# Earl K Miller

List of Publications by Year
in descending order



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|---|---|---|---|
| 147 papers | 40,792 citations | 11651 70 h-index | 12597 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. | 3.2 | 37 |
| 2 | Beyond dimension reduction: Stable electric fields emerge from and allow representational drift. NeuroImage, 2022, 253, 119058. | 4.2 | 19 |
| 3 | Propofol Anesthesia Alters Cortical Traveling Waves. Journal of Cognitive Neuroscience, 2022, 34, 1274-1286. | 2.3 | 10 |
| 4 | A call for more clarity around causality in neuroscience. Trends in Neurosciences, 2022, 45, 654-655. | 8.6 | 18 |
| 5 | Interhemispheric transfer of working memories. Neuron, 2021, 109, 1055-1066.e4. | 8.1 | 27 |
| 6 | Neural effects of propofol-induced unconsciousness and its reversal using thalamic stimulation. ELife, 2021, 10, . | 6.0 | 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. | 3.2 | 13 |
| 8 | Task-evoked activity quenches neural correlations and variability across cortical areas. PLoS Computational Biology, 2020, 16, e1007983. | 3.2 | 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. | 7.1 | 133 |
| 10 | Achieving stable dynamics in neural circuits. PLoS Computational Biology, 2020, 16, e1007659. | 3.2 | 17 |
| 11 | Differences in visually induced MEG oscillations reflect differences in deep cortical layer activity. Communications Biology, 2020, 3, 707. | 4.4 | 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. | 1.9 | 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. | 2.3 | 4 |
| 14 | Prefrontal oscillations modulate the propagation of neuronal activity required for working memory. Neurobiology of Learning and Memory, 2020, 173, 107228. | 1.9 | 23 |
| 15 | Preservation and Changes in Oscillatory Dynamics across the Cortical Hierarchy. Journal of Cognitive Neuroscience, 2020, 32, 2024-2035. | 2.3 | 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 |
| 20 | Task-evoked activity quenches neural correlations and variability across cortical areas. , 2020, 16, e1007983. | | 0 |
| 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. | 3.9 | 67 |
| 27 | Sensory processing and categorization in cortical and deep neural networks. NeuroImage, 2019, 202, 116118. | 4.2 | 7 |
| 28 | Charles Gordon Gross (1936â€"2019). Neuron, 2019, 102, 721-723. | 8.1 | 0 |
| 29 | Targeting Cognition and Networks Through Neural Oscillations. JAMA Psychiatry, 2019, 76, 671. | 11.0 | 31 |
| 30 | Working Memory Load Modulates Neuronal Coupling. Cerebral Cortex, 2019, 29, 1670-1681. | 2.9 | 22 |
| 31 | Bayesian Modelling of Induced Responses and Neuronal Rhythms. Brain Topography, 2019, 32, 569-582. | 1.8 | 7 |
| 32 | Monkey EEG links neuronal color and motion information across species and scales. ELife, 2019, 8, . | 6.0 | 24 |
| 33 | Compressed Timeline of Recent Experience in Monkey Lateral Prefrontal Cortex. Journal of Cognitive Neuroscience, 2018, 30, 935-950. | 2.3 | 52 |
| 34 | Different Levels of Category Abstraction by Different Dynamics in Different Prefrontal Areas. Neuron, 2018, 97, 716-726.e8. | 8.1 | 69 |
| 35 | Gamma and beta bursts during working memory readout suggest roles in its volitional control. Nature Communications, 2018, 9, 394. | 12.8 | 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. | 7.1 | 234 |

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| 37 | Low-Beta Oscillations Turn Up the Gain During Category Judgments. Cerebral Cortex, 2018, 28, 116-130. | 2.9 | 26 |
