Charles R Gallistel

List of Publications by Year
in descending order

154	12,446	36303 51	26613 107
papers	citations	h-index	g-index

166	166	166	5295
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Preverbal and verbal counting and computation. Cognition, 1992, 44, 43-74.	2.2	1,300
2	Time, rate, and conditioning.. Psychological Review, 2000, 107, 289-344.	3.8	966
3	Non-verbal numerical cognition: from reals to integers. Trends in Cognitive Sciences, 2000, 4, 59-65.	7.8	792
4	Toward a neurobiology of temporal cognition: advances and challenges. Current Opinion in Neurobiology, 1997, 7, 170-184.	4.2	683
5	Nonverbal Counting in Humans: The Psychophysics of Number Representation. Psychological Science, 1999, 10, 130-137.	3.3	567
6	The learning curve: Implications of a quantitative analysis. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 13124-13131.	7.1	492
7	Variability signatures distinguish verbal from nonverbal counting for both large and small numbers. Psychonomic Bulletin and Review, 2001, 8, 698-707.	2.8	341
8	A portrait of the substrate for self-stimulation.. Psychological Review, 1981, 88, 228-273.	3.8	340
9	The importance of proving the null.. Psychological Review, 2009, 116, 439-453.	3.8	336
10	Animal Cognition: The Representation of Space, Time and Number. Annual Review of Psychology, 1989, 40, 155-189.	17.7	305
11	Numerical Subtraction in the Pigeon: Evidence for a Linear Subjective Number Scale. Psychological Science, 2001, 12, 238-243.	3.3	209
12	Parametric analysis of brain stimulation reward in the rat: III. Effect of performance variables on the reward summation function.. Journal of Comparative and Physiological Psychology, 1974, 87, 876-883.	1.8	192
13	Heading in the rat: Determination by environmental shape. Learning and Behavior, 1988, 16, 404-410.	3.4	172
14	The Neuroscience of Learning: Beyond the Hebbian Synapse. Annual Review of Psychology, 2013, 64, 169-200.	17.7	172
15	Pimozide and amphetamine have opposing effects on the reward summation function. Pharmacology Biochemistry and Behavior, 1984, 20, 73-77.	2.9	148
16	The rat approximates an ideal detector of changes in rates of reward: Implications for the law of effect.. Journal of Experimental Psychology, 2001, 27, 354-372.	1.7	146
17	Time and Associative Learning.. Comparative Cognition and Behavior Reviews, 2010, 5, 1-22.	2.0	127
18	Computations on Metric Maps in Mammals: Getting Oriented and Choosing a Multi-Destination Route. Journal of Experimental Biology, 1996, 199, 211-217.	1.7	122

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19	The rat approximates an ideal detector of changes in rates of reward: Implications for the law of effect.. Journal of Experimental Psychology, 2001, 27, 354-372.	1.7	122
20	Forebrain origins and terminations of the medial forebrain bundle metabolically activated by rewarding stimulation or by reward-blocking doses of pimozide. Journal of Neuroscience, 1985, 5, 1246-1261.	3.6	115
21	Parametric analysis of brain stimulation reward in the rat: I. The transient process and the memory-containing process.. Journal of Comparative and Physiological Psychology, 1974, 87, 848-859.	1.8	112
22	The generative basis of natural number concepts. Trends in Cognitive Sciences, 2008, 12, 213-218.	7.8	111
23	Risk assessment in man and mouse. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 2459-2463.	7.1	111
24	Quantitative determination of the effects of catecholaminergic agonists and antagonists on the rewarding efficacy of brain stimulation. Pharmacology Biochemistry and Behavior, 1987, 26, 731-741.	2.9	108
25	Does pimozide block the reinforcing effect of brain stimulation?. Pharmacology Biochemistry and Behavior, 1982, 17, 769-781.	2.9	106
26	Computational Versus Associative Models of Simple Conditioning. Current Directions in Psychological Science, 2001, 10, 146-150.	5.3	106
27	Self-stimulation in the rat: Quantitative characteristics of the reward pathway.. Journal of Comparative and Physiological Psychology, 1978, 92, 977-998.	1.8	94
28	PrÃ©cis of Gallistel'sThe organization of action: A new synthesis. Behavioral and Brain Sciences, 1981, 4, 609-619.	0.7	94
29	Computer assisted analysis of 2-DG autoradiographs. Neuroscience and Biobehavioral Reviews, 1982, 6, 409-420.	6.1	91
30	Time to rethink the neural mechanisms of learning and memory. Neurobiology of Learning and Memory, 2014, 108, 136-144.	1.9	91
31	Reward versus performance in self-stimulation: Electrode-specific effects of !a-methyl-p-tyrosine on reward in the rat.. Journal of Comparative and Physiological Psychology, 1977, 91, 962-974.	1.8	88
32	Way-finding in displaced clock-shifted bees proves bees use a cognitive map. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8949-8954.	7.1	87
33	Sources of Variability and Systematic Error in Mouse Timing Behavior.. Journal of Experimental Psychology, 2004, 30, 3-16.	1.7	86
34	Computations on metric maps in mammals: getting oriented and choosing a multi-destination route. Journal of Experimental Biology, 1996, 199, 211-7.	1.7	85
35	A microcomputer-based method for physiologically interpretable measurement of the rewarding efficacy of brain stimulation. Physiology and Behavior, 1985, 35, 395-403.	2.1	78
36	Shape Parameters Explain Data From Spatial Transformations: Comment on Pearce et al. (2004) and Tommasi & Polli (2004).. Journal of Experimental Psychology, 2005, 31, 254-259.	1.7	78

