Chris T Bauch

List of Publications by Year
in descending order

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151 papers	7,245 citations	87888 38 h-index	66911 78 g-index
180 all docs	180 docs citations	180 times ranked	6194 citing authors

#	Article	IF	Citations
1	Statistical physics of vaccination. Physics Reports, 2016, 664, 1-113.	25.6	734
2	Vaccination and the theory of games. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 13391-13394.	7.1	596
3	Coupled diseaseâ€“behavior dynamics on complex networks: A review. Physics of Life Reviews, 2015, 15, 1-29.	2.8	385
4	Imitation dynamics predict vaccinating behaviour. Proceedings of the Royal Society B: Biological Sciences, 2005, 272, 1669-1675.	2.6	343
5	Group interest versus self-interest in smallpox vaccination policy. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 10564-10567.	7.1	327
6	Dynamically Modeling SARS and Other Newly Emerging Respiratory Illnesses. Epidemiology, 2005, 16, 791-801.	2.7	226
7	Social Factors in Epidemiology. Science, 2013, 342, 47-49.	12.6	188
8	Evolving public perceptions and stability in vaccine uptake. Mathematical Biosciences, 2006, 204, 185-198.	1.9	184
9	Nine challenges in incorporating the dynamics of behaviour in infectious diseases models. Epidemics, 2015, 10, 21-25.	3.0	174
10	The impact of media coverage on the transmission dynamics of human influenza. BMC Public Health, 2011, 11, S5.	2.9	163
11	Evolutionary Game Theory and Social Learning Can Determine How Vaccine Scares Unfold. PLoS Computational Biology, 2012, 8, e1002452.	3.2	158
12	Prioritising COVID-19 vaccination in changing social and epidemiological landscapes: a mathematical modelling study. Lancet Infectious Diseases, The, 2021, 21, 1097-1106.	9.1	142
13	Stray dog population demographics in Jodhpur, India following a population control/rabies vaccination program. Preventive Veterinary Medicine, 2010, 97, 51-57.	1.9	132
14	Social Contact Networks and Disease Eradicability under Voluntary Vaccination. PLoS Computational Biology, 2009, 5, e1000280.	3.2	129
15	Transients and attractors in epidemics. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, 1573-1578.	2.6	117
16	Modelling science trustworthiness under publish or perish pressure. Royal Society Open Science, 2018, 5, 171511.	2.4	113
17	Early warning signals of regime shifts in coupled humanâ€“environment systems. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14560-14567.	7.1	112
18	The Impact of Imitation on Vaccination Behavior in Social Contact Networks. PLoS Computational Biology, 2012, 8, e1002469.	3.2	102

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19	Modelling mitigation strategies for pandemic (H1N1) 2009. Cmaj, 2009, 181, 673-680.	2.0	94
20	Local lockdowns outperform global lockdown on the far side of the COVID-19 epidemic curve. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24575-24580.	7.1	92
21	The influence of social norms on the dynamics of vaccinating behaviour for paediatric infectious diseases. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20133172.	2.6	91
22	Deep learning for early warning signals of tipping points. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	84
23	Humanâ€“environment interactions in population and ecosystem health. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14502-14506.	7.1	83
24	Economic Appraisal of Ontario's Universal Influenza Immunization Program: A Cost-Utility Analysis. PLoS Medicine, 2010, 7, e1000256.	8.4	71
25	Global Eradication of Measles: An Epidemiologic and Economic Evaluation. Journal of Infectious Diseases, 2011, 204, S98-S106.	4.0	71
26	Dynamics of an Infectious Disease Where Media Coverage Influences Transmission. , 2012, 2012, 1-10.		69
27	Assessing the pandemic potential of MERS-CoV. Lancet, The, 2013, 382, 662-664.	13.7	68
28	Communicating sentiment and outlook reverses inaction against collective risks. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 17650-17655.	7.1	68
29	The spread of infectious diseases in spatially structured populations: An invasory pair approximation. Mathematical Biosciences, 2005, 198, 217-237.	1.9	65
30	The impact of human-environment interactions on the stability of forest-grassland mosaic ecosystems. Scientific Reports, 2013, 3, 2689.	3.3	64
31	Erratic Flu Vaccination Emerges from Short-Sighted Behavior in Contact Networks. PLoS Computational Biology, 2011, 7, e1001062.	3.2	62
32	Dynamics of the Global Wheat Trade Network and Resilience to Shocks. Scientific Reports, 2017, 7, 7177.	3.3	57
33	Critical dynamics in population vaccinating behavior. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13762-13767.	7.1	57
34	â€œWait and seeâ€•vaccinating behaviour during a pandemic: A game theoretic analysis. Vaccine, 2011, 29, 5519-5525.	3.8	53
35	Alternative stable states and the sustainability of forests, grasslands, and agriculture. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14552-14559.	7.1	50
36	A game dynamic model for delayer strategies in vaccinating behaviour for pediatric infectious diseases. Journal of Theoretical Biology, 2010, 267, 276-282.	1.7	46

