

# Earl K Miller

## List of Publications by Year in descending order

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146  
papers

40,792  
citations

11608

70  
h-index

12558

132  
g-index

180  
all docs

180  
docs citations

180  
times ranked

23291  
citing authors

#	ARTICLE	IF	CITATIONS
1	Traveling waves in the prefrontal cortex during working memory. PLoS Computational Biology, 2022, 18, e1009827.	1.5	37
2	Beyond dimension reduction: Stable electric fields emerge from and allow representational drift. NeuroImage, 2022, 253, 119058.	2.1	19
3	Propofol Anesthesia Alters Cortical Traveling Waves. Journal of Cognitive Neuroscience, 2022, 34, 1274-1286.	1.1	10
4	A call for more clarity around causality in neuroscience. Trends in Neurosciences, 2022, 45, 654-655.	4.2	18
5	Interhemispheric transfer of working memories. Neuron, 2021, 109, 1055-1066.e4.	3.8	27
6	Neural effects of propofol-induced unconsciousness and its reversal using thalamic stimulation. ELife, 2021, 10, .	2.8	73
7	A hidden Markov model reliably characterizes ketamine-induced spectral dynamics in macaque local field potentials and human electroencephalograms. PLoS Computational Biology, 2021, 17, e1009280.	1.5	13
8	Task-evoked activity quenches neural correlations and variability across cortical areas. PLoS Computational Biology, 2020, 16, e1007983.	1.5	62
9	Layer and rhythm specificity for predictive routing. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 31459-31469.	3.3	133
10	Achieving stable dynamics in neural circuits. PLoS Computational Biology, 2020, 16, e1007659.	1.5	17
11	Differences in visually induced MEG oscillations reflect differences in deep cortical layer activity. Communications Biology, 2020, 3, 707.	2.0	4
12	Conjunctive representation of what and when in monkey hippocampus and lateral prefrontal cortex during an associative memory task. Hippocampus, 2020, 30, 1332-1346.	0.9	29
13	A Geometric Characterization of Population Coding in the Prefrontal Cortex and Hippocampus during a Paired-Associate Learning Task. Journal of Cognitive Neuroscience, 2020, 32, 1455-1465.	1.1	4
14	Prefrontal oscillations modulate the propagation of neuronal activity required for working memory. Neurobiology of Learning and Memory, 2020, 173, 107228.	1.0	23
15	Preservation and Changes in Oscillatory Dynamics across the Cortical Hierarchy. Journal of Cognitive Neuroscience, 2020, 32, 2024-2035.	1.1	36
16	Task-evoked activity quenches neural correlations and variability across cortical areas. , 2020, 16, e1007983.		0
17	Task-evoked activity quenches neural correlations and variability across cortical areas. , 2020, 16, e1007983.		0
18	Task-evoked activity quenches neural correlations and variability across cortical areas. , 2020, 16, e1007983.		0

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19	Task-evoked activity quenches neural correlations and variability across cortical areas. , 2020, 16, e1007983.		0
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21	Task-evoked activity quenches neural correlations and variability across cortical areas. , 2020, 16, e1007983.		0
22	Achieving stable dynamics in neural circuits. , 2020, 16, e1007659.		0
23	Achieving stable dynamics in neural circuits. , 2020, 16, e1007659.		0
24	Achieving stable dynamics in neural circuits. , 2020, 16, e1007659.		0
25	Achieving stable dynamics in neural circuits. , 2020, 16, e1007659.		0
26	Extracellular Spike Waveform Dissociates Four Functionally Distinct Cell Classes in Primate Cortex. Current Biology, 2019, 29, 2973-2982.e5.	1.8	67
27	Sensory processing and categorization in cortical and deep neural networks. NeuroImage, 2019, 202, 116118.	2.1	7
28	Charles Gordon Gross (1936â€“(2019). Neuron, 2019, 102, 721-723.	3.8	0
29	Targeting Cognition and Networks Through Neural Oscillations. JAMA Psychiatry, 2019, 76, 671.	6.0	31
30	Working Memory Load Modulates Neuronal Coupling. Cerebral Cortex, 2019, 29, 1670-1681.	1.6	22
31	Bayesian Modelling of Induced Responses and Neuronal Rhythms. Brain Topography, 2019, 32, 569-582.	0.8	7
32	Monkey EEG links neuronal color and motion information across species and scales. ELife, 2019, 8, .	2.8	24
33	Compressed Timeline of Recent Experience in Monkey Lateral Prefrontal Cortex. Journal of Cognitive Neuroscience, 2018, 30, 935-950.	1.1	52
34	Different Levels of Category Abstraction by Different Dynamics in Different Prefrontal Areas. Neuron, 2018, 97, 716-726.e8.	3.8	69
35	Gamma and beta bursts during working memory readout suggest roles in its volitional control. Nature Communications, 2018, 9, 394.	5.8	203
36	Laminar recordings in frontal cortex suggest distinct layers for maintenance and control of working memory. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1117-1122.	3.3	234

