Nigel R Franks

List of Publications by Year
in descending order

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145 papers	12,830 citations	44069 48 h-index	30922 102 g-index
153 all docs	153 docs citations	153 times ranked	6503 citing authors

#	Article	IF	Citations
1	The fluid dynamics of collective vortex structures of plant-animal worms. Journal of Fluid Mechanics, 2021, 914, .	3.4	6
2	Hide-and-seek strategies and post-contact immobility. Biology Letters, 2021, 17, 20200892.	2.3	5
3	Post-contact immobility and half-lives that save lives. Proceedings of the Royal Society B: Biological Sciences, 2020, 287, 20200881.	2.6	12
4	The Bayesian superorganism: externalized memories facilitate distributed sampling. Journal of the Royal Society Interface, 2020, 17, 20190848.	3.4	11
5	The Bayesian Superorganism: Collective Probability Estimation in Swarm Systems. , 2020, , .		2
6	Optimal foraging and the information theory of gambling. Journal of the Royal Society Interface, 2019, 16, 20190162.	3.4	14
7	Social flocculation in plantâ€“animal worms. Royal Society Open Science, 2019, 6, 181626.	2.4	3
8	Digging the optimum pit: antlions, spirals and spontaneous stratification. Proceedings of the Royal Society B: Biological Sciences, 2019, 286, 20190365.	2.6	28
9	Social Insects in the Aftermath of Swarm Raids of the Army Ant Eciton burchelli. , 2019, , 275-279.		6
10	Complementary landmarks facilitate ant navigation. Behavioural Processes, 2018, 157, 702-710.	1.1	8
11	Asymmetric ommatidia count and behavioural lateralization in the ant Temnothorax albipennis. Scientific Reports, 2018, 8, 5825.	3.3	17
12	The influence of the few: a stable â€˜oligarchyâ€™ controls information flow in house-hunting ants. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20172726.	2.6	19
13	Plantâ€“animal worms round themselves up in circular mills on the beach. Royal Society Open Science, 2018, 5, 180665.	2.4	6
14	Variability in individual assessment behaviour and its implications for collective decision-making. Proceedings of the Royal Society B: Biological Sciences, 2017, 284, 20162237.	2.6	26
15	Measuring site fidelity and spatial segregation within animal societies. Methods in Ecology and Evolution, 2017, 8, 965-975.	5.2	18
16	Information Certainty Determines Social and Private Information Use in Ants. Scientific Reports, 2017, 7, .	3.3	18
17	Exploration adjustment by ant colonies. Royal Society Open Science, 2016, 3, 150533.	2.4	2
18	Migration control: a distance compensation strategy in ants. Die Naturwissenschaften, 2016, 103, 66.	1.6	8

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19	A social mechanism facilitates ant colony emigrations over different distances. Journal of Experimental Biology, 2016, 219, 3439-3446.	1.7	5
20	Ants incommunicado: collective decision-making over new nest sites by ants with reduced communication. Behavioral Ecology and Sociobiology, 2016, 70, 145-155.	1.4	10
21	Ants determine their next move at rest: motor planning and causality in complex systems. Royal Society Open Science, 2016, 3, 150534.	2.4	26
22	Social behaviour and collective motion in plant-animal worms. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20152946.	2.6	25
23	The effect of social information on the collective choices of ant colonies. Behavioral Ecology, 2016, 27, 1033-1040.	2.2	10
24	How ants use quorum sensing to estimate the average quality of a fluctuating resource. Scientific Reports, 2015, 5, 11890.	3.3	24
25	Differentiated Anti-Predation Responses in a Superorganism. PLoS ONE, 2015, 10, e0141012.	2.5	8
26	Commitment time depends on both current and target nest value in Temnothorax albipennis ant colonies. Behavioral Ecology and Sociobiology, 2015, 69, 1183-1190.	1.4	7
27	Computational model of collective nest selection by ants with heterogeneous acceptance thresholds. Royal Society Open Science, 2015, 2, 140533.	2.4	17
28	Universality in ant behaviour. Journal of the Royal Society Interface, 2015, 12, 20140985.	3.4	12
29	Landmarks and ant search strategies after interrupted tandem runs. Journal of Experimental Biology, 2014, 217, 944-54.	1.7	25
30	Ants show a leftward turning bias when exploring unknown nest sites. Biology Letters, 2014, 10, 20140945.	2.3	46
31	How collective comparisons emerge without individual comparisons of the options. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20140737.	2.6	40
32	Trail laying during tandem-running recruitment in the ant Temnothorax albipennis. Die Naturwissenschaften, 2014, 101, 549-556.	1.6	15
33	Nest-seeking rock ants (Temnothorax albipennis) trade off sediment packing density and structural integrity for ease of cavity excavation. Behavioral Ecology and Sociobiology, 2013, 67, 1745-1756.	1.4	7
34	The Interplay Between Scent Trails and Group-Mass Recruitment Systems in Ants. Bulletin of Mathematical Biology, 2013, 75, 1912-1940.	1.9	1
35	Speedâ€“cohesion trade-offs in collective decision making in ants and the concept of precision in animal behaviour. Animal Behaviour, 2013, 85, 1233-1244.	1.9	35
36	Individual and social information gathering are fine-tuned to the internal state of the group. Animal Behaviour, 2013, 85, 1479-1484.	1.9	4

