Alessandro Treves

List of Publications by Year
in descending order

154 papers	10,785 citations	66343 42 h-index	36028 97 g-index
180 all docs	180 docs citations	180 times ranked	5924 citing authors

#	Article	IF	Citations
1	Angular and linear speed cells in the parahippocampal circuits. Nature Communications, 2022, 13, 1907.	12.8	12
2	Challenges for Place and Grid Cell Models. Advances in Experimental Medicine and Biology, 2022, 1359, 285-312.	1.6	0
3	Efficiency of Local Learning Rules in Threshold-Linear Associative Networks. Physical Review Letters, 2021, 126, 018301.	7.8	5
4	Latching dynamics as a basis for short-term recall. PLoS Computational Biology, 2021, 17, e1008809.	3.2	9
5	Continuous attractors for dynamic memories. ELife, 2021, 10, .	6.0	21
6	Hyper-alignment: Great mice think alike. Current Biology, 2021, 31, R1138-R1140.	3.9	0
7	Navigating through the ebbs and flows of language. Current Opinion in Neurobiology, 2021, 70, 130-136.	4.2	0
8	Has the hippocampus really forgotten about space?. Current Opinion in Neurobiology, 2021, 71, 164-169.	4.2	3
9	Partial coherence and frustration in selfâ€organizing spherical grids. Hippocampus, 2020, 30, 302-313.	1.9	13
10	Cover Image, Volume 30, Issue 4. Hippocampus, 2020, 30, .	1.9	0
11	Professional or Amateur? The Phonological Output Buffer as a Working Memory Operator. Entropy, 2020, 22, 662.	2.2	8
12	Can mass-count syntax be derived from semantics?. Language Faculty and Beyond, 2020, , 83-101.	0.1	1
13	Non-hexagonal neural dynamics in vowel space. AIMS Neuroscience, 2020, 7, 275-298.	2.3	2
14	Can Grid Cell Ensembles Represent Multiple Spaces?. Neural Computation, 2019, 31, 2324-2347.	2.2	12
15	Reconciling grid cells with place cells over a set of flexible charts. IBRO Reports, 2019, 6, S41.	0.3	0
16	A Mind Free to Wander: Neural and Computational Constraints on Spontaneous Thought. Frontiers in Psychology, 2019, 10, 39.	2.1	15
17	The Challenge of Taming a Latching Network Near Criticality. Springer Series on Bio- and Neurosystems, 2019, , 81-94.	0.2	1
18	Reducing a cortical network to a Potts model yields storage capacity estimates. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 043304.	2.3	24

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19	Integration of grid maps in merged environments. Nature Neuroscience, 2018, 21, 92-101.	14.8	56
20	The Capacity for Correlated Semantic Memories in the Cortex. Entropy, 2018, 20, 824.	2.2	18
21	<scp>S</scp>elforganization of modular activity of grid cells. Hippocampus, 2017, 27, 1204-1213.	1.9	32
22	Life on the Edge: Latching Dynamics in a Potts Neural Network. Entropy, 2017, 19, 468.	2.2	12
23	A Neural Network Perspective on the Syntactic-Semantic Association between Mass and Count Nouns. Journal of Advances in Linguistics, 2016, 6, 964-976.	0.0	4
24	The dentate gyrus. , 2016, , 117-132.		26
25	The self-organization of grid cells in 3D. ELife, 2015, 4, .	6.0	40
26	Editorial overview: Circuit plasticity and memory. Current Opinion in Neurobiology, 2015, 35, v-vii.	4.2	0
27	Can rodents conceive hyperbolic spaces?. Journal of the Royal Society Interface, 2015, 12, 20141214.	3.4	25
28	Place cells in the hippocampus: Eleven maps for eleven rooms. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18428-18435.	7.1	203
29	A modular latching chain. Cognitive Neurodynamics, 2014, 8, 37-46.	4.0	10
30	ENCODING WORDS INTO A POTTS ATTRACTOR NETWORK. , 2014, , .		28
31	Continuous or dicrete? Attractor dynamics and spatial representations in a model of the hippocampal network. BMC Neuroscience, 2013, 14, .	1.9	0
32	A model for greed cells in 3-D environments. BMC Neuroscience, 2013, 14, .	1.9	0
33	A model for the differentiation between grid and conjunctive units in medial entorhinal cortex. Hippocampus, 2013, 23, 1410-1424.	1.9	77
34	Grid cells on the ball. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P03013.	2.3	18
35	Grid maps for spaceflight, anyone? They are for free!. Behavioral and Brain Sciences, 2013, 36, 566-567.	0.7	7
36	The spatial representations acquired in CA3 by self-organizing recurrent connections. Frontiers in Cellular Neuroscience, 2013, 7, 112.	3.7	17

