	36
70	Spatial stochastic models of cancer: Fitness, migration, invasion. Mathematical Biosciences and Engineering, 2013, 10, 761-775.	1.9	9
71	LANGUAGE, CATEGORIZATION, AND CONVENTION. International Journal of Modeling, Simulation, and Scientific Computing, 2012, 15, 1150022.	1.4	12
72	The spread of conventions and the search for the optimal strategy. Religion, Brain and Behavior, 2012, 2, 212-215.	0.7	0

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73	Accelerated crossing of fitness valleys through division of labor and cheating in asexual populations. <i>Scientific Reports</i> , 2012, 2, 917.	3.3	12
74	Effect of Synaptic Transmission on Viral Fitness in HIV Infection. <i>PLoS ONE</i> , 2012, 7, e48361.	2.5	29
75	Evolutionary dynamics of feedback escape and the development of stem-cell-driven cancers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 18983-18988.	7.1	105
76	High Degree of Heterogeneity in Alzheimer's Disease Progression Patterns. <i>PLoS Computational Biology</i> , 2011, 7, e1002251.	3.2	69
77	Mathematical modeling of cyclic treatments of chronic myeloid leukemia. <i>Mathematical Biosciences and Engineering</i> , 2011, 8, 289-306.	1.9	14
78	Calculating Stage Duration Statistics in Multistage Diseases. <i>PLoS ONE</i> , 2011, 6, e28298.	2.5	0
79	Selection in spatial stochastic models of cancer: Migration as a key modulator of fitness. <i>Biology Direct</i> , 2010, 5, 21.	4.6	34
80	ODE models for oncolytic virus dynamics. <i>Journal of Theoretical Biology</i> , 2010, 263, 530-543.	1.7	102
81	Eavesdropping and language dynamics. <i>Journal of Theoretical Biology</i> , 2010, 264, 104-118.	1.7	21
82	Combination of Two but Not Three Current Targeted Drugs Can Improve Therapy of Chronic Myeloid Leukemia. <i>PLoS ONE</i> , 2009, 4, e4423.	2.5	48
83	Combination Therapies against Chronic Myeloid Leukemia: Short-term versus Long-term Strategies. <i>Cancer Research</i> , 2009, 69, 4904-4910.	0.9	30
84	Population heterogeneity and color stimulus heterogeneity in agent-based color categorization. <i>Journal of Theoretical Biology</i> , 2008, 253, 680-700.	1.7	44
85	Selective pressures for and against genetic instability in cancer: a time-dependent problem. <i>Journal of the Royal Society Interface</i> , 2008, 5, 105-121.	3.4	18
86	STOCHASTIC MODELING OF LOSS- AND GAIN-OF-FUNCTION MUTATIONS IN CANCER. <i>Mathematical Models and Methods in Applied Sciences</i> , 2007, 17, 1647-1673.	3.3	31
87	The fixed-size Luria-Delbruck model with a nonzero death rate. <i>Mathematical Biosciences</i> , 2007, 210, 253-290.	1.9	27
88	Effect of Cellular Quiescence on the Success of Targeted CML Therapy. <i>PLoS ONE</i> , 2007, 2, e990.	2.5	72
89	Viral reproductive strategies: How can lytic viruses be evolutionarily competitive?. <i>Journal of Theoretical Biology</i> , 2007, 249, 766-784.	1.7	30
90	Stochastic modeling of cellular colonies with quiescence: An application to drug resistance in cancer. <i>Theoretical Population Biology</i> , 2007, 72, 523-538.	1.1	40

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91	Loss- and Gain-of-Function Mutations in Cancer: Mass-action, Spatial and Hierarchical Models. Journal of Statistical Physics, 2007, 128, 413-446.	1.2	16
92	Epithelial tissue architecture protects against cancer. Mathematical Biosciences, 2006, 200, 90-117.	1.9	29
93	Stochastic modeling of drug resistance in cancer. Journal of Theoretical Biology, 2006, 239, 351-366.	1.7	108
94	Spatial Stochastic Models for Cancer Initiation and Progression. Bulletin of Mathematical Biology, 2006, 68, 1573-1599.	1.9	86
95	Mathematical modeling of tumorigenesis: mission possible. Current Opinion in Oncology, 2005, 17, 39-43.	2.4	46
96	On the role of endothelial progenitor cells in tumor neovascularization. Journal of Theoretical Biology, 2005, 235, 338-349.	1.7	26
97	Nonlinear waves in double-stranded DNA. Bulletin of Mathematical Biology, 2005, 67, 701-718.	1.9	11
98	Cancer, aging and the optimal tissue design. Seminars in Cancer Biology, 2005, 15, 494-505.	9.6	27
99	A theoretical framework for specificity in cell signaling. Molecular Systems Biology, 2005, 1, 2005.0023.	7.2	64
100	Drug resistance in cancer: Principles of emergence and prevention. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 9714-9719.	7.1	380
101	The optimal rate of chromosome loss for the inactivation of tumor suppressor genes in cancer. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7017-7021.	7.1	90
102	Initiation of Colorectal Cancer: Where do the Two Hits Hit?. Cell Cycle, 2004, 3, 1558-1565.	2.6	43
103	Replicator-mutator equation, universality property and population dynamics of learning. Journal of Theoretical Biology, 2004, 230, 227-239.	1.7	62
104	Does cancer solve an optimization problem?. Cell Cycle, 2004, 3, 840-4.	2.6	6
105	Mutation-selection networks of cancer initiation: tumor suppressor genes and chromosomal instability. Journal of Theoretical Biology, 2003, 223, 433-450.	1.7	180
106	Evolutionary dynamics of mutator phenotypes in cancer: implications for chemotherapy. Cancer Research, 2003, 63, 6635-42.	0.9	30
107	The role of chromosomal instability in tumor initiation. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 16226-16231.	7.1	484
108	Dynamics of Genetic Instability in Sporadic and Familial Colorectal Cancer. Cancer Biology and Therapy, 2002, 1, 685-692.	3.4	69