Charles R Gallistel

List of Publications by Citations

158 papers	10,076 citations	47 h-index	98 g-index
166 ext. papers	11,100 ext. citations	5.7 avg, IF	6.49 L-index

#	Paper	IF	Citations
158	Preverbal and verbal counting and computation. *Cognition*, **1992**, 44, 43-74	3.5	1118
157	Time, rate, and conditioning. *Psychological Review*, **2000**, 107, 289-344	6.3	771
156	Non-verbal numerical cognition: from reals to integers. *Trends in Cognitive Sciences*, **2000**, 4, 59-65	14	702
155	Toward a neurobiology of temporal cognition: advances and challenges. *Current Opinion in Neurobiology*, **1997**, 7, 170-84	7.6	587
154	Nonverbal Counting in Humans: The Psychophysics of Number Representation. *Psychological Science*, **1999**, 10, 130-137	7.9	477
153	The learning curve: implications of a quantitative analysis. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 13124-31	11.5	391
152	Variability signatures distinguish verbal from nonverbal counting for both large and small numbers. *Psychonomic Bulletin and Review*, **2001**, 8, 698-707	4.1	294
151	A portrait of the substrate for self-stimulation.. *Psychological Review*, **1981**, 88, 228-273	6.3	288
150	The importance of proving the null. *Psychological Review*, **2009**, 116, 439-53	6.3	278
149	Animal cognition: the representation of space, time and number. *Annual Review of Psychology*, **1989** , 40, 155-89	26.1	209
148	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, 876-83		174
147	Numerical subtraction in the pigeon: evidence for a linear subjective number scale. *Psychological Science*, **2001**, 12, 238-43	7.9	156
146	The neuroscience of learning: beyond the Hebbian synapse. *Annual Review of Psychology*, **2013**, 64, 169-200	26.1	136
145	Pimozide and amphetamine have opposing effects on the reward summation function. *Pharmacology Biochemistry and Behavior*, **1984**, 20, 73-7	3.9	128
144	Heading in the rat: Determination by environmental shape. *Learning and Behavior*, **1988**, 16, 404-410		124
143	**2009**,		120
142	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		109

141	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, 1246-61	6.6	102
140	Time and Associative Learning. *Comparative Cognition and Behavior Reviews*, **2010**, 5, 1-22		96
139	The rat approximates an ideal detector of changes in rates of reward: implications for the law of effect. *Journal of Experimental Psychology*, **2001**, 27, 354-72		96
138	Quantitative determination of the effects of catecholaminergic agonists and antagonists on the rewarding efficacy of brain stimulation. *Pharmacology Biochemistry and Behavior*, **1987**, 26, 731-41	3.9	95
137	Computations on metric maps in mammals: getting oriented and choosing a multi-destination route.. *Journal of Experimental Biology*, **1996**, 199, 211-217	3	94
136	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, 848-59		93
135	The generative basis of natural number concepts. *Trends in Cognitive Sciences*, **2008**, 12, 213-8	14	89
134	Computer assisted analysis of 2-DG autoradiographs. *Neuroscience and Biobehavioral Reviews*, **1982**, 6, 409-20	9	88
133	Does pimozide block the reinforcing effect of brain stimulation?. *Pharmacology Biochemistry and Behavior*, **1982**, 17, 769-81	3.9	86
132	Risk assessment in man and mouse. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 2459-63	11.5	84
131	Reward versus performance in self-stimulation: electrode-specific effects of alpha-methyl-p-tyrosine on reward in the rat. *Journal of Comparative and Physiological Psychology*, **1977**, 91, 962-74		81
130	Précis of Gallistel's The organization of action: A new synthesis. *Behavioral and Brain Sciences*, **1981**, 4, 609-619	0.9	79
129	Computations on metric maps in mammals: getting oriented and choosing a multi-destination route. *Journal of Experimental Biology*, **1996**, 199, 211-7	3	77
128	Self-stimulation in the rat: quantitative characteristics of the reward pathway. *Journal of Comparative and Physiological Psychology*, **1978**, 92, 977-98		76
127	Sources of variability and systematic error in mouse timing behavior. *Journal of Experimental Psychology*, **2004**, 30, 3-16		75
126	A microcomputer-based method for physiologically interpretable measurement of the rewarding efficacy of brain stimulation. *Physiology and Behavior*, **1985**, 35, 395-403	3.5	71
125	Computational Versus Associative Models of Simple Conditioning. *Current Directions in Psychological Science*, **2001**, 10, 146-150	6.5	70
124	Time to rethink the neural mechanisms of learning and memory. *Neurobiology of Learning and Memory*, **2014**, 108, 136-44	3.1	69