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37	National- and state-level impact and cost-effectiveness of nonavalent HPV vaccination in the United States. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5107-5112.	7.1	46
38	Charting pathways to climate change mitigation in a coupled socio-climate model. PLoS Computational Biology, 2019, 15, e1007000.	3.2	46
39	Conditions for a Second Wave of COVID-19 Due to Interactions Between Disease Dynamics and Social Processes. Frontiers in Physics, 2020, 8, .	2.1	43
40	A simulation analysis to characterize the dynamics of vaccinating behaviour on contact networks. BMC Infectious Diseases, 2009, 9, 77.	2.9	42
41	Modelling Interactions between Forest Pest Invasions and Human Decisions Regarding Firewood Transport Restrictions. PLoS ONE, 2014, 9, e90511.	2.5	41
42	Symmetric competition causes population oscillations in an individual-based model of forest dynamics. Ecological Modelling, 2008, 211, 491-500.	2.5	38
43	Revising ecological assumptions about Human papillomavirus interactions and type replacement. Journal of Theoretical Biology, 2014, 350, 98-109.	1.7	37
44	Outlook on a Worldwide Forest Transition. PLoS ONE, 2013, 8, e75890.	2.5	37
45	A versatile ODE approximation to a network model for the spread of sexually transmitted diseases. Journal of Mathematical Biology, 2002, 45, 375-395.	1.9	34
46	Modelling microbial infection to address global health challenges. Nature Microbiology, 2019, 4, 1612-1619.	13.3	34
47	Dynamics of Vaccination Strategies via Projected Dynamical Systems. Bulletin of Mathematical Biology, 2007, 69, 1453-1476.	1.9	33
48	Disease dynamics and costly punishment can foster socially imposed monogamy. Nature Communications, 2016, 7, 11219.	12.8	31
49	Interventions to Mitigate COVID-19 Misinformation: A Systematic Review and Meta-Analysis. Journal of Health Communication, 2021, 26, 846-857.	2.4	31
50	Policy Resistance Undermines Superspreader Vaccination Strategies for Influenza. PLoS Computational Biology, 2013, 9, e1002945.	3.2	30
51	Algorithmic discovery of dynamic models from infectious disease data. Scientific Reports, 2020, 10, 7061.	3.3	30
52	Incorporating Herd Immunity Effects into Cohort Models of Vaccine Cost-Effectiveness. Medical Decision Making, 2009, 29, 557-569.	2.4	29
53	Could the human papillomavirus vaccines drive virulence evolution?. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20141069.	2.6	29
54	The impact of rare but severe vaccine adverse events on behaviour-disease dynamics: a network model. Scientific Reports, 2019, 9, 7164.	3.3	29

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55	Interactions between climate change, competition, dispersal, and disturbances in a tree migration model. Theoretical Ecology, 2008, 1, 209-220.	1.0	28
56	Model-based projections for COVID-19 outbreak size and student-days lost to closure in Ontario childcare centres and primary schools. Scientific Reports, 2021, 11, 6402.	3.3	28
57	Rapid Emergence of Free-Riding Behavior in New Pediatric Immunization Programs. PLoS ONE, 2010, 5, e12594.	2.5	27
58	The impact of personal experiences with infection and vaccination on behaviourâ€“incidence dynamics of seasonal influenza. Epidemics, 2012, 4, 139-151.	3.0	26
59	Global land use implications of dietary trends. PLoS ONE, 2018, 13, e0200781.	2.5	26
60	Adherence to cervical screening in the era of human papillomavirus vaccination: how low is too low?. Lancet Infectious Diseases, The, 2010, 10, 133-137.	9.1	25
61	Carrot or Stick? Modelling How Landowner Behavioural Responses Can Cause Incentive-Based Forest Governance to Backfire. PLoS ONE, 2013, 8, e77735.	2.5	24
62	Strategic decision making about travel during disease outbreaks: a game theoretical approach. Journal of the Royal Society Interface, 2018, 15, 20180515.	3.4	24
63	Role of word-of-mouth for programs of voluntary vaccination: A game-theoretic approach. Mathematical Biosciences, 2015, 269, 130-134.	1.9	23
64	The effects of endogenous ecological memory on population stability and resilience in a variable environment. Ecological Modelling, 2008, 212, 334-341.	2.5	21
65	Landowner perceptions of the value of natural forest and natural grassland in a mosaic ecosystem in southern Brazil. Sustainability Science, 2016, 11, 321-330.	4.9	21
66	The influence of social behaviour on competition between virulent pathogen strains. Journal of Theoretical Biology, 2018, 455, 47-53.	1.7	21
67	Impact of co-evolution of negative vaccine-related information, vaccination behavior and epidemic spreading in multilayer networks. Communications in Nonlinear Science and Numerical Simulation, 2022, 109, 106312.	3.3	21
68	Behavioral Epidemiology of Infectious Diseases: An Overview. , 2013, , 1-19.		20
69	Spatial correlation as an early warning signal of regime shifts in a multiplex disease-behaviour network. Journal of Theoretical Biology, 2018, 448, 17-25.	1.7	20
70	Detecting and distinguishing tipping points using spectral early warning signals. Journal of the Royal Society Interface, 2020, 17, 20200482.	3.4	20
71	Estimating the COVID-19 R number: a bargain with the devil?. Lancet Infectious Diseases, The, 2021, 21, 151-153.	9.1	20
72	Time for change? An economic evaluation of integrated cervical screening and HPV immunization programs in Canada. Vaccine, 2012, 30, 425-435.	3.8	19