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37	Unveiling the metric structure of internal representations of space. Frontiers in Neural Circuits, 2013, 7, 81.	2.8	12
38	Cortical free-association dynamics: Distinct phases of a latching network. Physical Review E, 2012, 85, 051920.	2.1	36
39	Grid alignment in entorhinal cortex. Biological Cybernetics, 2012, 106, 483-506.	1.3	85
40	Self-organization of multiple spatial and context memories in the hippocampus. Neuroscience and Biobehavioral Reviews, 2012, 36, 1609-1625.	6.1	40
41	Lateral thinking, from the Hopfield model to cortical dynamics. Brain Research, 2012, 1434, 4-16.	2.2	20
42	A talkative Potts attractor neural network welcomes BLISS words. BMC Neuroscience, 2012, 13, .	1.9	1
43	The neuronal encoding of information in the brain. Progress in Neurobiology, 2011, 95, 448-490.	5.7	216
44	Theta-paced flickering between place-cell maps in the hippocampus. Nature, 2011, 478, 246-249.	27.8	269
45	BLISS: an Artificial Language for Learnability Studies. Cognitive Computation, 2011, 3, 539-553.	5.2	1
46	Free concepts association: a neural model. BMC Neuroscience, 2011, 12, .	1.9	0
47	Reorganization of spatial maps in the hippocampal circuit. BMC Neuroscience, 2011, 12, .	1.9	0
48	BLISS: an artificial language for learnability studies. BMC Neuroscience, 2011, 12, .	1.9	0
49	Associative Memory Storage and Retrieval: Involvement of Theta Oscillations in Hippocampal Information Processing. Neural Plasticity, 2011, 2011, 1-15.	2.2	36
50	An Uncouth Approach to Language Recursivity. Biolinguistics, 2011, 5, 133-150.	0.6	4
51	Neural attractor dynamics in object recognition. Experimental Brain Research, 2010, 203, 241-248.	1.5	19
52	How recent experience affects the perception of ambiguous objects. Brain Research, 2010, 1322, 81-91.	2.2	29
53	How Informative Are Spatial CA3 Representations Established by the Dentate Gyrus?. PLoS Computational Biology, 2010, 6, e1000759.	3.2	43
54	Modulation of Perception and Brain Activity by Predictable Trajectories of Facial Expressions. Cerebral Cortex, 2010, 20, 694-703.	2.9	33

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55	Computational constraints on compositional interpretation: Refocusing the debate on language universals. Lingua, 2010, 120, 2717-2722.	1.0	4
56	The spatial information content of DG inputs. BMC Neuroscience, 2009, 10, .	1.9	0
57	Neural basis of perceptual expectations: insights from transient dynamics of attractor neural networks. BMC Neuroscience, 2009, 10, .	1.9	0
58	The role of competitive learning in the generation of DG fields from EC inputs. Cognitive Neurodynamics, 2009, 3, 177-187.	4.0	59
59	Converging Neuronal Activity in Inferior Temporal Cortex during the Classification of Morphed Stimuli. Cerebral Cortex, 2009, 19, 760-776.	2.9	41
60	Spatial Cognition, Memory Capacity, and the Evolution of Mammalian Hippocampal Networks. , 2009, , 41-60.		3
61	The emergence of grid cells: Intelligent design or just adaptation?. Hippocampus, 2008, 18, 1256-1269.	1.9	264
62	What is the mammalian dentate gyrus good for?. Neuroscience, 2008, 154, 1155-1172.	2.3	246
63	Hippocampal shape differences in dementia with Lewy bodies. NeuroImage, 2008, 41, 699-705.	4.2	47
64	Free association transitions in models of cortical latching dynamics. New Journal of Physics, 2008, 10, 015008.	2.9	28
65	Semantic cognition: Distributed, but then attractive. Behavioral and Brain Sciences, 2008, 31, 718-719.	0.7	0
66	Representing Where along with What Information in a Model of a Cortical Patch. PLoS Computational Biology, 2008, 4, e1000012.	3.2	36
67	After effects in the Perception of Emotion Following Brief, Masked Adaptor Faces. The Open Behavioral Science Journal, 2008, 2, 36-52.	0.8	2
68	Network Analysis of the Significance of Hippocampal Subfields. , 2008, , 328-342.		30
69	Setting Up New Memories: The Ideal Job for The Mammalian Dentate Gyrus. , 2008, , 125-129.		0
70	Uninformative memories will prevail: The storage of correlated representations and its consequences. HFSP Journal, 2007, 1, 249-262.	2.5	13
71	The CA3 network as a memory store for spatial representations. Learning and Memory, 2007, 14, 732-744.	1.3	50
72	Experience-dependent coding of facial expression in superior temporal sulcus. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 13485-13489.	7.1	69