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37	Economic investment by ant colonies in searches for better homes. Biology Letters, 2013, 9, 20130685.	2.3	13
38	A Mechanism for Value-Sensitive Decision-Making. PLoS ONE, 2013, 8, e73216.	2.5	102
39	Learning and Decision Making in a Social Context. Handbook of Behavioral Neuroscience, 2013, , 530-545.	0.7	1
40	Morphogenesis of an extended phenotype: four-dimensional ant nest architecture. Journal of the Royal Society Interface, 2012, 9, 586-595.	3.4	25
41	Stop Signals Provide Cross Inhibition in Collective Decision-Making by Honeybee Swarms. Science, 2012, 335, 108-111.	12.6	270
42	Do ants need to be old and experienced to teach?. Journal of Experimental Biology, 2012, 215, 1287-1292.	1.7	25
43	Experience, corpulence and decision making in ant foraging. Journal of Experimental Biology, 2012, 215, 2653-2659.	1.7	52
44	Individual and social learning in tandem-running recruitment by ants. Animal Behaviour, 2012, 84, 361-368.	1.9	26
45	How is activity distributed among and within tasks in Temnothorax ants?. Behavioral Ecology and Sociobiology, 2012, 66, 1407-1420.	1.4	101
46	Knowledgeable individuals lead collective decisions in ants. Journal of Experimental Biology, 2011, 214, 3046-3054.	1.7	67
47	A Simple Threshold Rule Is Sufficient to Explain Sophisticated Collective Decision-Making. PLoS ONE, 2011, 6, e19981.	2.5	63
48	Blinkered teaching: tandem running by visually impaired ants. Behavioral Ecology and Sociobiology, 2011, 65, 569-579.	1.4	28
49	Emergency networking: famine relief in ant colonies. Animal Behaviour, 2010, 79, 473-485.	1.9	72
50	Record Dynamics in Ants. PLoS ONE, 2010, 5, e9621.	2.5	16
51	Recruitment Strategies and Colony Size in Ants. PLoS ONE, 2010, 5, e11664.	2.5	43
52	Ant search strategies after interrupted tandem runs. Journal of Experimental Biology, 2010, 213, 1697-1708.	1.7	39
53	Improving Decision Speed, Accuracy and Group Cohesion through Early Information Gathering in House-Hunting Ants. PLoS ONE, 2010, 5, e13059.	2.5	47
54	Ants. , 2009, , 24-27.		4