123	Shape parameters explain data from spatial transformations: comment on Pearce et al. (2004) and Tommasi & Polli (2004). *Journal of Experimental Psychology*, **2005**, 31, 254-9; discussion 260-1		68
122	Affinity for the dopamine D2 receptor predicts neuroleptic potency in blocking the reinforcing effect of MFB stimulation. *Pharmacology Biochemistry and Behavior*, **1983**, 19, 867-72	3.9	66
121	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	3.7	63
120	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, 8949-54	11.5	59
119	The incentive of brain-stimulation reward. *Journal of Comparative and Physiological Psychology*, **1969**, 69, 713-21		59
118	Foraging for brain stimulation: toward a neurobiology of computation. *Cognition*, **1994**, 50, 151-70	3.5	58
117	Is matching innate?. *Journal of the Experimental Analysis of Behavior*, **2007**, 87, 161-99	2.1	57
116	A portrait of the substrate for self-stimulation. *Psychological Review*, **1981**, 88, 228-73	6.3	54
115	What can one learn from a strength-duration experiment?. *Journal of Mathematical Psychology*, **1978**, 18, 1-24	1.2	53
114	Neuron function inferred from behavioral and electrophysiological extimates of refractory period. *Science*, **1969**, 166, 1028-30	33.3	53
113	Acquisition of peak responding: what is learned?. *Behavioural Processes*, **2009**, 80, 67-75	1.6	50
112	Nonverbal arithmetic in humans: light from noise. *Perception & Psychophysics*, **2007**, 69, 1185-203		47
111	Measuring the subjective magnitude of brain stimulation reward by titration with rate of reward.. *Behavioral Neuroscience*, **1991**, 105, 913-925	2.1	47
110	The perception of probability. *Psychological Review*, **2014**, 121, 96-123	6.3	46
109	Saturation of subjective reward magnitude as a function of current and pulse frequency.. *Behavioral Neuroscience*, **1994**, 108, 151-160	2.1	46
108	Interval timing in genetically modified mice: a simple paradigm. *Genes, Brain and Behavior*, **2008**, 7, 373-84	3.46	45
107	[14 C]2-Deoxyglucose uptake marks systems activated by rewarding brain stimulation. *Brain Research Bulletin*, **1977**, 2, 149-52	3.9	44
106	Mice take calculated risks. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 8776-9	11.5	43

105	Parametric analysis of brain stimulation reward in the rat: II. Temporal summation in the reward system. *Journal of Comparative and Physiological Psychology*, **1974**, 87, 860-9		43
104	Conditioning from an information processing perspective. *Behavioural Processes*, **2003**, 62, 89-101	1.6	41
103	The precision of locomotor odometry in humans. *Experimental Brain Research*, **2009**, 193, 429-36	2.3	40
102	Cross-domain transfer of quantitative discriminations: is it all a matter of proportion?. *Psychonomic Bulletin and Review*, **2006**, 13, 636-42	4.1	40
101	ELECTRICAL SELF-STIMULATION AND ITS THEORETICAL IMPLICATIONS. *Psychological Bulletin*, **1964**, 61, 23-34	19.1	38
100	Note on temporal summation in the reward system. *Journal of Comparative and Physiological Psychology*, **1974**, 87, 870-5		36
99	The Coding Question. *Trends in Cognitive Sciences*, **2017**, 21, 498-508	14	34
98	Extinction from a rationalist perspective. *Behavioural Processes*, **2012**, 90, 66-80	1.6	34
97	Specificity of brain stimulation reward in the rat. *Journal of Comparative and Physiological Psychology*, **1971**, 76, 199-205		34
96	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, 8515-33	6.6	33
95	Conditioned [corrected] stimulus informativeness governs conditioned stimulus-unconditioned stimulus associability. *Journal of Experimental Psychology*, **2012**, 38, 217-32		32
94	Autoshaped head poking in the mouse: a quantitative analysis of the learning curve. *Journal of the Experimental Analysis of Behavior*, **2006**, 85, 293-308	2.1	32
93	It's the information!. *Behavioural Processes*, **2013**, 95, 3-7	1.6	30
92	Mental Magnitudes **2011**, 3-12		30
91	The Symbolic Foundations of Conditioned Behavior		30
90	Pimozide blocks reinforcement but not priming from MFB stimulation in the rat. *Pharmacology Biochemistry and Behavior*, **1982**, 17, 783-7	3.9	29
89	Motivating effects in self-stimulation. *Journal of Comparative and Physiological Psychology*, **1966**, 62, 95-101		29
88	Kinetics of matching.. *Journal of Experimental Psychology*, **1994**, 20, 79-95		28