| 38 | Altering alpha-frequency brain oscillations with rapid analog feedback-driven neurostimulation. PLoS ONE, 2018, 13, e0207781. | 2.5 | 11 |
| 39 | Working Memory 2.0. Neuron, 2018, 100, 463-475. | 8.1 | 492 |
| 40 | On the Role of Cortex-Basal Ganglia Interactions for Category Learning: A Neurocomputational Approach. Journal of Neuroscience, 2018, 38, 9551-9562. | 3.6 | 22 |
| 41 | Detecting multivariate cross-correlation between brain regions. Journal of Neurophysiology, 2018, 120, 1962-1972. | 1.8 | 7 |
| 42 | Gradual progression from sensory to task-related processing in cerebral cortex. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E7202-E7211. | 7.1 | 62 |
| 43 | Working Memory: Delay Activity, Yes! Persistent Activity? Maybe Not. Journal of Neuroscience, 2018, 38, 7013-7019. | 3.6 | 209 |
| 44 | Decoding of intended saccade direction in an oculomotor brainâ€“computer interface. Journal of Neural Engineering, 2017, 14, 046007. | 3.5 | 12 |
| 45 | On memories, neural ensembles and mental flexibility. NeuroImage, 2017, 157, 297-313. | 4.2 | 11 |
| 46 | Hebbian Learning in a Random Network Captures Selectivity Properties of the Prefrontal Cortex. Journal of Neuroscience, 2017, 37, 11021-11036. | 3.6 | 38 |
| 47 | A Meta-Analysis Suggests Different Neural Correlates for Implicit and Explicit Learning. Neuron, 2017, 96, 521-534.e7. | 8.1 | 29 |
| 48 | Earl K. Miller. Neuron, 2017, 95, 1237-1239. | 8.1 | 1 |
| 49 | 102. Modulating Top-Down Executive Control Networks with Striatal Deep Brain Stimulation. Biological Psychiatry, 2017, 81, S43. | 1.3 | 1 |
| 50 | Ventral Capsule/Ventral Striatum Deep Brain Stimulation Does Not Consistently Diminish Occipital Cross-Frequency Coupling. Biological Psychiatry, 2016, 80, e59-e60. | 1.3 | 15 |
| 51 | Prefrontal Cortex Networks Shift from External to Internal Modes during Learning. Journal of Neuroscience, 2016, 36, 9739-9754. | 3.6 | 36 |
| 52 | Gamma and Beta Bursts Underlie Working Memory. Neuron, 2016, 90, 152-164. | 8.1 | 631 |
| 53 | Why neurons mix: high dimensionality for higher cognition. Current Opinion in Neurobiology, 2016, 37, 66-74. | 4.2 | 513 |
| 54 | Stimulus Load and Oscillatory Activity in Higher Cortex. Cerebral Cortex, 2016, 26, 3772-3784. | 2.9 | 71 |

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| 55 | Synchronous beta rhythms of frontoparietal networks support only behaviorally relevant representations. ELife, 2016, 5, . | 6.0 | 72 |
| 56 | Working Memory Capacity: Limits on the Bandwidth of Cognition. Daedalus, 2015, 144, 112-122. | 1.8 | 32 |
| 57 | Frequency-specific hippocampal-prefrontal interactions during associative learning. Nature Neuroscience, 2015, 18, 576-581. | 14.8 | 159 |
| 58 | Cortical information flow during flexible sensorimotor decisions. Science, 2015, 348, 1352-1355. | 12.6 | 375 |
| 59 | Neural Substrates of Dopamine D2 Receptor Modulated Executive Functions in the Monkey Prefrontal Cortex. Cerebral Cortex, 2015, 25, 2980-2987. | 2.9 | 71 |
| 60 | PFC Neurons Reflect Categorical Decisions about Ambiguous Stimuli. Journal of Cognitive Neuroscience, 2014, 26, 1283-1291. | 2.3 | 35 |
| 61 | Task Dependence of Visual and Category Representations in Prefrontal and Inferior Temporal Cortices. Journal of Neuroscience, 2014, 34, 16065-16075. | 3.6 | 81 |
| 62 | Goal-direction and top-down control. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130471. | 4.0 | 90 |
| 63 | Prefrontal dopamine in associative learning and memory. Neuroscience, 2014, 282, 217-229. | 2.3 | 102 |