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37	Affinity for the dopamine D2 receptor predicts neuroleptic potency in blocking the reinforcing effect of MFB stimulation. Pharmacology Biochemistry and Behavior, 1983, 19, 867-872.	2.9	74
38	The incentive of brain-stimulation reward.. Journal of Comparative and Physiological Psychology, 1969, 69, 713-721.	1.8	70
39	The perception of probability.. Psychological Review, 2014, 121, 96-123.	3.8	69
40	Unilaterally activated systems in rats self-stimulating at sites in the medial forebrain bundle, medial prefrontal cortex, or locus coeruleus. Brain Research, 1983, 266, 39-50.	2.2	67
41	Foraging for brain stimulation: toward a neurobiology of computation. Cognition, 1994, 50, 151-170.	2.2	66
42	IS MATCHING INNATE?. Journal of the Experimental Analysis of Behavior, 2007, 87, 161-199.	1.1	66
43	Acquisition of peak responding: What is learned?. Behavioural Processes, 2009, 80, 67-75.	1.1	65
44	Interval timing in genetically modified mice: a simple paradigm. Genes, Brain and Behavior, 2008, 7, 373-384.	2.2	64
45	Conditioning from an information processing perspective. Behavioural Processes, 2003, 62, 89-101.	1.1	60
46	A portrait of the substrate for self-stimulation. Psychological Review, 1981, 88, 228-73.	3.8	60
47	Neuron Function Inferred from Behavioral and Electrophysiological Estimates of Refractory Period. Science, 1969, 166, 1028-1030.	12.6	58
48	Reconsidering the evidence for learning in single cells. ELife, 2021, 10, .	6.0	58
49	Cross-domain transfer of quantitative discriminations: Is it all a matter of proportion?. Psychonomic Bulletin and Review, 2006, 13, 636-642.	2.8	57
50	The Coding Question. Trends in Cognitive Sciences, 2017, 21, 498-508.	7.8	57
51	Nonverbal arithmetic in humans: Light from noise. Perception & Psychophysics, 2007, 69, 1185-1203.	2.3	56
52	Parametric analysis of brain stimulation reward in the rat: II. Temporal summation in the reward system.. Journal of Comparative and Physiological Psychology, 1974, 87, 860-869.	1.8	54
53	What can one learn from a strength-duration experiment?. Journal of Mathematical Psychology, 1978, 18, 1-24.	1.8	54
54	Saturation of subjective reward magnitude as a function of current and pulse frequency.. Behavioral Neuroscience, 1994, 108, 151-160.	1.2	54