87	Effects of reinforcement-blocking doses of pimozide on neural systems driven by rewarding stimulation of the MFB: a 14C-2-deoxyglucose analysis. *Pharmacology Biochemistry and Behavior*, **1982**, 17, 841-5	3.9	28
86	Kinetics of matching. *Journal of Experimental Psychology*, **1994**, 20, 79-95		27
85	Intact interval timing in circadian CLOCK mutants. *Brain Research*, **2008**, 1227, 120-7	3.7	26
84	Language and spatial frames of reference in mind and brain. *Trends in Cognitive Sciences*, **2002**, 6, 321-322	14	26
83	Intracranial stimulation and natural reward: Differential effects of trial spacing. *Learning and Behavior*, **1967**, 9, 167-168		26
82	Pavlovian contingencies and temporal information. *Journal of Experimental Psychology*, **2006**, 32, 284-94		25
81	Subjective reward magnitude of medial forebrain stimulation as a function of train duration and pulse frequency.. *Behavioral Neuroscience*, **1993**, 107, 389-401	2.1	25
80	Reward saturation in medial forebrain bundle self-stimulation. *Physiology and Behavior*, **1987**, 41, 585-93	3.5	24
79	Runway performance of rats for brain-stimulation or food reward: effects of hunger and priming. *Journal of Comparative and Physiological Psychology*, **1975**, 89, 590-9		24
78	Incidence and magnitude of the "priming effect" in self-stimulating rats. *Journal of Comparative and Physiological Psychology*, **1973**, 82, 286-93		24
77	Locating the engram: Should we look for plastic synapses or information-storing molecules?. *Neurobiology of Learning and Memory*, **2020**, 169, 107164	3.1	24
76	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	6.5	23
75	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	2.1	22
74	Commentary on Le Corre & Carey. *Cognition*, **2007**, 105, 439-445	3.5	21
73	The function relating the subjective magnitude of brain stimulation reward to stimulation strength varies with site of stimulation. *Behavioural Brain Research*, **1992**, 52, 183-93	3.4	21
72	The role of the dopaminergic projections in MFB self-stimulation. *Behavioural Brain Research*, **1986**, 20, 313-21	3.4	21
71	Prelinguistic Thought. *Language Learning and Development*, **2011**, 7, 253-262	1.3	19
70	Deconstructing the law of effect. *Games and Economic Behavior*, **2005**, 52, 410-423	1.1	19

