Internal representation of task rules by recurrent dynamic diversity of neural responses

Frontiers in Computational Neuroscience

4,24

DOI: 10.3389/fncom.2010.00024

Citation Report

#	Article	IF	CITATIONS
1	Task-Dependent Changes in Short-Term Memory in the Prefrontal Cortex. Journal of Neuroscience, 2010, 30, 15801-15810.	1.7	158
2	Attractor concretion as a mechanism for the formation of context representations. Neurolmage, 2010, 52, 833-847.	2.1	43
3	Robust Transient Dynamics and Brain Functions. Frontiers in Computational Neuroscience, 2011, 5, 24.	1.2	96
4	Excitatory, Inhibitory, and Structural Plasticity Produce Correlated Connectivity in Random Networks Trained to Solve Paired-Stimulus Tasks. Frontiers in Computational Neuroscience, 2011, 5, 37.	1.2	31
5	A reservoir of time constants for memory traces in cortical neurons. Nature Neuroscience, 2011, 14, 366-372.	7.1	269
6	Memory capacity of a random, recurrently connected network of neurons with multiple, biologically realistic facilitation and adaptation profiles. BMC Neuroscience, 2011, 12, .	0.8	0
7	Same or Different? A Neural Circuit Mechanism of Similarity-Based Pattern Match Decision Making. Journal of Neuroscience, 2011, 31, 6982-6996.	1.7	74
8	Representational Switching by Dynamical Reorganization of Attractor Structure in a Network Model of the Prefrontal Cortex. PLoS Computational Biology, 2011, 7, e1002266.	1.5	39
9	Synaptic Plasticity and Connectivity Requirements to Produce Stimulus-Pair Specific Responses in Recurrent Networks of Spiking Neurons. PLoS Computational Biology, 2011, 7, e1001091.	1.5	26
10	Sensorimotor Learning Biases Choice Behavior: A Learning Neural Field Model for Decision Making. PLoS Computational Biology, 2012, 8, e1002774.	1.5	26
11	Synchronous Oscillatory Neural Ensembles for Rules in the Prefrontal Cortex. Neuron, 2012, 76, 838-846.	3.8	388
12	Attention, Learning, and the Value of Information. Neuron, 2012, 76, 281-295.	3.8	209
13	Opening the gate to working memory. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19878-19879.	3.3	44
14	Network Resets in Medial Prefrontal Cortex Mark the Onset of Behavioral Uncertainty. Science, 2012, 338, 135-139.	6.0	197
15	Dynamic afferent synapses to decision-making networks improve performance in tasks requiring stimulus associations and discriminations. Journal of Neurophysiology, 2012, 108, 513-527.	0.9	16
16	Does dynamical synchronization among neurons facilitate learning and enhance task performance?. Journal of Computational Neuroscience, 2012, 33, 169-177.	0.6	2
17	Information flow dynamics in the brain. Physics of Life Reviews, 2012, 9, 51-73.	1.5	95
18	Rapid instructed task learning: A new window into the human brain's unique capacity for flexible cognitive control. Cognitive, Affective and Behavioral Neuroscience, 2013, 13, 1-22.	1.0	161

