

Grant D Lythe

List of Publications by Year in descending order

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71
papers

1,263
citations

331670

21
h-index

414414

32
g-index

74
all docs

74
docs citations

74
times ranked

1574
citing authors

#	ARTICLE	IF	CITATIONS
1	How many TCR clonotypes does a body maintain?. <i>Journal of Theoretical Biology</i> , 2016, 389, 214-224.	1.7	140
2	Numerical Methods for Second-Order Stochastic Differential Equations. <i>SIAM Journal of Scientific Computing</i> , 2007, 29, 245-264.	2.8	110
3	Quorum-Sensing in CD4+ T Cell Homeostasis: A Hypothesis and a Model. <i>Frontiers in Immunology</i> , 2012, 3, 125.	4.8	95
4	Continuous Effector CD8 + T Cell Production in a Controlled Persistent Infection Is Sustained by a Proliferative Intermediate Population. <i>Immunity</i> , 2016, 45, 159-171.	14.3	75
5	How many dendritic cells are required to initiate a T-cell response?. <i>Blood</i> , 2012, 120, 3945-3948.	1.4	69
6	Dynamics of Kinks: Nucleation, Diffusion, and Annihilation. <i>Physical Review Letters</i> , 2000, 84, 1070-1073.	7.8	44
7	Asymmetric cell division during T cell development controls downstream fate. <i>Journal of Cell Biology</i> , 2015, 210, 933-950.	5.2	33
8	From pre-DP, post-DP, SP4, and SP8 Thymocyte Cell Counts to a Dynamical Model of Cortical and Medullary Selection. <i>Frontiers in Immunology</i> , 2014, 5, 19.	4.8	32
9	Accurate Stationary Densities with Partitioned Numerical Methods for Stochastic Differential Equations. <i>SIAM Journal on Numerical Analysis</i> , 2009, 47, 1601-1618.	2.3	30
10	Domain formation in transitions with noise and a time-dependent bifurcation parameter. <i>Physical Review E</i> , 1996, 53, R4271-R4274.	2.1	29
11	Mathematics in modern immunology. <i>Interface Focus</i> , 2016, 6, 20150093.	3.0	29
12	Slowly Passing through Resonance Strongly Depends on Noise. <i>Physical Review Letters</i> , 1998, 81, 975-978.	7.8	28
13	Stochastic Stokes Drift. <i>Physical Review Letters</i> , 1998, 81, 3136-3139.	7.8	27
14	Exponential Timestepping with Boundary Test for Stochastic Differential Equations. <i>SIAM Journal of Scientific Computing</i> , 2003, 24, 1809-1822.	2.8	26
15	A stochastic T cell response criterion. <i>Journal of the Royal Society Interface</i> , 2012, 9, 2856-2870.	3.4	26
16	Receptor Pre-Clustering and T cell Responses: Insights into Molecular Mechanisms. <i>Frontiers in Immunology</i> , 2014, 5, 132.	4.8	25
17	Dynamics of defect formation. <i>Physical Review E</i> , 1999, 59, R1303-R1306.	2.1	24
18	Stochastic competitive exclusion in the maintenance of the naïve T cell repertoire. <i>Journal of Theoretical Biology</i> , 2010, 265, 396-410.	1.7	24

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19	Mathematical Model of Naive T Cell Division and Survival IL-7 Thresholds. <i>Frontiers in Immunology</i> , 2013, 4, 434.	4.8	24
20	A new mechanism shapes the naïve CD8 + T cell repertoire: the selection for full diversity. <i>Molecular Immunology</i> , 2017, 85, 66-80.	2.2	24
21	Noise and slow-fast dynamics in a three-wave resonance problem. <i>Physical Review E</i> , 1993, 47, 3122-3127.	2.1	22
22	Low pump limit of the bifurcation to periodic intensities in a semiconductor laser subject to external optical feedback. <i>Physical Review A</i> , 1997, 55, 4443-4448.	2.5	21
23	Some deterministic and stochastic mathematical models of naïve T cell homeostasis. <i>Immunological Reviews</i> , 2018, 285, 206-217.	6.0	21
24	Competitive binding of STATs to receptor phospho-Tyr motifs accounts for altered cytokine responses. <i>ELife</i> , 2021, 10, .	6.0	21
25	Diffusion-limited reaction in one dimension: Paired and unpaired nucleation. <i>Journal of Chemical Physics</i> , 2001, 115, 73-89.	3.0	20
26	T-cell movement on the reticular network. <i>Journal of Theoretical Biology</i> , 2012, 295, 59-67.	1.7	18
27	Modeling early events in <i>Francisella tularensis</i> pathogenesis. <i>Frontiers in Cellular and Infection Microbiology</i> , 2014, 4, 169.	3.9	17
28	The limiting conditional probability distribution in a stochastic model of T cell repertoire maintenance. <i>Mathematical Biosciences</i> , 2010, 224, 74-86.	1.9	16
29	Controlling one-dimensional Langevin dynamics on the lattice. <i>Physical Review D</i> , 1999, 60, .	4.7	15
30	Stochastic PDEs: convergence to the continuum?. <i>Computer Physics Communications</i> , 2001, 142, 29-35.	7.5	14
31	Dielectric nonlinearity and stochastic effects in strontium titanate. <i>Applied Physics Letters</i> , 2002, 80, 3391-3393.	3.3	14
32	T cell and reticular network co-dependence in HIV infection. <i>Journal of Theoretical Biology</i> , 2016, 395, 211-220.	1.7	14
33	First passage events in biological systems with non-exponential inter-event times. <i>Scientific Reports</i> , 2018, 8, 15054.	3.3	14
34	Quantification of Ebola virus replication kinetics in vitro. <i>PLoS Computational Biology</i> , 2020, 16, e1008375.	3.2	10
35	Multidimensional Exponential Timestepping with Boundary Test. <i>SIAM Journal of Scientific Computing</i> , 2005, 27, 793-808.	2.8	8
36	Numerical Experiments on Noisy Chains: From Collective Transitions to Nucleation-Diffusion. <i>SIAM Journal on Applied Dynamical Systems</i> , 2008, 7, 207-219.	1.6	8

