Jacques Gautrais

List of Publications by Year
in descending order

59	3,689	159585	144013
papers	citations	30 h-index	57 g-index

67	67	67	3009
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Addressing the gas kinetics Boltzmann equation with branching-path statistics. Physical Review E, 2022, 105, 025305.	2.1	6
2	Single-cell imaging of the cell cycle reveals CDC25B-induced heterogeneity of G1 phase length in neural progenitor cells. Development (Cambridge), 2022, 149, .	2.5	4
3	Processâ€Based Climate Model Development Harnessing Machine Learning: III. The Representation of Cumulus Geometry and Their 3D Radiative Effects. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002423.	3.8	8
4	A model of resource partitioning between foraging bees based on learning. PLoS Computational Biology, 2021, 17, e1009260.	3.2	10
5	Ant Foragers Compensate for the Nutritional Deficiencies in the Colony. Current Biology, 2020, 30, 135-142.e4.	3.9	24
6	Monte-Carlo and sensitivity transport models for domain deformation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2020, 251, 107022.	2.3	7
7	Long-Term Dietary Restriction Leads to Development of Alternative Fighting Strategies. Frontiers in Behavioral Neuroscience, 2020, 14, 599676.	2.0	4
8	Timing the spinal cord development with neural progenitor cells losing their proliferative capacity: a theoretical analysis. Neural Development, 2019, 14, 7.	2.4	4
9	Experimental investigation of ant traffic under crowded conditions. ELife, 2019, 8, .	6.0	8
10	Addressing nonlinearities in Monte Carlo. Scientific Reports, 2018, 8, 13302.	3.3	16
11	Traveling pulse emerges from coupled intermittent walks: A case study in sheep. PLoS ONE, 2018, 13, e0206817.	2.5	5
12	Neurogenic decisions require a cell cycle independent function of the CDC25B phosphatase. ELife, 2018, 7, .	6.0	15
13	Transition from isotropic to digitated growth modulates network formation inPhysarum polycephalum. Journal Physics D: Applied Physics, 2017, 50, 014002.	2.8	9
14	Monte Carlo efficiency improvement by multiple sampling of conditioned integration variables. Journal of Computational Physics, 2016, 326, 30-34.	3.8	8
15	Stigmergic construction and topochemical information shape ant nest architecture. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1303-1308.	7.1	92
16	Imitation Combined with a Characteristic Stimulus Duration Results in Robust Collective Decision-Making. PLoS ONE, 2015, 10, e0140188.	2.5	20
17	The Role of Colony Size on Tunnel Branching Morphogenesis in Ant Nests. PLoS ONE, 2014, 9, e109436.	2.5	15
18	Beyond boundariesâ€”Eph:ephrin signaling in neurogenesis. Cell Adhesion and Migration, 2014, 8, 349-359.	2.7	38

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19	Residence times and boundary-following behavior in animals. Physical Review E, 2014, 89, 052715.	2.1	5
20	Monte Carlo advances and concentrated solar applications. Solar Energy, 2014, 103, 653-681.	6.1	81
21	Integral formulation of null-collision Monte Carlo algorithms. Journal of Quantitative Spectroscopy and Radiative Transfer, 2013, 125, 57-68.	2.3	70
22	How Do Ants Make Sense of Gravity? A Boltzmann Walker Analysis of Lasius niger Trajectories on Various Inclines. PLoS ONE, 2013, 8, e76531.	2.5	16
23	Deciphering Interactions in Moving Animal Groups. PLoS Computational Biology, 2012, 8, e1002678.	3.2	240
24	From behavioural analyses to models of collective motion in fish schools. Interface Focus, 2012, 2, 693-707.	3.0	195
25	Modeling Collective Animal Behavior with a Cognitive Perspective: A Methodological Framework. PLoS ONE, 2012, 7, e38588.	2.5	32
26	Scalable Rules for Coherent Group Motion in a Gregarious Vertebrate. PLoS ONE, 2011, 6, e14487.	2.5	38
27	Moving together: Incidental leaders and naÃ¯ve followers. Behavioural Processes, 2010, 83, 235-241.	1.1	58
28	The hidden variables of leadership. Behavioural Processes, 2010, 84, 664-667.	1.1	12
29	Analogies Between Social Interaction Models and Supply Chains. Mathematics in Industry, 2010, , 535-540.	0.3	0
30	Self-Organized Aggregation Triggers Collective Decision Making in a Group of Cockroach-Like Robots. Adaptive Behavior, 2009, 17, 109-133.	1.9	81
31	Analyzing fish movement as a persistent turning walker. Journal of Mathematical Biology, 2009, 58, 429-445.	1.9	103
32	Collective decision-making in white-faced capuchin monkeys. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 3495-3503.	2.6	85
33	From individual to collective displacements in heterogeneous environments. Journal of Theoretical Biology, 2008, 250, 424-434.	1.7	22
34	Topological efficiency in three-dimensional gallery networks of termite nests. Physica A: Statistical Mechanics and Its Applications, 2008, 387, 6235-6244.	2.6	47
35	Social cohesion in groups of sheep: Effect of activity level, sex composition and group size. Applied Animal Behaviour Science, 2008, 112, 81-93.	1.9	50
36	Key Behavioural Factors in a Self-Organised Fish School Model. Annales Zoologici Fennici, 2008, 45, 415-428.	0.6	62