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73	Face adaptation aftereffects reveal anterior medial temporal cortex role in high level category representation. NeuroImage, 2007, 37, 300-310.	4.2	33
74	Hippocampal remapping and grid realignment in entorhinal cortex. Nature, 2007, 446, 190-194.	27.8	610
75	Differential impact of brain damage on the access mode to memory representations: an information theoretic approach. European Journal of Neuroscience, 2007, 26, 2702-2712.	2.6	8
76	Modelling adaptation aftereffects in associative memory. Neurocomputing, 2007, 70, 2000-2004.	5.9	14
77	The complexity of latching transitions in large scale cortical networks. Natural Computing, 2007, 6, 169-185.	3.0	16
78	An evolutionary niche for quantitative theoretical analyses?. Behavioral and Brain Sciences, 2006, 29, 23-23.	0.7	13
79	Distributed neural blackboards could be more attractive. Behavioral and Brain Sciences, 2006, 29, 79-80.	0.7	0
80	Dissociating episodic from semantic access mode by mutual information measures: Evidence from aging and Alzheimerâ€™s disease. Journal of Physiology (Paris), 2006, 100, 142-153.	2.1	17
81	Autoassociative memory retrieval and spontaneous activity bumps in small-world networks of integrate-and-fire neurons. Journal of Physiology (Paris), 2006, 100, 225-236.	2.1	22
82	Localized activity profiles and storage capacity of rate-based autoassociative networks. Physical Review E, 2006, 73, 061904.	2.1	16
83	Morphing Marilyn into Maggie dissociates physical and identity face representations in the brain. Nature Neuroscience, 2005, 8, 107-113.	14.8	492
84	The storage capacity of Potts models for semantic memory retrieval. Journal of Statistical Mechanics: Theory and Experiment, 2005, 2005, P08010-P08010.	2.3	25
85	Progressive Transformation of Hippocampal Neuronal Representations in â€œMorphedâ€•Environments. Neuron, 2005, 48, 345-358.	8.1	296
86	Course 13 Of the evolution of the brain. Les Houches Summer School Proceedings, 2005, , 641-689.	0.2	0
87	Frontal latching networks: a possible neural basis for infinite recursion. Cognitive Neuropsychology, 2005, 22, 276-291.	1.1	107
88	Neural Phase Transitions That Made Us Mammals. Lecture Notes in Computer Science, 2004, , 55-70.	1.3	4
89	An associative network with spatially organized connectivity. Journal of Statistical Mechanics: Theory and Experiment, 2004, 2004, P07010.	2.3	26
90	Learning to Predict Through Adaptation. Neuroinformatics, 2004, 2, 361-366.	2.8	3