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37	Low-Beta Oscillations Turn Up the Gain During Category Judgments. <i>Cerebral Cortex</i> , 2018, 28, 116-130.	1.6	26
38	Altering alpha-frequency brain oscillations with rapid analog feedback-driven neurostimulation. <i>PLoS ONE</i> , 2018, 13, e0207781.	1.1	11
39	Working Memory 2.0. <i>Neuron</i> , 2018, 100, 463-475.	3.8	492
40	On the Role of Cortex-Basal Ganglia Interactions for Category Learning: A Neurocomputational Approach. <i>Journal of Neuroscience</i> , 2018, 38, 9551-9562.	1.7	22
41	Detecting multivariate cross-correlation between brain regions. <i>Journal of Neurophysiology</i> , 2018, 120, 1962-1972.	0.9	7
42	Gradual progression from sensory to task-related processing in cerebral cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E7202-E7211.	3.3	62
43	Working Memory: Delay Activity, Yes! Persistent Activity? Maybe Not. <i>Journal of Neuroscience</i> , 2018, 38, 7013-7019.	1.7	209
44	Decoding of intended saccade direction in an oculomotor brain-computer interface. <i>Journal of Neural Engineering</i> , 2017, 14, 046007.	1.8	12
45	On memories, neural ensembles and mental flexibility. <i>NeuroImage</i> , 2017, 157, 297-313.	2.1	11
46	Hebbian Learning in a Random Network Captures Selectivity Properties of the Prefrontal Cortex. <i>Journal of Neuroscience</i> , 2017, 37, 11021-11036.	1.7	38
47	A Meta-Analysis Suggests Different Neural Correlates for Implicit and Explicit Learning. <i>Neuron</i> , 2017, 96, 521-534.e7.	3.8	29
48	Earl K. Miller. <i>Neuron</i> , 2017, 95, 1237-1239.	3.8	1
49	102. Modulating Top-Down Executive Control Networks with Striatal Deep Brain Stimulation. <i>Biological Psychiatry</i> , 2017, 81, S43.	0.7	1
50	Ventral Capsule/Ventral Striatum Deep Brain Stimulation Does Not Consistently Diminish Occipital Cross-Frequency Coupling. <i>Biological Psychiatry</i> , 2016, 80, e59-e60.	0.7	15
51	Prefrontal Cortex Networks Shift from External to Internal Modes during Learning. <i>Journal of Neuroscience</i> , 2016, 36, 9739-9754.	1.7	36
52	Gamma and Beta Bursts Underlie Working Memory. <i>Neuron</i> , 2016, 90, 152-164.	3.8	631
53	Why neurons mix: high dimensionality for higher cognition. <i>Current Opinion in Neurobiology</i> , 2016, 37, 66-74.	2.0	513
54	Stimulus Load and Oscillatory Activity in Higher Cortex. <i>Cerebral Cortex</i> , 2016, 26, 3772-3784.	1.6	71