| 64 | Hebbian-inspired rewiring of a random network replicates pattern of selectivity seen in PFC. BMC Neuroscience, 2014, 15, . | 1.9 | 0 |
| 65 | Increases in Functional Connectivity between Prefrontal Cortex and Striatum during Category Learning. Neuron, 2014, 83, 216-225. | 8.1 | 133 |
| 66 | Cortical circuits for the control of attention. Current Opinion in Neurobiology, 2013, 23, 216-222. | 4.2 | 207 |
| 67 | Limber Neurons for a Nimble Mind. Neuron, 2013, 78, 211-213. | 8.1 | 19 |
| 68 | The importance of mixed selectivity in complex cognitive tasks. Nature, 2013, 497, 585-590. | 27.8 | 1,262 |
| 69 | The Prefrontal Cortex and Executive Brain Functions. , 2013, , 1069-1089. | | 6 |
| 70 | The â€œworkingâ€•of working memory. Dialogues in Clinical Neuroscience, 2013, 15, 411-418. | 3.7 | 35 |
| 71 | Synchronous Oscillatory Neural Ensembles for Rules in the Prefrontal Cortex. Neuron, 2012, 76, 838-846. | 8.1 | 388 |
| 72 | The Role of Prefrontal Dopamine D1 Receptors in the Neural Mechanisms of Associative Learning. Neuron, 2012, 74, 874-886. | 8.1 | 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. Neural Networks, 2012, 26, 29-58. | 5.9 | 46 |
| 74 | Comparison of Primate Prefrontal and Premotor Cortex Neuronal Activity during Visual Categorization. Journal of Cognitive Neuroscience, 2011, 23, 3355-3365. | 2.3 | 37 |
| 75 | Differences between Neural Activity in Prefrontal Cortex and Striatum during Learning of Novel Abstract Categories. Neuron, 2011, 71, 243-249. | 8.1 | 121 |
| 76 | Rapid Association Learning in the Primate Prefrontal Cortex in the Absence of Behavioral Reversals. Journal of Cognitive Neuroscience, 2011, 23, 1823-1828. | 2.3 | 23 |
| 77 | Neural substrates of cognitive capacity limitations. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11252-11255. | 7.1 | 245 |
| 78 | Shifting the Spotlight of Attention: Evidence for Discrete Computations in Cognition. Frontiers in Human Neuroscience, 2010, 4, 194. | 2.0 | 64 |
| 79 | Current Opinion in Neurobiologyâ€"Cognitive Neuroscience 2010. Current Opinion in Neurobiology, 2010, 20, 141-142. | 4.2 | 14 |
| 80 | Task-Dependent Changes in Short-Term Memory in the Prefrontal Cortex. Journal of Neuroscience, 2010, 30, 15801-15810. | 3.6 | 158 |
| 81 | Prefrontal Cortex Activity during Flexible Categorization. Journal of Neuroscience, 2010, 30, 8519-8528. | 3.6 | 135 |
| 82 | Representation of Multiple, Independent Categories in the Primate Prefrontal Cortex. Neuron, 2010, 66, 796-807. | 8.1 | 161 |
| 83 | Category Learning in the Brain. Annual Review of Neuroscience, 2010, 33, 203-219. | 10.7 | 339 |
| 84 | Learning Substrates in the Primate Prefrontal Cortex and Striatum: Sustained Activity Related to Successful Actions. Neuron, 2009, 63, 244-253. | 8.1 | 173 |
| 85 | Serial, Covert Shifts of Attention during Visual Search Are Reflected by the Frontal Eye Fields and Correlated with Population Oscillations. Neuron, 2009, 63, 386-396. | 8.1 | 238 |
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| 87 | Neural mechanisms of visual categorization: Insights from neurophysiology. Neuroscience and Biobehavioral Reviews, 2008, 32, 311-329. | 6.1 | 79 |
| 88 | All My Circuits: Using Multiple Electrodes to Understand Functioning Neural Networks. Neuron, 2008, 60, 483-488. | 8.1 | 66 |
| 89 | Dynamic Population Coding of Category Information in Inferior Temporal and Prefrontal Cortex. Journal of Neurophysiology, 2008, 100, 1407-1419. | 1.8 | 343 |