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91	Information encoding in the inferior temporal visual cortex: contributions of the firing rates and the correlations between the firing of neurons. Biological Cybernetics, 2004, 90, 19-32.	1.3	48
92	The use of decoding to analyze the contribution to the information of the correlations between the firing of simultaneously recorded neurons. Experimental Brain Research, 2004, 155, 370-384.	1.5	41
93	Computational constraints between retrieving the past and predicting the future, and the CA3-CA1 differentiation. Hippocampus, 2004, 14, 539-556.	1.9	64
94	Distinct Ensemble Codes in Hippocampal Areas CA3 and CA1. Science, 2004, 305, 1295-1298.	12.6	695
95	Computational constraints that may have favoured the lamination of sensory cortex. Journal of Computational Neuroscience, 2003, 14, 271-282.	1.0	25
96	The evolution of mammalian cortex, from lamination to arealization. Brain Research Bulletin, 2003, 60, 387-393.	3.0	38
97	Disappearance of spurious states in analog associative memories. Physical Review E, 2003, 67, 041906.	2.1	11
98	More dorsal cortex, yes, but what flavor?. Behavioral and Brain Sciences, 2003, 26, 571-572.	0.7	0
99	Replica symmetric evaluation of the information transfer in a two-layer network in the presence of continuous and discrete stimuli. Physical Review E, 2002, 65, 041918.	2.1	2
100	Standing on the gateway to memory: Shouldn't we step in?. Cognitive Neuropsychology, 2002, 19, 557-575.	1.1	24
101	Is the world full of circles?. Journal of Vision, 2002, 2, 4-4.	0.3	10
102	Redundancy and synergy arising from pairwise correlations in neuronal ensembles. Journal of Computational Neuroscience, 2002, 12, 165-174.	1.0	17
103	How much do they tell us to move?. Neurocomputing, 2001, 38-40, 1181-1184.	5.9	3
104	Theoretical model of neuronal population coding of stimuli with both continuous and discrete dimensions. Physical Review E, 2001, 64, 021912.	2.1	4
105	Quantitative Analysis of a Schaffer Collateral Model. , 2000, , 257-272.		3
106	A Quantitative Model of Information Processing in CA1. , 2000, , 273-289.		3
107	Analytical Model for the Effects of Learning on Spike Count Distributions. Neural Computation, 2000, 12, 1773-1787.	2.2	3
108	Representational capacity of a set of independent neurons. Physical Review E, 2000, 63, 011910.	2.1	17

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109	Disorders of Brain, Behavior and Cognition: The Neurocomputational Perspective edited by James A. Reggia, Eytan Ruppin and Dennis L. Glanzman. Trends in Neurosciences, 2000, 23, 378-379.	8.6	0
110	Mere functional characterization is not enough to understand memory circuits. Behavioral and Brain Sciences, 1999, 22, 466-467.	0.7	0
111	Firing Rate Distributions and Efficiency of Information Transmission of Inferior Temporal Cortex Neurons to Natural Visual Stimuli. Neural Computation, 1999, 11, 601-631.	2.2	87
112	On Decoding the Responses of a Population of Neurons from Short Time Windows. Neural Computation, 1999, 11, 1553-1577.	2.2	101
113	Correlations and the encoding of information in the nervous system. Proceedings of the Royal Society B: Biological Sciences, 1999, 266, 1001-1012.	2.6	291
114	Correlated firing and the information represented by neurons in short epochs. Neurocomputing, 1999, 26-27, 499-504.	5.9	3
115	Modeling neocortical areas with a modular neural network. BioSystems, 1998, 48, 47-55.	2.0	67
116	Stable and Rapid Recurrent Processing in Realistic Autoassociative Memories. Neural Computation, 1998, 10, 431-450.	2.2	89
117	Stability of the replica-symmetric solution for the information conveyed by a neural network. Physical Review E, 1998, 57, 3302-3310.	2.1	12
118	Information About Spatial View in an Ensemble of Primate Hippocampal Cells. Journal of Neurophysiology, 1998, 79, 1797-1813.	1.8	179
119	How Well Can We Estimate the Information Carried in Neuronal Responses from Limited Samples?. Neural Computation, 1997, 9, 649-665.	2.2	108
120	Analogue resolution in a model of the Schaffer collaterals. Lecture Notes in Computer Science, 1997, , 61-66.	1.3	0
121	Synthesizing synchrony versus dissecting dissonance. Behavioral and Brain Sciences, 1997, 20, 700-700.	0.7	0
122	Information in the neuronal representation of individual stimuli in the primate temporal visual cortex. Journal of Computational Neuroscience, 1997, 4, 309-333.	1.0	119
123	The representational capacity of the distributed encoding of information provided by populations of neurons in primate temporal visual cortex. Experimental Brain Research, 1997, 114, 149-162.	1.5	217
124	Time for retrieval in recurrent associative memories. Physica D: Nonlinear Phenomena, 1997, 107, 392-400.	2.8	45
125	On the perceptual structure of face space. BioSystems, 1997, 40, 189-196.	2.0	56
126	Analytical estimates of limited sampling biases in different information measures. Network: Computation in Neural Systems, 1996, 7, 87-107.	3.6	262