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55	Synchronous beta rhythms of frontoparietal networks support only behaviorally relevant representations. <i>ELife</i> , 2016, 5, .	2.8	72
56	Working Memory Capacity: Limits on the Bandwidth of Cognition. <i>Daedalus</i> , 2015, 144, 112-122.	0.9	32
57	Frequency-specific hippocampal-prefrontal interactions during associative learning. <i>Nature Neuroscience</i> , 2015, 18, 576-581.	7.1	159
58	Cortical information flow during flexible sensorimotor decisions. <i>Science</i> , 2015, 348, 1352-1355.	6.0	375
59	Neural Substrates of Dopamine D2 Receptor Modulated Executive Functions in the Monkey Prefrontal Cortex. <i>Cerebral Cortex</i> , 2015, 25, 2980-2987.	1.6	71
60	PFC Neurons Reflect Categorical Decisions about Ambiguous Stimuli. <i>Journal of Cognitive Neuroscience</i> , 2014, 26, 1283-1291.	1.1	35
61	Task Dependence of Visual and Category Representations in Prefrontal and Inferior Temporal Cortices. <i>Journal of Neuroscience</i> , 2014, 34, 16065-16075.	1.7	81
62	Goal-direction and top-down control. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2014, 369, 20130471.	1.8	90
63	Prefrontal dopamine in associative learning and memory. <i>Neuroscience</i> , 2014, 282, 217-229.	1.1	102
64	Hebbian-inspired rewiring of a random network replicates pattern of selectivity seen in PFC. <i>BMC Neuroscience</i> , 2014, 15, .	0.8	0
65	Increases in Functional Connectivity between Prefrontal Cortex and Striatum during Category Learning. <i>Neuron</i> , 2014, 83, 216-225.	3.8	133
66	Cortical circuits for the control of attention. <i>Current Opinion in Neurobiology</i> , 2013, 23, 216-222.	2.0	207
67	Limber Neurons for a Nimble Mind. <i>Neuron</i> , 2013, 78, 211-213.	3.8	19
68	The importance of mixed selectivity in complex cognitive tasks. <i>Nature</i> , 2013, 497, 585-590.	13.7	1,262
69	The Prefrontal Cortex and Executive Brain Functions. , 2013, , 1069-1089.		6
70	The "co-working" of working memory. <i>Dialogues in Clinical Neuroscience</i> , 2013, 15, 411-418.	1.8	35
71	Synchronous Oscillatory Neural Ensembles for Rules in the Prefrontal Cortex. <i>Neuron</i> , 2012, 76, 838-846.	3.8	388
72	The Role of Prefrontal Dopamine D1 Receptors in the Neural Mechanisms of Associative Learning. <i>Neuron</i> , 2012, 74, 874-886.	3.8	120

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73	A neural model of sequential movement planning and control of eye movements: Item-Order-Rank working memory and saccade selection by the supplementary eye fields. <i>Neural Networks</i> , 2012, 26, 29-58.	3.3	46
74	Comparison of Primate Prefrontal and Premotor Cortex Neuronal Activity during Visual Categorization. <i>Journal of Cognitive Neuroscience</i> , 2011, 23, 3355-3365.	1.1	37
75	Differences between Neural Activity in Prefrontal Cortex and Striatum during Learning of Novel Abstract Categories. <i>Neuron</i> , 2011, 71, 243-249.	3.8	121
76	Rapid Association Learning in the Primate Prefrontal Cortex in the Absence of Behavioral Reversals. <i>Journal of Cognitive Neuroscience</i> , 2011, 23, 1823-1828.	1.1	23
77	Neural substrates of cognitive capacity limitations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 11252-11255.	3.3	245
78	Shifting the Spotlight of Attention: Evidence for Discrete Computations in Cognition. <i>Frontiers in Human Neuroscience</i> , 2010, 4, 194.	1.0	64
79	Current Opinion in Neurobiologyâ€”Cognitive Neuroscience 2010. <i>Current Opinion in Neurobiology</i> , 2010, 20, 141-142.	2.0	14
80	Task-Dependent Changes in Short-Term Memory in the Prefrontal Cortex. <i>Journal of Neuroscience</i> , 2010, 30, 15801-15810.	1.7	158
81	Prefrontal Cortex Activity during Flexible Categorization. <i>Journal of Neuroscience</i> , 2010, 30, 8519-8528.	1.7	135
82	Representation of Multiple, Independent Categories in the Primate Prefrontal Cortex. <i>Neuron</i> , 2010, 66, 796-807.	3.8	161
83	Category Learning in the Brain. <i>Annual Review of Neuroscience</i> , 2010, 33, 203-219.	5.0	339
84	Learning Substrates in the Primate Prefrontal Cortex and Striatum: Sustained Activity Related to Successful Actions. <i>Neuron</i> , 2009, 63, 244-253.	3.8	173
85	Serial, Covert Shifts of Attention during Visual Search Are Reflected by the Frontal Eye Fields and Correlated with Population Oscillations. <i>Neuron</i> , 2009, 63, 386-396.	3.8	238
86	Phase-dependent neuronal coding of objects in short-term memory. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 21341-21346.	3.3	494
87	Neural mechanisms of visual categorization: Insights from neurophysiology. <i>Neuroscience and Biobehavioral Reviews</i> , 2008, 32, 311-329.	2.9	79
88	All My Circuits: Using Multiple Electrodes to Understand Functioning Neural Networks. <i>Neuron</i> , 2008, 60, 483-488.	3.8	66
89	Dynamic Population Coding of Category Information in Inferior Temporal and Prefrontal Cortex. <i>Journal of Neurophysiology</i> , 2008, 100, 1407-1419.	0.9	343
90	Neurodynamics of the Prefrontal Cortex during Conditional Visuomotor Associations. <i>Journal of Cognitive Neuroscience</i> , 2008, 20, 421-431.	1.1	13