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55	Flexible task allocation and the organization of work in ants. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 4373-4380.	2.6	100
56	Do ants make direct comparisons?. Proceedings of the Royal Society B: Biological Sciences, 2009, 276, 2635-2641.	2.6	71
57	Speed versus accuracy in decision-making ants: expediting politics and policy implementation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2009, 364, 845-852.	4.0	66
58	Larger colonies do not have more specialized workers in the ant Temnothorax albipennis. Behavioral Ecology, 2009, 20, 922-929.	2.2	68
59	Symbionts of societies that fission: mites as guests or parasites of army ants. Ecological Entomology, 2009, 34, 684-695.	2.2	27
60	Colony-level cognition. Current Biology, 2009, 19, R395-R396.	3.9	35
61	Radio tagging reveals the roles of corpulence, experience and social information in ant decision making. Behavioral Ecology and Sociobiology, 2009, 63, 627-636.	1.4	98
62	On optimal decision-making in brains and social insect colonies. Journal of the Royal Society Interface, 2009, 6, 1065-1074.	3.4	202
63	How experienced individuals contribute to an improvement in collective performance in ants. Behavioral Ecology and Sociobiology, 2008, 62, 447-456.	1.4	60
64	The behaviour of ant transporters at the old and new nests during successive colony emigrations. Behavioral Ecology and Sociobiology, 2008, 62, 1851-1861.	1.4	11
65	Why do not all workers work? Colony size and workload during emigrations in the ant Temnothorax albipennis. Behavioral Ecology and Sociobiology, 2008, 63, 43-51.	1.4	98
66	Individual and collective choice: parallel prospecting and mining in ants. Die Naturwissenschaften, 2008, 95, 301-305.	1.6	6
67	Can ant colonies choose a far-and-away better nest over an in-the-way poor one?. Animal Behaviour, 2008, 76, 323-334.	1.9	44
68	Effects of Lecanicillium longisporum infection on the behaviour of the green peach aphid Myzus persicae. Journal of Insect Physiology, 2008, 54, 128-136.	2.0	17
69	Simple learning rules to cope with changing environments. Journal of the Royal Society Interface, 2008, 5, 1193-1202.	3.4	39
70	Reconnaissance and latent learning in ants. Proceedings of the Royal Society B: Biological Sciences, 2007, 274, 1505-1509.	2.6	55
71	First Record of the Army Ant Cheliomyrmex morosus in Panama and its High Associate Diversity. Biotropica, 2007, 39, 771-773.	1.6	6
72	Teaching with Evaluation in Ants. Current Biology, 2007, 17, 1520-1526.	3.9	118

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73	The selection of building material for wall construction by ants. Animal Behaviour, 2007, 73, 779-788.	1.9	18
74	How a few help all: living pothole plugs speed prey delivery in the army ant Eciton burchellii. Animal Behaviour, 2007, 73, 1067-1076.	1.9	26
75	Individual choice of building material for nest construction by worker ants and the collective outcome for their colony. Animal Behaviour, 2007, 74, 559-566.	1.9	17
76	Nest â€˜moultingâ€™ in the ant Temnothorax albipennis. Animal Behaviour, 2007, 74, 567-575.	1.9	11
77	Moving targets: collective decisions and flexible choices in house-hunting ants. Swarm Intelligence, 2007, 1, 81-94.	2.2	20
78	Noise, cost and speed-accuracy trade-offs: decision-making in a decentralized system. Journal of the Royal Society Interface, 2006, 3, 243-254.	3.4	62
79	Social insects: from selfish genes to self organisation and beyond. Trends in Ecology and Evolution, 2006, 21, 303-308.	8.7	58
80	Ecology and the evolution of worker morphological diversity: a comparative analysis with Eciton army ants. Functional Ecology, 2006, 20, 1105-1114.	3.6	86
81	Teaching in tandem-running ants. Nature, 2006, 439, 153-153.	27.8	337
82	Weighting waiting in collective decision-making. Behavioral Ecology and Sociobiology, 2006, 61, 347-356.	1.4	17
83	A reassessment of the mating system characteristics of the army ant Eciton burchellii. Die Naturwissenschaften, 2006, 93, 402-406.	1.6	31
84	Decision making by small and large house-hunting ant colonies: one size fits all. Animal Behaviour, 2006, 72, 611-616.	1.9	85
85	Not everything that counts can be counted: ants use multiple metrics for a single nest trait. Proceedings of the Royal Society B: Biological Sciences, 2006, 273, 165-169.	2.6	54
86	Effective leadership and decision-making in animal groups on the move. Nature, 2005, 433, 513-516.	27.8	2,214
87	Evolution of allometries in the worker caste ofDorylusarmy ants. Oikos, 2005, 110, 231-240.	2.7	42
88	An agent-based model of collective nest choice by the ant Temnothorax albipennis. Animal Behaviour, 2005, 70, 1023-1036.	1.9	126
89	The hidden cost of information in collective foraging. Proceedings of the Royal Society B: Biological Sciences, 2005, 272, 1689-1695.	2.6	84
90	Caste evolution and ecology: a special worker for novel prey. Proceedings of the Royal Society B: Biological Sciences, 2005, 272, 2173-2180.	2.6	52