69	Effect of current on the maximum possible reward.. *Behavioral Neuroscience*, **1991**, 105, 901-912	2.1	19
68	On the optimal pulse duration in electrical stimulation of the brain. *Physiology and Behavior*, **1974**, 12, 749-54	3.5	19
67	Introduction: The origins of numerical abilities. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2017**, 373,	5.8	18
66	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	11.5	18
65	Reconsidering the evidence for learning in single cells. *ELife*, **2021**, 10,	8.9	18
64	Temporal contingency. *Behavioural Processes*, **2014**, 101, 89-96	1.6	17
63	Self-stimulating rats combine subjective reward magnitude and subjective reward rate multiplicatively.. *Journal of Experimental Psychology*, **1998**, 24, 265-277		17
62	Bell, Magendie, and the proposals to restrict the use of animals in neurobehavioral research.. *American Psychologist*, **1981**, 36, 357-360	9.5	17
61	Finding numbers in the brain. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2017**, 373,	5.8	16
60	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	2.1	16
59	Flawed foundations of associationism? Comments on Machado and Silva (2007). *American Psychologist*, **2007**, 62, 682-5; discussion 689-91	9.5	15
58	The role of the dopaminergic projections in MFB self-stimulation. *Behavioural Brain Research*, **1986**, 22, 97-105	3.4	14
57	Self-stimulating rats combine subjective reward magnitude and subjective reward rate multiplicatively. *Journal of Experimental Psychology*, **1998**, 24, 265-77		14
56	Can a decay process explain the timing of conditioned responses?. *Journal of the Experimental Analysis of Behavior*, **1999**, 71, 264-71; discussion 293-301	2.1	13
55	Time left in the mouse. *Behavioural Processes*, **2007**, 74, 142-51	1.6	12
54	Temporal landmarks: proximity prevails. *Animal Cognition*, **2003**, 6, 113-20	3.1	12
53	Measuring the subjective magnitude of brain stimulation reward by titration with rate of reward. *Behavioral Neuroscience*, **1991**, 105, 913-25	2.1	12
52	Contingency, contiguity, and causality in conditioning: Applying information theory and Weber's Law to the assignment of credit problem. *Psychological Review*, **2019**, 126, 761-773	6.3	12

51	Space and Time **1994**, 221-253		11
50	Characteristics of spatiotemporal integration in the priming and rewarding effects of medial forebrain bundle stimulation.. *Behavioral Neuroscience*, **1991**, 105, 884-900	2.1	10
49	Counting versus subitizing versus the sense of number. *Behavioral and Brain Sciences*, **1988**, 11, 585-586	0.9	10
48	Self-stimulation: failure of pretrial stimulation to affect rats' electrode preference. *Journal of Comparative and Physiological Psychology*, **1969**, 69, 722-9		10
47	Mental Representations, Psychology of **2001**, 9691-9695		9
46	From muscles to motivation. *American Scientist*, **1980**, 68, 398-409	2.7	9
45	Navigation: Whence Our Sense of Direction?. *Current Biology*, **2017**, 27, R108-R110	6.3	8
44	Bayesian change-point analysis reveals developmental change in a classic theory of mind task. *Cognitive Psychology*, **2016**, 91, 124-149	3.1	8
43	Frequency, contingency and the information processing theory of conditioning **2002**, 153-172		8
42	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	5.8	7
41	Temporal integration in self-stimulation: A paradox.. *Behavioral Neuroscience*, **1984**, 98, 467-478	2.1	7
40	Screening for Learning and Memory Mutations: A New Approach. *Acta Psychologica Sinica*, **2010**, 42, 138-158	1.1	7
39	Is Long-Term Potentiation a Plausible Basis for Memory? **1995**, 328-338		7
38	The physical basis of memory. *Cognition*, **2021**, 213, 104533	3.5	7
37	Accurate step-hold tracking of smoothly varying periodic and aperiodic probability. *Attention, Perception, and Psychophysics*, **2017**, 79, 1480-1494	2	6
36	Automated, quantitative cognitive/behavioral screening of mice: for genetics, pharmacology, animal cognition and undergraduate instruction. *Journal of Visualized Experiments*, **2014**, e51047	1.6	6
35	On the evils of group averaging: commentary on Nevin's "Resistance to extinction and behavioral momentum". *Behavioural Processes*, **2012**, 90, 98-9; discussion 100	1.6	6
34	SELF-STIMULATION **1983**, 269-349		6