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91	The Representation of Multiple Objects in Prefrontal Neuronal Delay Activity. <i>Cerebral Cortex</i> , 2007, 17, i41-i50.	1.6	96
92	Social Neuroscience: Progress and Implications for Mental Health. <i>Perspectives on Psychological Science</i> , 2007, 2, 99-123.	5.2	98
93	A Neural Circuit Model of Flexible Sensorimotor Mapping: Learning and Forgetting on Multiple Timescales. <i>Neuron</i> , 2007, 54, 319-333.	3.8	159
94	Top-Down Versus Bottom-Up Control of Attention in the Prefrontal and Posterior Parietal Cortices. <i>Science</i> , 2007, 315, 1860-1862.	6.0	1,989
95	Bootstrapping your brain. , 2007, , 339-354.		1
96	Rules through Recursion: How Interactions between the Frontal Cortex and Basal Ganglia May Build Abstract, Complex Rules from Concrete, Simple Ones. , 2007, , 419-440.		11
97	The Prefrontal Cortex: Categories, Concepts, and Cognitive Control. <i>Research and Perspectives in Neurosciences</i> , 2007, , 137-154.	0.4	2
98	A Comparison of Abstract Rules in the Prefrontal Cortex, Premotor Cortex, Inferior Temporal Cortex, and Striatum. <i>Journal of Cognitive Neuroscience</i> , 2006, 18, 974-989.	1.1	189
99	Microstimulation of Frontal Cortex Can Reorder a Remembered Spatial Sequence. <i>PLoS Biology</i> , 2006, 4, e134.	2.6	50
100	Different time courses of learning-related activity in the prefrontal cortex and striatum. <i>Nature</i> , 2005, 433, 873-876.	13.7	645
101	ETHICS: Moral Issues of Human-Non-Human Primate Neural Grafting. <i>Science</i> , 2005, 309, 385-386.	6.0	89
102	Experience-Dependent Sharpening of Visual Shape Selectivity in Inferior Temporal Cortex. <i>Cerebral Cortex</i> , 2005, 16, 1631-1644.	1.6	189
103	A parieto-frontal network for visual numerical information in the monkey. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 7457-7462.	3.3	464
104	Analog Numerical Representations in Rhesus Monkeys: Evidence for Parallel Processing. <i>Journal of Cognitive Neuroscience</i> , 2004, 16, 889-901.	1.1	104
105	Neural correlates of categories and concepts. <i>Current Opinion in Neurobiology</i> , 2003, 13, 198-203.	2.0	158
106	Neuronal activity in primate dorsolateral and orbital prefrontal cortex during performance of a reward preference task. <i>European Journal of Neuroscience</i> , 2003, 18, 2069-2081.	1.2	554
107	V1 Neurons Signal Acquisition of an Internal Representation of Stimulus Location. <i>Science</i> , 2003, 300, 1758-1763.	6.0	52
108	Coding of Cognitive Magnitude. <i>Neuron</i> , 2003, 37, 149-157.	3.8	479