	CITA	CITATION REPORT	
#	ARTICLE	IF	CITATIONS
19	Learning the pseudoinverse solution to network weights. Neural Networks, 2013, 45, 94-100.	3.3	83
20	Neuronal coding in the rodent prefrontal cortex. BMC Neuroscience, 2013, 14, .	0.8	0
21	The Structure of Cognition: Attentional Episodes in Mind and Brain. Neuron, 2013, 80, 35-50.	3.8	393
22	A Tweaking Principle for Executive Control: Neuronal Circuit Mechanism for Rule-Based Task Switching and Conflict Resolution. Journal of Neuroscience, 2013, 33, 19504-19517.	1.7	36
23	Signals in inferotemporal and perirhinal cortex suggest an untangling of visual target information. Nature Neuroscience, 2013, 16, 1132-1139.	7.1	107
24	The Sparseness of Mixed Selectivity Neurons Controls the Generalization–Discrimination Trade-Off. Journal of Neuroscience, 2013, 33, 3844-3856.	1.7	173
25	Limber Neurons for a Nimble Mind. Neuron, 2013, 78, 211-213.	3.8	19
26	Matching Recall and Storage in Sequence Learning with Spiking Neural Networks. Journal of Neuroscience, 2013, 33, 9565-9575.	1.7	107
27	The importance of mixed selectivity in complex cognitive tasks. Nature, 2013, 497, 585-590.	13.7	1,262
28	Heterogeneous Attractor Cell Assemblies for Motor Planning in Premotor Cortex. Journal of Neuroscience, 2013, 33, 11155-11168.	1.7	83
29	Control of the superior colliculus by the lateral prefrontal cortex. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20130068.	1.8	86
30	Synthesizing cognition in neuromorphic electronic systems. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3468-76.	3.3	119
31	The Prefrontal Cortex and Executive Brain Functions. , 2013, , 1069-1089.		6
32	Recurrent temporal networks and language acquisition—from corticostriatal neurophysiology to reservoir computing. Frontiers in Psychology, 2013, 4, 500.	1.1	28
33	Synaptic encoding of temporal contiguity. Frontiers in Computational Neuroscience, 2013, 7, 32.	1.2	12
34	Stimulus number, duration and intensity encoding in randomly connected attractor networks with synaptic depression. Frontiers in Computational Neuroscience, 2013, 7, 59.	1.2	13
35	Computational modeling and analysis of hippocampal-prefrontal information coding during a spatial decision-making task. Frontiers in Behavioral Neuroscience, 2014, 8, 62.	1.0	6
36	Inter-synaptic learning of combination rules in a cortical network model. Frontiers in Psychology, 2014, 5, 842.	1.1	8

#	Article	IF	CITATIONS
37	Neural Dynamics Underlying Target Detection in the Human Brain. Journal of Neuroscience, 2014, 34, 3042-3055.	1.7	19
38	Two types of asynchronous activity in networks of excitatory and inhibitory spiking neurons. Nature Neuroscience, 2014, 17, 594-600.	7.1	260
39	Revisiting the role of persistent neural activity during working memory. Trends in Cognitive Sciences, 2014, 18, 82-89.	4.0	385
40	Reworking the language network. Trends in Cognitive Sciences, 2014, 18, 120-126.	4.0	458
41	Computational Psychiatry. Neuron, 2014, 84, 638-654.	3.8	291
42	Goal-direction and top-down control. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130471.	1.8	90
43	Statistical learning of past participle inflections in French. Reading and Writing, 2014, 27, 1255-1280.	1.0	8
44	Neuromorphic Electronic Circuits for Building Autonomous Cognitive Systems. Proceedings of the IEEE, 2014, 102, 1367-1388.	16.4	377
45	The role of domain-general cognitive control in language comprehension. Frontiers in Psychology, 2014, 5, 335.	1.1	177
46	Efficient reinforcement learning of a reservoir network model of parametric working memory achieved with a cluster population winner-take-all readout mechanism. Journal of Neurophysiology, 2015, 114, 3296-3305.	0.9	6
47	Selection of cortical dynamics for motor behaviour by the basal ganglia. Biological Cybernetics, 2015, 109, 575-595.	0.6	65
48	Concurrent brain responses to separate auditory and visual targets. Journal of Neurophysiology, 2015, 114, 1239-1247.	0.9	9
49	High Accuracy Decoding of Dynamical Motion from a Large Retinal Population. PLoS Computational Biology, 2015, 11, e1004304.	1.5	49
50	Neural Population Coding of Multiple Stimuli. Journal of Neuroscience, 2015, 35, 3825-3841.	1.7	26
51	Improper activation of D1 and D2 receptors leads to excess noise in prefrontal cortex. Frontiers in Computational Neuroscience, 2015, 9, 31.	1.2	29
52	Neural population coding: combining insights from microscopic and mass signals. Trends in Cognitive Sciences, 2015, 19, 162-172.	4.0	178
53	Semantic integration by pattern priming: experiment and cortical network model. Cognitive Neurodynamics, 2016, 10, 513-533.	2.3	9
54	Representation of Behavioral Tactics and Tactics-Action Transformation in the Primate Medial Prefrontal Cortex. Journal of Neuroscience, 2016, 36, 5974-5987.	1.7	12