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55	Mice take calculated risks. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8776-8779.	7.1	53
56	Motivating effects in self-stimulation.. Journal of Comparative and Physiological Psychology, 1966, 62, 95-101.	1.8	52
57	Kinetics of matching.. Journal of Experimental Psychology, 1994, 20, 79-95.	1.7	51
58	Measuring the subjective magnitude of brain stimulation reward by titration with rate of reward.. Behavioral Neuroscience, 1991, 105, 913-925.	1.2	50
59	Electrical self-stimulation and its theoretical implications.. Psychological Bulletin, 1964, 61, 23-34.	6.1	44
60	[14C] 2-deoxyglucose uptake marks systems activated by rewarding brain stimulation. Brain Research Bulletin, 1977, 2, 149-152.	3.0	44
61	Pimozide blocks reinforcement but not priming from MFB stimulation in the rat. Pharmacology Biochemistry and Behavior, 1982, 17, 783-787.	2.9	44
62	Locating the engram: Should we look for plastic synapses or information-storing molecules?. Neurobiology of Learning and Memory, 2020, 169, 107164.	1.9	44
63	Language and spatial frames of reference in mind and brain. Trends in Cognitive Sciences, 2002, 6, 321-322.	7.8	43
64	AUTOSHAPED HEAD POKING IN THE MOUSE: A QUANTITATIVE ANALYSIS OF THE LEARNING CURVE. Journal of the Experimental Analysis of Behavior, 2006, 85, 293-308.	1.1	43
65	The precision of locomotor odometry in humans. Experimental Brain Research, 2009, 193, 429-436.	1.5	43
66	Mental Magnitudes. , 2011, , 3-12.		42
67	Extinction from a rationalist perspective. Behavioural Processes, 2012, 90, 66-80.	1.1	42
68	Note on temporal summation in the reward system.. Journal of Comparative and Physiological Psychology, 1974, 87, 870-875.	1.8	41
69	Conditioned stimulus informativeness governs conditioned stimulusâ”unconditioned stimulus associability.. Journal of Experimental Psychology, 2012, 38, 217-232.	1.7	40
70	On the research of time past: the hunt for the substrate of memory. Annals of the New York Academy of Sciences, 2017, 1396, 108-125.	3.8	39
71	Specificity of brain stimulation reward in the rat.. Journal of Comparative and Physiological Psychology, 1971, 76, 199-205.	1.8	38
72	It's the information!. Behavioural Processes, 2013, 95, 3-7.	1.1	38

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73	Medial Forebrain Bundle Lesions Fail to Structurally and Functionally Disconnect the Ventral Tegmental Area from Many Ipsilateral Forebrain Nuclei: Implications for the Neural Substrate of Brain Stimulation Reward. Journal of Neuroscience, 1998, 18, 8515-8533.	3.6	36
74	Pavlovian contingencies and temporal information.. Journal of Experimental Psychology, 2006, 32, 284-294.	1.7	36
75	Effects of reinforcement-blocking doses of pimozide on neural system driven by rewarding stimulation of the MFB: A 14C-2-deoxyglucose analysis. Pharmacology Biochemistry and Behavior, 1982, 17, 841-845.	2.9	35
76	Reply to Cheung et al.: The cognitive map hypothesis remains the best interpretation of the data in honeybee navigation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E4398-E4398.	7.1	32
77	Flawed foundations of associationism? Comment on Machado and Silva (2007).. American Psychologist, 2007, 62, 682-685.	4.2	32
78	Intact interval timing in circadian CLOCK mutants. Brain Research, 2008, 1227, 120-127.	2.2	31
79	Reward saturation in medial forebrain bundle self-stimulation. Physiology and Behavior, 1987, 41, 585-593.	2.1	28
80	Subjective reward magnitude of medial forebrain stimulation as a function of train duration and pulse frequency.. Behavioral Neuroscience, 1993, 107, 389-401.	1.2	28
81	Deconstructing the law of effect. Games and Economic Behavior, 2005, 52, 410-423.	0.8	28
82	Intracranial stimulation and natural reward: Differential effects of trial spacing. Learning and Behavior, 1967, 9, 167-168.	0.6	27
83	Incidence and magnitude of the "priming effect" in self-stimulating rats.. Journal of Comparative and Physiological Psychology, 1973, 82, 286-293.	1.8	27
84	Runway performance of rats for brain-stimulation or food reward: Effects of hunger and priming.. Journal of Comparative and Physiological Psychology, 1975, 89, 590-599.	1.8	27
85	Commentary on Le Corre & Carey. Cognition, 2007, 105, 439-445.	2.2	27
86	Kinetics of matching. Journal of Experimental Psychology, 1994, 20, 79-95.	1.7	27
87	Prelinguistic Thought. Language Learning and Development, 2011, 7, 253-262.	1.4	26
88	The function relating the subjective magnitude of brain stimulation reward to stimulation strength varies with site of stimulation. Behavioural Brain Research, 1992, 52, 183-193.	2.2	25
89	Introduction: The origins of numerical abilities. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20160507.	4.0	25
90	Temporal contingency. Behavioural Processes, 2014, 101, 89-96.	1.1	24