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37	The Embodiment of Cockroach Aggregation Behavior in a Group of Micro-robots. Artificial Life, 2008, 14, 387-408.	1.3	85
38	The Topological Fortress of Termites. Lecture Notes in Computer Science, 2008, , 165-173.	1.3	10
39	The interplay between a self-organized process and an environmental template: corpse clustering under the influence of air currents in ants. Journal of the Royal Society Interface, 2007, 4, 107-116.	3.4	38
40	Allelomimetic synchronization in Merino sheep. Animal Behaviour, 2007, 74, 1443-1454.	1.9	80
41	The biological principles of swarm intelligence. Swarm Intelligence, 2007, 1, 3-31.	2.2	424
42	Self-Organization Patterns in Wasp and Open Source Communities. IEEE Intelligent Systems, 2006, 21, 36-40.	4.0	31
43	Path efficiency of ant foraging trails in an artificial network. Journal of Theoretical Biology, 2006, 239, 507-515.	1.7	68
44	The growth and form of tunnelling networks in ants. Journal of Theoretical Biology, 2006, 243, 287-298.	1.7	44
45	Topological patterns in street networks of self-organized urban settlements. European Physical Journal B, 2006, 49, 513-522.	1.5	227
46	Sexual dimorphism, activity budget and synchrony in groups of sheep. Oecologia, 2006, 148, 170-180.	2.0	44
47	An experimental study of social attraction and spacing between the sexes in sheep. Journal of Experimental Biology, 2005, 208, 4419-4426.	1.7	17
48	Aggregation Behaviour as a Source of Collective Decision in a Group of Cockroach-Like-Robots. Lecture Notes in Computer Science, 2005, , 169-178.	1.3	43
49	Efficiency and robustness in ant networks of galleries. European Physical Journal B, 2004, 42, 123-129.	1.5	115
50	Nest excavation in ants: group size effects on the size and structure of tunneling networks. Die Naturwissenschaften, 2004, 91, 602-606.	1.6	60
51	How individual interactions control aggregation patterns in gregarious arthropods. Interaction Studies, 2004, 5, 245-269.	0.6	10
52	Modeling Ant Behavior Under a Variable Environment. Lecture Notes in Computer Science, 2004, , 190-201.	1.3	8
53	The formation of spatial patterns in social insects: from simple behaviours to complex structures. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2003, 361, 1263-1282.	3.4	139
54	Emergent Polyethism as a Consequence of Increased Colony Size in Insect Societies. Journal of Theoretical Biology, 2002, 215, 363-373.	1.7	151

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55	SpikeNET: A simulator for modeling large networks of integrate and fire neurons. Neurocomputing, 1999, 26-27, 989-996.	5.9	120
56	Face processing using one spike per neurone. BioSystems, 1998, 48, 229-239.	2.0	113
57	Rate coding versus temporal order coding: a theoretical approach. BioSystems, 1998, 48, 57-65.	2.0	184
58	Rank Order Coding. , 1998, , 113-118.		169
59	Collective decision-making by a group of cockroach-like robots. , 0, , .		15