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109	Neural Circuits Subserving the Retrieval and Maintenance of Abstract Rules. <i>Journal of Neurophysiology</i> , 2003, 90, 3419-3428.	0.9	329
110	From Rule to Response: Neuronal Processes in the Premotor and Prefrontal Cortex. <i>Journal of Neurophysiology</i> , 2003, 90, 1790-1806.	0.9	314
111	A Comparison of Primate Prefrontal and Inferior Temporal Cortices during Visual Categorization. <i>Journal of Neuroscience</i> , 2003, 23, 5235-5246.	1.7	464
112	Representation of the Quantity of Visual Items in the Primate Prefrontal Cortex. <i>Science</i> , 2002, 297, 1708-1711.	6.0	766
113	The prefrontal cortex: categories, concepts and cognition. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2002, 357, 1123-1136.	1.8	366
114	Visual Categorization and the Primate Prefrontal Cortex: Neurophysiology and Behavior. <i>Journal of Neurophysiology</i> , 2002, 88, 929-941.	0.9	203
115	Timecourse of object-related neural activity in the primate prefrontal cortex during a short-term memory task. <i>European Journal of Neuroscience</i> , 2002, 15, 1244-1254.	1.2	96
116	Dynamics of neuronal sensitivity in visual cortex and local feature discrimination. <i>Nature Neuroscience</i> , 2002, 5, 883-891.	7.1	185
117	Cognitive Focus through Adaptive Neural Coding in the Primate Prefrontal Cortex. , 2002, , 278-291.		46
118	Categorical Representation of Visual Stimuli in the Primate Prefrontal Cortex. <i>Science</i> , 2001, 291, 312-316.	6.0	983
119	An Integrative Theory of Prefrontal Cortex Function. <i>Annual Review of Neuroscience</i> , 2001, 24, 167-202.	5.0	10,240
120	Single neurons in prefrontal cortex encode abstract rules. <i>Nature</i> , 2001, 411, 953-956.	13.7	901
121	Organization through experience. <i>Nature Neuroscience</i> , 2000, 3, 1066-1068.	7.1	13
122	The prefrontal cortex and cognitive control. <i>Nature Reviews Neuroscience</i> , 2000, 1, 59-65.	4.9	1,770
123	Neural ensemble states in prefrontal cortex identified using a hidden Markov model with a modified EM algorithm. <i>Neurocomputing</i> , 2000, 32-33, 961-966.	3.5	23
124	Task-Specific Neural Activity in the Primate Prefrontal Cortex. <i>Journal of Neurophysiology</i> , 2000, 84, 451-459.	0.9	423
125	Effects of Visual Experience on the Representation of Objects in the Prefrontal Cortex. <i>Neuron</i> , 2000, 27, 179-189.	3.8	327
126	The Prefrontal Cortex: No Simple Matter. <i>NeuroImage</i> , 2000, 11, 447-450.	2.1	61



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127	Prospective Coding for Objects in Primate Prefrontal Cortex. <i>Journal of Neuroscience</i> , 1999, 19, 5493-5505.	1.7	397
128	Straight from the top. <i>Nature</i> , 1999, 401, 650-651.	13.7	8
129	The Prefrontal Cortex. <i>Neuron</i> , 1999, 22, 15-17.	3.8	252
130	Selective representation of relevant information by neurons in the primate prefrontal cortex. <i>Nature</i> , 1998, 393, 577-579.	13.7	571
131	Neural Activity in the Primate Prefrontal Cortex during Associative Learning. <i>Neuron</i> , 1998, 21, 1399-1407.	3.8	542
132	Memory fields of neurons in the primate prefrontal cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1998, 95, 15008-15013.	3.3	258
133	Responses of Neurons in Inferior Temporal Cortex During Memory-Guided Visual Search. <i>Journal of Neurophysiology</i> , 1998, 80, 2918-2940.	0.9	630
134	Integration of What and Where in the Primate Prefrontal Cortex. <i>Science</i> , 1997, 276, 821-824.	6.0	846
135	Object and Place Memory in the Macaque Entorhinal Cortex. <i>Journal of Neurophysiology</i> , 1997, 78, 1062-1081.	0.9	346
136	Neural Mechanisms of Visual Working Memory in Prefrontal Cortex of the Macaque. <i>Journal of Neuroscience</i> , 1996, 16, 5154-5167.	1.7	1,363
137	Neocortical memory traces. <i>Behavioral and Brain Sciences</i> , 1994, 17, 488-489.	0.4	2
138	Inferior Temporal Mechanisms for Invariant Object Recognition. <i>Cerebral Cortex</i> , 1994, 4, 523-531.	1.6	204
139	Parallel neuronal mechanisms for short-term memory. <i>Science</i> , 1994, 263, 520-522.	6.0	600
140	A neural basis for visual search in inferior temporal cortex. <i>Nature</i> , 1993, 363, 345-347.	13.7	1,257
141	Suppression of visual responses of neurons in inferior temporal cortex of the awake macaque by addition of a second stimulus. <i>Brain Research</i> , 1993, 616, 25-29.	1.1	212
142	Scopolamine affects short-term memory but not inferior temporal neurons. <i>NeuroReport</i> , 1993, 4, 81.	0.6	59
143	Functional interactions among neurons in inferior temporal cortex of the awake macaque. <i>Experimental Brain Research</i> , 1991, 84, 505-16.	0.7	158
144	Habituation-like decrease in the responses of neurons in inferior temporal cortex of the macaque. <i>Visual Neuroscience</i> , 1991, 7, 357-362.	0.5	149

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145	A neural mechanism for working and recognition memory in inferior temporal cortex. Science, 1991, 254, 1377-1379.	6.0	663
146	Compressed Timeline of Recent Experience in Monkey IPFC. SSRN Electronic Journal, 0, , .	0.4	0