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91	Effect of current on the maximum possible reward.. Behavioral Neuroscience, 1991, 105, 901-912.	1.2	23
92	Destruction of the medial forebrain bundle caudal to the site of stimulation reduces rewarding efficacy but destruction rostrally does not.. Behavioral Neuroscience, 1996, 110, 766-790.	1.2	23
93	Finding numbers in the brain. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170119.	4.0	23
94	Self-stimulating rats combine subjective reward magnitude and subjective reward rate multiplicatively.. Journal of Experimental Psychology, 1998, 24, 265-277.	1.7	23
95	The role of the dopaminergic projections in MFB self-stimulation. Behavioural Brain Research, 1986, 22, 97-105.	2.2	22
96	Self-stimulating rats combine subjective reward magnitude and subjective reward rate multiplicatively.. Journal of Experimental Psychology, 1998, 24, 265-277.	1.7	22
97	Theoretical implications of quantitative properties of interval timing and probability estimation in mouse and rat. Journal of the Experimental Analysis of Behavior, 2017, 108, 39-72.	1.1	22
98	The role of the dopaminergic projections in MFB self-stimulation. Behavioural Brain Research, 1986, 20, 313-321.	2.2	21
99	Contingency, contiguity, and causality in conditioning: Applying information theory and Weberâ€™s Law to the assignment of credit problem.. Psychological Review, 2019, 126, 761-773.	3.8	21
100	On the optimal pulse duration in electrical stimulation of the brain. Physiology and Behavior, 1974, 12, 749-754.	2.1	19
101	The physical basis of memory. Cognition, 2021, 213, 104533.	2.2	19
102	Bell, Magendie, and the proposals to restrict the use of animals in neurobehavioral research.. American Psychologist, 1981, 36, 357-360.	4.2	18
103	Temporal landmarks: proximity prevails. Animal Cognition, 2003, 6, 113-120.	1.8	16
104	CAN A DECAY PROCESS EXPLAIN THE TIMING OF CONDITIONED RESPONSES?. Journal of the Experimental Analysis of Behavior, 1999, 71, 264-271.	1.1	15
105	Counting versus subitizing versus the sense of number. Behavioral and Brain Sciences, 1988, 11, 585-586.	0.7	14
106	Characteristics of spatiotemporal integration in the priming and rewarding effects of medial forebrain bundle stimulation.. Behavioral Neuroscience, 1991, 105, 884-900.	1.2	14
107	Measuring the subjective magnitude of brain stimulation reward by titration with rate of reward. Behavioral Neuroscience, 1991, 105, 913-25.	1.2	14
108	Mental Representations, Psychology of. , 2001, , 9691-9695.		13

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109	Navigation: Whence Our Sense of Direction?. Current Biology, 2017, 27, R108-R110.	3.9	13
110	Time left in the mouse. Behavioural Processes, 2007, 74, 142-151.	1.1	12
111	Frequency, contingency and the information processing theory of conditioning. , 2002, , 153-172.		12
112	Bayesian change-point analysis reveals developmental change in a classic theory of mind task. Cognitive Psychology, 2016, 91, 124-149.	2.2	11
113	Is Long-Term Potentiation a Plausible Basis for Memory?. , 1995, , 328-338.		11
114	From muscles to motivation. American Scientist, 1980, 68, 398-409.	0.1	11
115	Self-stimulation: Failure of pretrial stimulation to affect rats' electrode preference.. Journal of Comparative and Physiological Psychology, 1969, 69, 722-729.	1.8	10
116	Coordinate Transformations in the Genesis of Directed Action. , 1999, , 1-42.		9
117	On the evils of group averaging: Commentary on Nevin's â€œResistance to extinction and behavioral momentumâ€. Behavioural Processes, 2012, 90, 98-99.	1.1	9
118	Evidence for a Mixed Timing and Counting Strategy in Mice Performing a Mechner Counting Task. Frontiers in Behavioral Neuroscience, 2019, 13, 109.	2.0	9
119	Time-scale-invariant information-theoretic contingencies in discrimination learning.. Journal of Experimental Psychology Animal Learning and Cognition, 2019, 45, 280-289.	0.5	9
120	Destruction of the medial forebrain bundle caudal to the site of stimulation reduces rewarding efficacy but destruction rostrally does not.. Behavioral Neuroscience, 1996, 110, 766-790.	1.2	9
121	Dopamine encodes real-time reward availability and transitions between reward availability states on different timescales. Nature Communications, 2022, 13, .	12.8	9
122	Automated, Quantitative Cognitive/Behavioral Screening of Mice: For Genetics, Pharmacology, Animal Cognition and Undergraduate Instruction. Journal of Visualized Experiments, 2014, , e51047.	0.3	8
123	Screening for Learning and Memory Mutations: A New Approach. Acta Psychologica Sinica, 2010, 42, 138-158.	0.7	8
124	SELF-STIMULATION. , 1983, , 269-349.		7
125	Temporal integration in self-stimulation: A paradox.. Behavioral Neuroscience, 1984, 98, 467-478.	1.2	7
126	Classical conditioning as a nonstationary, multivariate time series analysis: A spreadsheet model. Behavior Research Methods, 1992, 24, 340-351.	1.3	7