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73	Bounded rationality alters the dynamics of paediatric immunization acceptance. Scientific Reports, 2015, 5, 10724.	3.3	18
74	Competition between injunctive social norms and conservation priorities gives rise to complex dynamics in a model of forest growth and opinion dynamics. Journal of Theoretical Biology, 2017, 432, 132-140.	1.7	18
75	An agent-based computational model of the spread of tuberculosis. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P05003.	2.3	17
76	Evaluation of serogroup C and ACWY meningococcal vaccine programs: Projected impact on disease burden according to a stochastic two-strain dynamic model. Vaccine, 2015, 33, 268-275.	3.8	17
77	Sexual behavior, risk perception and HIV transmission can respond to HIV antiviral drugs and vaccines through multiple pathways. Scientific Reports, 2015, 5, 15411.	3.3	16
78	The impacts of simultaneous disease intervention decisions on epidemic outcomes. Journal of Theoretical Biology, 2016, 395, 1-10.	1.7	16
79	Prosocial polio vaccination in Israel. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13138-13144.	7.1	16
80	COVID-19 vaccine perceptions in the initial phases of US vaccine roll-out: an observational study on reddit. BMC Public Health, 2022, 22, 446.	2.9	15
81	Using network models to approximate spatial point-process models. Mathematical Biosciences, 2003, 184, 101-114.	1.9	14
82	When Do Sexual Partnerships Need to Be Accounted for in Transmission Models of Human Papillomavirus?. International Journal of Environmental Research and Public Health, 2010, 7, 635-650.	2.6	14
83	Agent-based modelling of clonal plant propagation across space: Recapturing fairy rings, power laws and other phenomena. Ecological Informatics, 2011, 6, 127-135.	5.2	14
84	Dynamics and control of foot-and-mouth disease in endemic countries: A pair approximation model. Journal of Theoretical Biology, 2014, 357, 150-159.	1.7	14
85	Wealth as a source of density dependence in human population growth. Oikos, 2008, 117, 1824-1832.	2.7	13
86	Mathematical models of the interplay between individual vaccinating decisions and disease dynamics: a need for closer integration of models and data. Human Vaccines and Immunotherapeutics, 2012, 8, 842-844.	3.3	13
87	CAN CULLING TO PREVENT MONKEYPOX INFECTION BE COUNTER-PRODUCTIVE? SCENARIOS FROM A THEORETICAL MODEL. Journal of Biological Systems, 2012, 20, 259-283.	1.4	13
88	Impacts of constrained culling and vaccination on control of foot and mouth disease in near-endemic settings: A pair approximation model. Epidemics, 2014, 9, 18-30.	3.0	13
89	Disease Interventions Can Interfere with One Another through Disease-Behaviour Interactions. PLoS Computational Biology, 2015, 11, e1004291.	3.2	13
90	Socio-ecological dynamics of Caribbean coral reef ecosystems and conservation opinion propagation. Scientific Reports, 2018, 8, 2597.	3.3	12