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91	Temporal and spatial patterns in the emigrations of the army ant Dorylus (Anomma) molestus in the montane forest of Mt Kenya. Ecological Entomology, 2005, 30, 532-540.	2.2	38
92	Tomb evaders: house-hunting hygiene in ants. Biology Letters, 2005, 1, 190-192.	2.3	41
93	Eight highly polymorphic microsatellite markers for the army ant Eciton burchellii. Molecular Ecology Notes, 2004, 4, 234-236.	1.7	13
94	Centrifugal waste disposal and the optimization of ant nest craters. Animal Behaviour, 2004, 67, 965-973.	1.9	12
95	Brood sorting by ants: two phases and differential diffusion. Animal Behaviour, 2004, 68, 1095-1106.	1.9	36
96	Exceptionally high levels of multiple mating in an army ant. Die Naturwissenschaften, 2004, 91, 396-9.	1.6	42
97	Improvement in collective performance with experience in ants. Behavioral Ecology and Sociobiology, 2004, 56, 523-529.	1.4	74
98	Strategies for choosing between alternatives with different attributes: exemplified by house-hunting ants. Animal Behaviour, 2003, 65, 215-223.	1.9	176
99	Speed versus accuracy in collective decision making. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, 2457-2463.	2.6	267
100	How might individual honeybees measure massive volumes?. Proceedings of the Royal Society B: Biological Sciences, 2003, 270, S181-2.	2.6	3
101	Teamwork in Animals, Robots, and Humans. Advances in the Study of Behavior, 2003, 33, 1-48.	1.6	15
102	Simulating the Evolution of Ant Behaviour in Evaluating Nest Sites. Lecture Notes in Computer Science, 2003, , 643-650.	1.3	7
103	Information flow, opinion polling and collective intelligence in houseâ€“hunting social insects. Philosophical Transactions of the Royal Society B: Biological Sciences, 2002, 357, 1567-1583.	4.0	281
104	Chimpanzees and the mathematics of battle. Proceedings of the Royal Society B: Biological Sciences, 2002, 269, 1107-1112.	2.6	103
105	The Adaptiveness of Defence Strategies Against Cuckoo Parasitism. Bulletin of Mathematical Biology, 2002, 64, 1045-1068.	1.9	30
106	Collective Memory and Spatial Sorting in Animal Groups. Journal of Theoretical Biology, 2002, 218, 1-11.	1.7	1,698
107	Quorum sensing, recruitment, and collective decision-making during colony emigration by the ant Leptothorax albipennis. Behavioral Ecology and Sociobiology, 2002, 52, 117-127.	1.4	381
108	The role of competition in task switching during colony emigration in the ant Leptothorax albipennis. Animal Behaviour, 2002, 63, 715-725.	1.9	9