#	Article	IF	CITATIONS
55	Why neurons mix: high dimensionality for higher cognition. Current Opinion in Neurobiology, 2016, 37, 66-74.	2.0	513
56	Ten Years of Grid Cells. Annual Review of Neuroscience, 2016, 39, 19-40.	5.0	180
57	Computing by Robust Transience: How the Fronto-Parietal Network Performs Sequential, Category-Based Decisions. Neuron, 2017, 93, 1504-1517.e4.	3.8	141
58	Complexity and compositionality in fluid intelligence. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5295-5299.	3.3	62
59	Cell types for our sense of location: where we are and where we are going. Nature Neuroscience, 2017, 20, 1474-1482.	7.1	43
60	Hebbian Learning in a Random Network Captures Selectivity Properties of the Prefrontal Cortex. Journal of Neuroscience, 2017, 37, 11021-11036.	1.7	38
61	Reward-based training of recurrent neural networks for cognitive and value-based tasks. ELife, 2017, 6,	2.8	126
62	Functional connectivity of task context representations in prefrontal nodes of the multiple demand network. Brain Structure and Function, 2018, 223, 2455-2473.	1.2	6
63	Normalization and the Cholinergic Microcircuit: A Unified Basis for Attention. Trends in Cognitive Sciences, 2018, 22, 422-437.	4.0	68
64	A model of neurobiologically plausible least-squares learning in visual cortex. , 2018, , .		0
65	Linking Connectivity, Dynamics, and Computations in Low-Rank Recurrent Neural Networks. Neuron, 2018, 99, 609-623.e29.	3.8	218
66	Robust mixture modeling reveals category-free selectivity in reward region neuronal ensembles. Journal of Neurophysiology, 2018, 119, 1305-1318.	0.9	32
67	Flexible Sensorimotor Computations through Rapid Reconfiguration of Cortical Dynamics. Neuron, 2018, 98, 1005-1019.e5.	3.8	225
68	Bayesian Computation through Cortical Latent Dynamics. Neuron, 2019, 103, 934-947.e5.	3.8	146
69	How to study the neural mechanisms of multiple tasks. Current Opinion in Behavioral Sciences, 2019, 29, 134-143.	2.0	32
70	Spatiotemporal discrimination in attractor networks with short-term synaptic plasticity. Journal of Computational Neuroscience, 2019, 46, 279-297.	0.6	6
71	A Network Activity Reconfiguration Underlies the Transition from Goal to Action. Cell Reports, 2019, 27, 2909-2920.e4.	2.9	10
=0	A Computational Perspective of the Role of the Thalamus in Cognition. Neural Computation, 2019, 31,	1.3	20

#	Article	IF	Citations
73	Hierarchical Memcapacitive Reservoir Computing Architecture. , 2019, , .		6
74	Task representations in neural networks trained to perform many cognitive tasks. Nature Neuroscience, 2019, 22, 297-306.	7.1	322
75	Focused Representation of Successive Task Episodes in Frontal and Parietal Cortex. Cerebral Cortex, 2020, 30, 1779-1796.	1.6	11
76	The Geometry of Abstraction in the Hippocampus and Prefrontal Cortex. Cell, 2020, 183, 954-967.e21.	13.5	205
77	Mixed Selectivity in Macaque Medial Parietal Cortex during Eye-Hand Reaching. IScience, 2020, 23, 101616.	1.9	24
78	Integrated Intelligence from Distributed Brain Activity. Trends in Cognitive Sciences, 2020, 24, 838-852.	4.0	84
79	Artificial Neural Networks for Neuroscientists: A Primer. Neuron, 2020, 107, 1048-1070.	3.8	148
80	Conjunctive representations that integrate stimuli, responses, and rules are critical for action selection. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 10603-10608.	3.3	67
81	Space, Time, and Fear: Survival Computations along Defensive Circuits. Trends in Cognitive Sciences, 2020, 24, 228-241.	4.0	138
82	Network Models Predict That Pyramidal Neuron Hyperexcitability and Synapse Loss in the dlPFC Lead to Age-Related Spatial Working Memory Impairment in Rhesus Monkeys. Frontiers in Computational Neuroscience, 2019, 13, 89.	1.2	6
83	A Domain-General Cognitive Core Defined in Multimodally Parcellated Human Cortex. Cerebral Cortex, 2020, 30, 4361-4380.	1.6	197
84	Multiple scales of valence processing in the brain. Social Neuroscience, 2021, 16, 57-67.	0.7	3
85	Lessons From Deep Neural Networks for Studying the Coding Principles of Biological Neural Networks. Frontiers in Systems Neuroscience, 2020, 14, 615129.	1.2	7
86	Statistical learning of unbalanced exclusive-or temporal sequences in humans. PLoS ONE, 2021, 16, e0246826.	1.1	7
88	Predictive learning as a network mechanism for extracting low-dimensional latent space representations. Nature Communications, 2021, 12, 1417.	5.8	35
89	Unsupervised Learning and Clustered Connectivity Enhance Reinforcement Learning in Spiking Neural Networks. Frontiers in Computational Neuroscience, 2021, 15, 543872.	1.2	9
90	Two views on the cognitive brain. Nature Reviews Neuroscience, 2021, 22, 359-371.	4.9	92
91	Rotational dynamics reduce interference between sensory and memory representations. Nature Neuroscience, 2021, 24, 715-726.	7.1	98