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37	Deterministic and stochastic naive T cell population dynamics: symmetric and asymmetric cell division. <i>Dynamical Systems</i> , 2012, 27, 75-103.	0.4	8
38	Dynamics controlled by additive noise. <i>Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics</i> , 1995, 17, 855-861.	0.4	7
39	A mathematical perspective on CD4+ T cell quorum-sensing. <i>Journal of Theoretical Biology</i> , 2014, 347, 160-175.	1.7	7
40	A Novel Stochastic Multi-Scale Model of Francisella tularensis Infection to Predict Risk of Infection in a Laboratory. <i>Frontiers in Microbiology</i> , 2018, 9, 1165.	3.5	7
41	Fate of a Naive T Cell: A Stochastic Journey. <i>Frontiers in Immunology</i> , 2019, 10, 194.	4.8	7
42	Fusion and fission events regulate endosome maturation and viral escape. <i>Scientific Reports</i> , 2021, 11, 7845.	3.3	7
43	Stochastic dynamics of Francisella tularensis infection and replication. <i>PLoS Computational Biology</i> , 2020, 16, e1007752.	3.2	6
44	Diffusion-limited reaction in one dimension. <i>Physica D: Nonlinear Phenomena</i> , 2006, 222, 159-163.	2.8	5
45	The T Cells in an Ageing Virtual Mouse. , 2017, , 127-140.		5
46	Rice's ansatz for overdamped kinks at finite temperature. <i>Physical Review E</i> , 2003, 67, 027601.	2.1	4
47	Transmission, Reflection, and Second-Harmonic Generation in a Nonlinear Waveguide. <i>SIAM Journal on Applied Mathematics</i> , 2005, 66, 1-28.	1.8	4
48	A Stochastic Intracellular Model of Anthrax Infection With Spore Germination Heterogeneity. <i>Frontiers in Immunology</i> , 2021, 12, 688257.	4.8	4
49	Accurate stationary densities with partitioned numerical methods for stochastic partial differential equations. <i>Stochastics and Partial Differential Equations: Analysis and Computations</i> , 2014, 2, 262-280.	0.9	3
50	Sampling from T Cell Receptor Repertoires. <i>Contributions in Mathematical and Computational Sciences</i> , 2017, , 67-79.	0.3	3
51	Step-by-step comparison of ordinary differential equation and agent-based approaches to pharmacokinetic-pharmacodynamic models. <i>CPT: Pharmacometrics and Systems Pharmacology</i> , 2022, 11, 133-148.	2.5	3
52	Quantifying T Cell Cross-Reactivity: Influenza and Coronaviruses. <i>Viruses</i> , 2021, 13, 1786.	3.3	3
53	Noise and Resonant Mode Interactions. <i>Annals of the New York Academy of Sciences</i> , 1993, 706, 42-53.	3.8	2
54	Multivariate Competition Processes: A Model for Two Competing T Cell Clonotypes. , 2011, , 187-205.		2

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55	Kinks in a Stochastic PDE. Solid Mechanics and Its Applications, 2003, , 435-443.	0.2	2
56	Defect Formation in a Dynamic Transition. International Journal of Theoretical Physics, 2001, 40, 2309-2316.	1.2	1
57	Timescales of the Adaptive Immune Response. , 2011, , 351-361.		1
58	IL-2 Stimulation of Regulatory T Cells: A Stochastic and Algorithmic Approach. Contributions in Mathematical and Computational Sciences, 2017, , 81-105.	0.3	1
59	Stochastic Dynamics of ϕ^4 Kinks: Numerics and Analysis. Advances in Dynamics, Patterns, Cognition, 2019, , 93-110.	0.3	1
60	Diffusion in a Disk with a Circular Inclusion. SIAM Journal on Applied Mathematics, 2021, 81, 1287-1302.	1.8	1
61	Quantification of Type I Interferon Inhibition by Viral Proteins: Ebola Virus as a Case Study. Viruses, 2021, 13, 2441.	3.3	1
62	On Exact and Approximate Approaches for Stochastic Receptor-Ligand Competition Dynamics—An Ecological Perspective. Mathematics, 2020, 8, 1014.	2.2	0
63	CTLA-4-Mediated Ligand Trans-Endocytosis: A Stochastic Model. , 2021, , 257-280.		0
64	Agent-Based Model of Heterogeneous T-Cell Activation in Vitro. , 2021, , 241-256.		0
65	Analysis of Single Bacterium Dynamics in a Stochastic Model of Toxin-Producing Bacteria. Lecture Notes in Computer Science, 2021, , 210-225.	1.3	0
66	Diffusion in a disk with inclusion: Evaluating Green's functions. PLoS ONE, 2022, 17, e0265935.	2.5	0
67	Stochastic dynamics of Francisella tularensis infection and replication. , 2020, 16, e1007752.		0
68	Stochastic dynamics of Francisella tularensis infection and replication. , 2020, 16, e1007752.		0
69	Stochastic dynamics of Francisella tularensis infection and replication. , 2020, 16, e1007752.		0
70	Stochastic dynamics of Francisella tularensis infection and replication. , 2020, 16, e1007752.		0
71	Effective numerical methods for simulating diffusion on a spherical surface in three dimensions. Numerical Algorithms, 0, , .	1.9	0