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91	Spatial early warning signals of social and epidemiological tipping points in a coupled behaviour-disease network. Scientific Reports, 2020, 10, 7611.	3.3	12
92	Coevolution of risk perception, sexual behaviour, and HIV transmission in an agent-based model. Journal of Theoretical Biology, 2013, 337, 125-132.	1.7	11
93	Modelling coupled humanâ€“environment complexity for the future of the biosphere: strengths, gaps and promising directions. Philosophical Transactions of the Royal Society B: Biological Sciences, 2022, 377, .	4.0	11
94	Outcome Inelasticity and Outcome Variability in Behaviour-Incidence Models: An Example from an SEIR Infection on a Dynamic Network. Computational and Mathematical Methods in Medicine, 2012, 2012, 1-11.	1.3	10
95	Multiplayer games and HIV transmission via casual encounters. Mathematical Biosciences and Engineering, 2016, 13, 1-1.	1.9	10
96	Impact of Imitation Processes on the Effectiveness ofÂRing Vaccination. Bulletin of Mathematical Biology, 2011, 73, 2748-2772.	1.9	9
97	Examining Ontario's universal influenza immunization program with a multi-strain dynamic model. Vaccine, 2014, 32, 5098-5117.	3.8	9
98	Convergence of socio-ecological dynamics in disparate ecological systems under strong coupling to human social systems. Theoretical Ecology, 2019, 12, 285-296.	1.0	9
99	Best response dynamics improve sustainability and equity outcomes in common-pool resources problems, compared to imitation dynamics. Journal of Theoretical Biology, 2021, 509, 110476.	1.7	9
100	COVID-19: when should quarantine be enforced?. Lancet Infectious Diseases, The, 2020, 20, 994-995.	9.1	9
101	Elements of indigenous socio-ecological knowledge show resilience despite ecosystem changes in the forest-grassland mosaics of the Nilgiri Hills, India. Palgrave Communications, 2018, 4, .	4.7	9
102	Estimating COVID-19 cases and deaths prevented by non-pharmaceutical interventions, and the impact of individual actions: A retrospective model-based analysis. Epidemics, 2022, 39, 100557.	3.0	9
103	EXPLORATION OF THE PARAMETER SPACE IN AN AGENT-BASED MODEL OF TUBERCULOSIS SPREAD: EMERGENCE OF DRUG RESISTANCE IN DEVELOPING VS DEVELOPED COUNTRIES. International Journal of Modern Physics C, 2012, 23, 1250046.	1.7	8
104	Solving the patient zero inverse problem by using generalized simulated annealing. Physica A: Statistical Mechanics and Its Applications, 2018, 490, 1513-1521.	2.6	8
105	Interconnections Accelerate Collapse in a Socio-Ecological Metapopulation. Sustainability, 2019, 11, 1852.	3.2	8
106	Ideas and perspectives: Biogeochemistry â€“ some key foci for the future. Biogeosciences, 2021, 18, 3005-3013.	3.3	8
107	Food Webs in the Human Body: Linking Ecological Theory to Viral Dynamics. PLoS ONE, 2012, 7, e48812.	2.5	8
108	Modelling invasibility in endogenously oscillating tree populations: timing of invasion matters. Biological Invasions, 2010, 12, 219-231.	2.4	7

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109	The impact of aggregating serogroups in dynamic models of Neisseria meningitidis transmission. BMC Infectious Diseases, 2015, 15, 300.	2.9	7
110	The Environmental Kuznets Curve Fails in a Globalized Socio-Ecological Metapopulation: A Sustainability Game Theory Approach. Handbook of Statistics, 2018, 39, 315-341.	0.6	7
111	Cooperation in a generalized age-structured spatial game. Journal of Theoretical Biology, 2020, 484, 109995.	1.7	7
112	Go big or go home: A model-based assessment of general strategies to slow the spread of forest pests via infested firewood. PLoS ONE, 2020, 15, e0238979.	2.5	7
113	Spatial coupled diseaseâ€“behavior framework as a dynamic and adaptive system. Physics of Life Reviews, 2015, 15, 57-60.	2.8	6
114	Emergence and spread of drug resistant influenza: A two-population game theoretical model. Infectious Disease Modelling, 2016, 1, 40-51.	1.9	6
115	Spatial structure in protected forestâ€grassland mosaics: Exploring futures under climate change. Global Change Biology, 2020, 26, 6097-6115.	9.5	6
116	Coupled Human-Environment Dynamics of Forest Pest Spread and Control in a Multi-Patch, Stochastic Setting. PLoS ONE, 2015, 10, e0139353.	2.5	6
117	Debates about vaccines and climate change on social media networks: a study in contrasts. Humanities and Social Sciences Communications, 2021, 8, .	2.9	6
118	Use of a Catalytic Model to Estimate Hepatitis A Incidence in a Low-Endemicity Country. Medical Decision Making, 2012, 32, 167-175.	2.4	5
119	Truncation selection and payoff distributions applied to the replicator equation. Journal of Theoretical Biology, 2016, 404, 383-390.	1.7	5
120	Coupling fishery dynamics, human health and social learning in a model of fish-borne pollution exposure. Sustainability Science, 2016, 11, 179-192.	4.9	5
121	Fire mitigates bark beetle outbreaks in serotinous forests. Theoretical Ecology, 2021, 14, 611-621.	1.0	5
122	When conflicts get heated, so does the planet: coupled social-climate dynamics under inequality. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211357.	2.6	5
123	The impact of truncation selection and diffusion on cooperation in spatial games. Journal of Theoretical Biology, 2019, 466, 64-83.	1.7	4
124	The Impact of Pre-exposure Prophylaxis for Human Immunodeficiency Virus on Gonorrhea Prevalence. Bulletin of Mathematical Biology, 2020, 82, 85.	1.9	4
125	An antibiotic protocol to minimize emergence of drug-resistant tuberculosis. Physica A: Statistical Mechanics and Its Applications, 2014, 400, 80-92.	2.6	3
126	Targeted pandemic containment through identifying local contact network bottlenecks. PLoS Computational Biology, 2021, 17, e1009351.	3.2	3