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109	The Use of Edges in Visual Navigation by the Ant Leptothorax albipennis. Ethology, 2001, 107, 1125-1136.	1.1	80
110	Division of labour within teams of New World and Old World army ants. Animal Behaviour, 2001, 62, 635-642.	1.9	50
111	The complexity and hierarchical structure of tasks in insect societies. Animal Behaviour, 2001, 62, 643-651.	1.9	50
112	Arms races and the evolution of big fierce societies. Proceedings of the Royal Society B: Biological Sciences, 2001, 268, 1723-1730.	2.6	7
113	Testing the limits of social resilience in ant colonies. Behavioral Ecology and Sociobiology, 2000, 48, 125-131.	1.4	37
114	Queen transport during ant colony emigration: a group-level adaptive behavior. Behavioral Ecology, 2000, 11, 315-318.	2.2	25
115	The possible role of reactionâ€“diffusion in leaf shape. Proceedings of the Royal Society B: Biological Sciences, 2000, 267, 1295-1300.	2.6	10
116	Ants estimate area using Buffon's needle. Proceedings of the Royal Society B: Biological Sciences, 2000, 267, 765-770.	2.6	93
117	Self-assembly, self-organization and division of labour. Philosophical Transactions of the Royal Society B: Biological Sciences, 1999, 354, 1395-1405.	4.0	52
118	Models of information flow in ant foraging: the benefits of both attractive and repulsive signals. , 1999, , 83-100.		12
119	Information flow in the social domain: how individuals decide what to do next. , 1999, , 101-112.		7
120	The Dynamics of Specialization and Generalization within Biological Populations. International Journal of Modeling, Simulation, and Scientific Computing, 1998, 01, 115-127.	1.4	11
121	Self-organizing nest construction in ants: individual worker behaviour and the nest's dynamics. Animal Behaviour, 1997, 54, 779-796.	1.9	137
122	Division of labour in a crisis: task allocation during colony emigration in the ant Leptothorax unifasciatus (Latr.). Behavioral Ecology and Sociobiology, 1995, 36, 269-282.	1.4	41
123	Division of labour in a crisis: task allocation during colony emigration in the ant Leptothorax unifasciatus (Latr.). Behavioral Ecology and Sociobiology, 1995, 36, 269-282.	1.4	6
124	Foraging for work: how tasks allocate workers. Animal Behaviour, 1994, 48, 470-472.	1.9	120
125	Task allocation in ant colonies within variable environments (A study of temporal polyethism:) Tj ETQq1 1 0.784314 rgBT /Overlock 1	1.9	87
126	Lanchester battles and the evolution of combat in ants. Animal Behaviour, 1993, 45, 197-199.	1.9	82

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127	Doing the right thing: Ants, honeybees and naked mole-rats. Trends in Ecology and Evolution, 1992, 7, 346-349.	8.7	135
128	Alternative adaptations, sympatric speciation and the evolution of parasitic, inquiline ants. Biological Journal of the Linnean Society, 1991, 43, 157-178.	1.6	129
129	Synchronization of the behaviour within nests of the antleptothorax acervorum (fabricius)â€"I. Discovering the phenomenon and its relation to the level of starvation. Bulletin of Mathematical Biology, 1990, 52, 597-612.	1.9	16
130	Behavior and chemical disguise of cuckoo antLeptothorax kutteri in relation to its hostLeptothorax acervorum. Journal of Chemical Ecology, 1990, 16, 1431-1444.	1.8	88
131	Conflicts, social economics and life history strategies in ants. Behavioral Ecology and Sociobiology, 1990, 27, 175.	1.4	33
132	Thermoregulation in army ant bivouacs. Physiological Entomology, 1989, 14, 397-404.	1.5	53
133	The Behavioural Ecology of Ants. , 1987, , .		93
134	Evolutionary and ecological parallels between ants and fungi. Trends in Ecology and Evolution, 1987, 2, 127-133.	8.7	28
135	The parasitic strategies of a cuckoo bee. Trends in Ecology and Evolution, 1987, 2, 324-326.	8.7	3
136	The organization of working teams' in social insects. Trends in Ecology and Evolution, 1987, 2, 72-75.	8.7	38
137	Sexual competition during colony reproduction in army ants. Biological Journal of the Linnean Society, 1987, 30, 229-243.	1.6	60
138	Teams in social insects: group retrieval of prey by army ants (Eciton burchelli, Hymenoptera:) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 302 T	1.4	112
139	Propaganda substances in the cuckoo antLeptothorax kutteri and the slave-makerHarpagoxenus sublaevis. Journal of Chemical Ecology, 1986, 12, 1285-1293.	1.8	55
140	The foraging ecology of the army ant Eciton rapax: an ergonomic enigma?. Ecological Entomology, 1985, 10, 131-141.	2.2	31
141	Dominance and reproductive success among slave-making worker ants. Nature, 1983, 304, 724-725.	27.8	119
142	Spatial patterns in army ant foraging and migration: Eciton burchelli on Barro Colorado Island, Panama. Behavioral Ecology and Sociobiology, 1983, 12, 261-270.	1.4	108
143	Patterns of Nested Dispersion in a Tropical Ground Ant Community. Ecology, 1982, 63, 338-344.	3.2	150
144	A new method for censusing animal populations: The number of Eciton burchelli army ant colonies on Barro Colorado Island, Panama. Oecologia, 1982, 52, 266-268.	2.0	32

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145	On optimal decision making in brains and social insect colonies. , 0, , 500-522.		0