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127	Cognitive assessment of mice strains heterozygous for cell-adhesion genes reveals strain-specific alterations in timing. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20120464.	4.0	7
128	Where Integers Come From. , 2008, , 109-138.		7
129	Subcortical Stimulation for Motivation and Reinforcement. , 1981, , 141-171.		7
130	Conception, perception and the control of action. Trends in Cognitive Sciences, 2002, 6, 504.	7.8	6
131	Accurate step-hold tracking of smoothly varying periodic and aperiodic probability. Attention, Perception, and Psychophysics, 2017, 79, 1480-1494.	1.3	6
132	Number and time in acquisition, extinction and recovery. Journal of the Experimental Analysis of Behavior, 2020, 113, 15-36.	1.1	6
133	Does the perception of reward magnitude of self-administered electrical brain stimulation have a circadian rhythm?. Behavioral Neuroscience, 1986, 100, 888-893.	1.2	6
134	Response to Dehaene. Psychological Science, 2001, 12, 247-247.	3.3	5
135	Numbers and brains. Learning and Behavior, 2017, 45, 327-328.	1.0	5
136	Getting Numbers into Brains. Nature Human Behaviour, 2020, 4, 1222-1223.	12.0	5
137	Where meanings arise and how: Building on Shannon's foundations. Mind and Language, 2020, 35, 390-401.	2.3	5
138	Effect of current on the maximum possible reward. Behavioral Neuroscience, 1991, 105, 901-12.	1.2	5
139	The irrelevance of past pleasure. Behavioral and Brain Sciences, 1978, 1, 59-60.	0.7	4
140	A modular sense of place?. Behavioral and Brain Sciences, 1985, 8, 11-12.	0.7	4
141	Dopamine and reward: Comment on Hernandez et al. (2006).. Behavioral Neuroscience, 2006, 120, 992-994.	1.2	4
142	The Neural Mechanisms that Underlie Decision Making. , 2009, , 417-424.		4
143	On rationalism and optimality: Responses to the Miller and Nevin Commentaries. Behavioural Processes, 2012, 90, 87-88.	1.1	3
144	The approximate number system represents magnitude and precision. Behavioral and Brain Sciences, 2021, 44, e187.	0.7	3

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145	Matters of principle: Hierarchies, representations, and action. Behavioral and Brain Sciences, 1981, 4, 639-650.	0.7	2
146	A Test of Gibbon's Feedforward Model of Matching. Learning and Motivation, 2002, 33, 46-62.	1.2	2
147	Our understanding of neural codes rests on Shannon's foundations. Behavioral and Brain Sciences, 2019, 42, e226.	0.7	1
148	Dead Reckoning, Cognitive Maps, Animal Navigation and the Representation of Space: An Introduction. , 2007, , 137-143.		1
149	More direction neededRepresenting Direction in Language and Space, edited by E. van der Zee, and J. Slack, Oxford University Press, 2003. $99.00 (hbk)/ $39.95 (pabk) (282 pages) ISBN 0 19 926018 4. Trends in Cognitive Sciences, 2004, 8, 97-97.	7.8	0
150	"Conditional stimulus informativeness governs conditioned stimulusâ€"Unconditioned stimulus associability": Correction to Ward et al. (2012).. Journal of Experimental Psychology, 2012, 38, 254-254.	1.7	0
151	Behavior, Hierarchical Organization of. , 2001, , 1069-1072.		0
152	Contingency in Learning. , 2012, , 802-806.		0
153	Homeostatic Conditioning: Learning and Physiological Regulation . Barry R. Dworkin. University of Chicago Press, Chicago, 1993. xvi, 215 pp., illus. $23.95 or Â£19.25. John D. and Catherine T. MacArthur Foundation Series on Mental Health and Development.. Science, 1993, 262, 445-445.	12.6	0
154	Homeostatic Conditioning: Learning and Physiological Regulation . Barry R. Dworkin. University of Chicago Press, Chicago, 1993. xvi, 215 pp., illus. $23.95 or Â£19.25. John D. and Catherine T. MacArthur Foundation Series on Mental Health and Development.. Science, 1993, 262, 445-445.	12.6	0