#	Article	IF	CITATIONS
93	Computational Capacity of Complex Memcapacitive Networks. ACM Journal on Emerging Technologies in Computing Systems, 2021, 17, 1-25.	1.8	8
94	Biological constraints on neural network models of cognitive function. Nature Reviews Neuroscience, 2021, 22, 488-502.	4.9	66
95	Emergence of Non-Linear Mixed Selectivity in Prefrontal Cortex after Training. Journal of Neuroscience, 2021, 41, JN-RM-2814-20.	1.7	13
96	Neural Coding of Cognitive Control: The Representational Similarity Analysis Approach. Trends in Cognitive Sciences, 2021, 25, 622-638.	4.0	43
97	Neuronal identity and cognitive control dynamics in the PFC. Seminars in Cell and Developmental Biology, 2022, 129, 14-21.	2.3	3
110	Dynamical systems, attractors, and neural circuits. F1000Research, 2016, 5, 992.	0.8	51
111	Training Excitatory-Inhibitory Recurrent Neural Networks for Cognitive Tasks: A Simple and Flexible Framework. PLoS Computational Biology, 2016, 12, e1004792.	1.5	204
112	Reservoir Computing Properties of Neural Dynamics in Prefrontal Cortex. PLoS Computational Biology, 2016, 12, e1004967.	1.5	134
113	A neural network model for the orbitofrontal cortex and task space acquisition during reinforcement learning. PLoS Computational Biology, 2018, 14, e1005925.	1.5	28
114	The "working―of working memory. Dialogues in Clinical Neuroscience, 2013, 15, 411-418.	1.8	35
115	Adaptive learning and decision-making under uncertainty by metaplastic synapses guided by a surprise detection system. ELife, 2016, 5, .	2.8	39
116	Temporal chunking as a mechanism for unsupervised learning of task-sets. ELife, 2020, 9, .	2.8	14
117	50 years of mnemonic persistent activity: quo vadis?. Trends in Neurosciences, 2021, 44, 888-902.	4.2	42
127	Bio-inspired task-rule retrieval model with auditory sorting test. Cognitive Systems Research, 2022, 72, 1-13.	1.9	3
128	A One-Shot Shift from Explore to Exploit in Monkey Prefrontal Cortex. Journal of Neuroscience, 2022, 42, 276-287.	1.7	5
129	Instruction-based learning: A review. Neuropsychologia, 2022, 166, 108142.	0.7	0
130	When CNNs meet random RNNs: Towards multi-level analysis for RGB-D object and scene recognition. Computer Vision and Image Understanding, 2022, 217, 103373.	3.0	9
131	Reconfigurable perovskite nickelate electronics for artificial intelligence. Science, 2022, 375, 533-539.	6.0	93

#	Article	IF	CITATIONS
132	Learning Higherâ€Order Transitional Probabilities in Nonhuman Primates. Cognitive Science, 2022, 46, e13121.	0.8	5
134	More Prominent Nonlinear Mixed Selectivity in the Dorsolateral Prefrontal than Posterior Parietal Cortex. ENeuro, 2022, 9, ENEURO.0517-21.2022.	0.9	8
136	Integrated neural dynamics for behavioural decisions and attentional competition in the prefrontal cortex. European Journal of Neuroscience, 2022, 56, 4393-4410.	1.2	6
139	The implications of categorical and category-free mixed selectivity on representational geometries. Current Opinion in Neurobiology, 2022, 77, 102644.	2.0	14
141	Constraints on the design of neuromorphic circuits set by the properties of neural population codes. Neuromorphic Computing and Engineering, 2023, 3, 012001.	2.8	2
142	Multi-Tasking Memcapacitive Networks. IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2023, 13, 323-331.	2.7	1
143	A distributed and efficient population code of mixed selectivity neurons for flexible navigation decisions. Nature Communications, 2023, 14, .	5.8	12
147	Lateral prefrontal cortex and rule-based control. , 2024, , .		0