33	Does the perception of reward magnitude of self-administered electrical brain stimulation have a circadian rhythm?. *Behavioral Neuroscience*, **1986**, 100, 888-893	2.1	6
32	Response to Dehaene. *Psychological Science*, **2001**, 12, 247-247	7.9	5
31	The Principle of Adaptive Specialization as It Applies to Learning and Memory **2003**, 259-280		5
30	Information Theory, Memory, Prediction, and Timing in Associative Learning **2017**, 481-492		4
29	Dopamine and reward: comment on Hernandez et al. (2006). *Behavioral Neuroscience*, **2006**, 120, 992-4	2.1	4
28	Conception, perception and the control of action. *Trends in Cognitive Sciences*, **2002**, 6, 504	14	4
27	Classical conditioning as a nonstationary, multivariate time series analysis: A spreadsheet model. *Behavior Research Methods*, **1992**, 24, 340-351		4
26	A modular sense of place?. *Behavioral and Brain Sciences*, **1985**, 8, 11-12	0.9	4
25	Effect of current on the maximum possible reward. *Behavioral Neuroscience*, **1991**, 105, 901-12	2.1	4
24	Destruction of the medial forebrain bundle caudal to the site of stimulation reduces rewarding efficacy but destruction rostrally does not. *Behavioral Neuroscience*, **1996**, 110, 766-90	2.1	4
23	The irrelevance of past pleasure. *Behavioral and Brain Sciences*, **1978**, 1, 59-60	0.9	3
22	Time-scale-invariant information-theoretic contingencies in discrimination learning. *Journal of Experimental Psychology Animal Learning and Cognition*, **2019**, 45, 280-289	1.4	3
21	Where meanings arise and how: Building on Shannon's foundations. *Mind and Language*, **2020**, 35, 390-401	1.6	2
20	Evidence for a Mixed Timing and Counting Strategy in Mice Performing a Mechner Counting Task. *Frontiers in Behavioral Neuroscience*, **2019**, 13, 109	3.5	2
19	Coordinate Transformations in the Genesis of Directed Action **1999**, 1-42		2
18	Where Integers Come From **2008**, 109-138		2
17	Number and time in acquisition, extinction and recovery. *Journal of the Experimental Analysis of Behavior*, **2020**, 113, 15-36	2.1	2
16	Numbers and brains. *Learning and Behavior*, **2017**, 45, 327-328	1.3	1

15	On rationalism and optimality: Responses to the Miller and Nevin Commentaries. *Behavioural Processes*, **2012**, 90, 87-88	1.6	1
14	A Test of Gibbon's Feedforward Model of Matching. *Learning and Motivation*, **2002**, 33, 46-62	1.3	1
13	Quantitative Properties of the Creation and Activation of a Cell-Intrinsic Engram		1
12	The approximate number system represents magnitude precision.. *Behavioral and Brain Sciences*, **2021**, 44, e187	0.9	1
11	The Neural Mechanisms that Underlie Decision Making **2009**, 417-424		1
10	Getting Numbers into Brains. *Nature Human Behaviour*, **2020**, 4, 1222-1223	12.8	1
9	Matters of principle: Hierarchies, representations, and action. *Behavioral and Brain Sciences*, **1981**, 4, 639-650	0.9	0
8	Our understanding of neural codes rests on Shannon's foundations. *Behavioral and Brain Sciences*, **2019**, 42, e226	0.9	0
7	A Cognitive Neurogenetics Screening System with a Data-Analysis Toolbox **2017**, 507-526		
6	Dead Reckoning, Cognitive Maps, Animal Navigation and the Representation of Space: An Introduction **2007**, 137-143		
5	Behavior, Hierarchical Organization of **2001**, 1069-1072		
4	Homeostatic Conditioning: Learning and Physiological Regulation . Barry R. Dworkin. University of Chicago Press, Chicago, 1993. xvi, 215 pp., illus. $23.95 or £19.25. John D. and Catherine T. MacArthur Foundation Series on Mental Health and Development.. *Science*, **1993**, 262, 445-445	33.3	
3	Homeostatic Conditioning: Learning and Physiological Regulation . Barry R. Dworkin. University of Chicago Press, Chicago, 1993. xvi, 215 pp., illus. $23.95 or £19.25. John D. and Catherine T. MacArthur Foundation Series on Mental Health and Development.. *Science*, **1993**, 262, 445-445	33.3	
2	Contingency in Learning **2012**, 802-806		
1	Subcortical Stimulation for Motivation and Reinforcement **1981**, 141-171		