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127	Local Overfishing Patterns Have Regional Effects on Health of Coral, and Economic Transitions Can Promote Its Recovery. Bulletin of Mathematical Biology, 2022, 84, 46.	1.9	3
128	Socio-ecological mechanisms for persistence of native Australian grasses under pressure from nitrogen runoff and invasive species. Ecological Modelling, 2019, 413, 108830.	2.5	2
129	A local optimization framework for addressing conservation conflicts in mosaic ecosystems. PLoS ONE, 2019, 14, e0217812.	2.5	2
130	A well-timed shift from local to global agreements accelerates climate change mitigation. Nature Communications, 2021, 12, 2908.	12.8	2
131	A nested model for tuberculosis: Combining within-host and between-host processes in a single framework. International Journal of Modern Physics C, 2021, 32, .	1.7	2
132	Coupled social and land use dynamics affect dietary choice and agricultural land-use extent. Communications Earth & Environment, 2021, 2, .	6.8	2
133	Can Interactions between Timing of Vaccine-Altered Influenza Pandemic Waves and Seasonality in Influenza Complications Lead to More Severe Outcomes?. PLoS ONE, 2011, 6, e23580.	2.5	2
134	Parameterizing a dynamic influenza model using longitudinal versus age-stratified case notifications yields different predictions of vaccine impacts. Mathematical Biosciences and Engineering, 2019, 16, 3753-3770.	1.9	2
135	Stochasticity-induced persistence in coupled social-ecological systems. Journal of Theoretical Biology, 2022, 542, 111088.	1.7	2
136	A population biological approach to the collective dynamics of countries undergoing demographic transition. Journal of Theoretical Biology, 2010, 265, 167-176.	1.7	1
137	Unifying perspectives on cooperation under social viscosity. Physics of Life Reviews, 2015, 14, 34-36.	2.8	1
138	Projected impact of a plant-derived vaccine on the burden of seasonal influenza in Canada. Human Vaccines and Immunotherapeutics, 2021, 17, 3643-3651.	3.3	1
139	â€œHot-spottingâ€•to improve vaccine allocation by harnessing digital contact tracing technology: An application of percolation theory. PLoS ONE, 2021, 16, e0256889.	2.5	1
140	Network structural metrics as early warning signals of widespread vaccine refusal in social-epidemiological networks. Journal of Theoretical Biology, 2021, 531, 110881.	1.7	1
141	Cervical cancer incidence can increase despite HPV vaccination â€“ Author's reply. Lancet Infectious Diseases, The, 2010, 10, 595.	9.1	0
142	Modeling a Switch from Trivalent to Quadrivalent Influenza Vaccine in Canada and the United Kingdom. Value in Health, 2013, 16, A586.	0.3	0
143	Spatially-implicit modelling of disease-behaviour interactions in the context of non-pharmaceutical interventions. Mathematical Biosciences and Engineering, 2017, 15, 461-483.	1.9	0
144	Title is missing!. , 2020, 15, e0238979.		0

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145	Title is missing!. , 2020, 15, e0238979.		0
146	Title is missing!. , 2020, 15, e0238979.		0
147	Title is missing!. , 2020, 15, e0238979.		0
148	Title is missing!. , 2020, 15, e0238979.		0
149	Title is missing!. , 2020, 15, e0238979.		0
150	Title is missing!. , 2020, 15, e0238979.		0
151	Title is missing!. , 2020, 15, e0238979.		0