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127	Pattern retrieval in threshold-linear associative nets. Network: Computation in Neural Systems, 1996, 7, 109-122.	3.6	12
128	Title is missing!. Network: Computation in Neural Systems, 1996, 7, 87-107.	3.6	239
129	How much of the hippocampus can be explained by functional constraints?. Hippocampus, 1996, 6, 666-674.	1.9	27
130	How much of the hippocampus can be explained by functional constraints?. , 1996, 6, 666.		1
131	On the Time Required for Recurrent Processing in the Brain. , 1996, , 371-382.		2
132	Title is missing!. Network: Computation in Neural Systems, 1996, 7, 109-122.	3.6	16
133	Quantitative estimate of the information relayed by the Schaffer collaterals. Journal of Computational Neuroscience, 1995, 2, 259-272.	1.0	68
134	The Upward Bias in Measures of Information Derived from Limited Data Samples. Neural Computation, 1995, 7, 399-407.	2.2	339
135	Neural networks in the brain involved in memory and recall. Progress in Brain Research, 1994, 102, 335-341.	1.4	60
136	Computational analysis of the role of the hippocampus in memory. Hippocampus, 1994, 4, 374-391.	1.9	1,097
137	Electrophysiological markers of cognitive aging: region specificity and computational consequences. Seminars in Neuroscience, 1994, 6, 359-367.	2.2	19
138	Mean-field analysis of neuronal spike dynamics. Network: Computation in Neural Systems, 1993, 4, 259-284.	3.6	228
139	Mean-field analysis of neuronal spike dynamics. Network: Computation in Neural Systems, 1993, 4, 259-284.	3.6	129
140	The Autoassociative Hypothesis Places Constraints on Hippocampal Organization. , 1993, , 21-26.		0
141	LOCAL NEOCORTICAL PROCESSING: A TIME FOR RECOGNITION. International Journal of Neural Systems, 1992, 03, 115-119.	5.2	8
142	Why the simplest notion of neocortex as an autoassociative memory would not work. Network: Computation in Neural Systems, 1992, 3, 379-384.	3.6	45
143	Computational constraints suggest the need for two distinct input systems to the hippocampal CA3 network. Hippocampus, 1992, 2, 189-199.	1.9	672
144	Computational analysis of the operation of a real neuronal network in the brain: the role of the hippocampus in memory. , 1992, , 891-898.		2

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145	Why the simplest notion of neocortex as an autoassociative memory would not work. Network: Computation in Neural Systems, 1992, 3, 379-384.	3.6	33
146	Rats, nets, maps, and the emergence of place cells. Cognitive, Affective and Behavioral Neuroscience, 1992, 20, 1-8.	1.3	17
147	What determines the capacity of autoassociative memories in the brain?. Network: Computation in Neural Systems, 1991, 2, 371-397.	3.6	246
148	What determines the capacity of autoassociative memories in the brain?. Network: Computation in Neural Systems, 1991, 2, 371-397.	3.6	114
149	Graded-response neurons and information encodings in autoassociative memories. Physical Review A, 1990, 42, 2418-2430.	2.5	132
150	The relative advantages of sparse versus distributed encoding for associative neuronal networks in the brain. Network: Computation in Neural Systems, 1990, 1, 407-421.	3.6	133
151	The relative advantages of sparse versus distributed encoding for associative neuronal networks in the brain. Network: Computation in Neural Systems, 1990, 1, 407-421.	3.6	78
152	In poetry, if meterÂhas toÂhelp memory, it takesÂitsÂtime. Open Research Europe, 0, 1, 59.	2.0	2
153	Part 3. Coding and representation. , 0, , 53-75.		1
154	Grid Cells Lose Coherence in Realistic Environments. , 0, , .		0