| 90 | Neurodynamics of the Prefrontal Cortex during Conditional Visuomotor Associations. Journal of Cognitive Neuroscience, 2008, 20, 421-431. | 2.3 | 13 |

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| 91 | Neurodynamics of the Prefrontal Cortex during Conditional Visuomotor Associations. Journal of Cognitive Neuroscience, 2008, 20, 421-431. | 2.3 | 0 |
| 92 | The Representation of Multiple Objects in Prefrontal Neuronal Delay Activity. Cerebral Cortex, 2007, 17, i41-i50. | 2.9 | 96 |
| 93 | Social Neuroscience: Progress and Implications for Mental Health. Perspectives on Psychological Science, 2007, 2, 99-123. | 9.0 | 98 |
| 94 | A Neural Circuit Model of Flexible Sensorimotor Mapping: Learning and Forgetting on Multiple Timescales. Neuron, 2007, 54, 319-333. | 8.1 | 159 |
| 95 | Top-Down Versus Bottom-Up Control of Attention in the Prefrontal and Posterior Parietal Cortices. Science, 2007, 315, 1860-1862. | 12.6 | 1,989 |
| 96 | Bootstrapping your brain. , 2007, , 339-354. | | 1 |
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| 98 | The Prefrontal Cortex: Categories, Concepts, and Cognitive Control. Research and Perspectives in Neurosciences, 2007, , 137-154. | 0.4 | 2 |
| 99 | A Comparison of Abstract Rules in the Prefrontal Cortex, Premotor Cortex, Inferior Temporal Cortex, and Striatum. Journal of Cognitive Neuroscience, 2006, 18, 974-989. | 2.3 | 189 |
| 100 | Microstimulation of Frontal Cortex Can Reorder a Remembered Spatial Sequence. PLoS Biology, 2006, 4, e134. | 5.6 | 50 |
| 101 | Different time courses of learning-related activity in the prefrontal cortex and striatum. Nature, 2005, 433, 873-876. | 27.8 | 645 |
| 102 | ETHICS: Moral Issues of Human-Non-Human Primate Neural Grafting. Science, 2005, 309, 385-386. | 12.6 | 89 |
| 103 | Experience-Dependent Sharpening of Visual Shape Selectivity in Inferior Temporal Cortex. Cerebral Cortex, 2005, 16, 1631-1644. | 2.9 | 189 |
| 104 | A parieto-frontal network for visual numerical information in the monkey. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7457-7462. | 7.1 | 464 |
| 105 | Analog Numerical Representations in Rhesus Monkeys: Evidence for Parallel Processing. Journal of Cognitive Neuroscience, 2004, 16, 889-901. | 2.3 | 104 |
| 106 | Neural correlates of categories and concepts. Current Opinion in Neurobiology, 2003, 13, 198-203. | 4.2 | 158 |
| 107 | Neuronal activity in primate dorsolateral and orbital prefrontal cortex during performance of a reward preference task. European Journal of Neuroscience, 2003, 18, 2069-2081. | 2.6 | 554 |
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| 109 | Coding of Cognitive Magnitude. Neuron, 2003, 37, 149-157. | 8.1 | 479 |
| 110 | Neural Circuits Subserving the Retrieval and Maintenance of Abstract Rules. Journal of Neurophysiology, 2003, 90, 3419-3428. | 1.8 | 329 |
| 111 | From Rule to Response: Neuronal Processes in the Premotor and Prefrontal Cortex. Journal of Neurophysiology, 2003, 90, 1790-1806. | 1.8 | 314 |
| 112 | A Comparison of Primate Prefrontal and Inferior Temporal Cortices during Visual Categorization. Journal of Neuroscience, 2003, 23, 5235-5246. | 3.6 | 464 |
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| 115 | Visual Categorization and the Primate Prefrontal Cortex: Neurophysiology and Behavior. Journal of Neurophysiology, 2002, 88, 929-941. | 1.8 | 203 |
| 116 | Timecourse of object-related neural activity in the primate prefrontal cortex during a short-term memory task. European Journal of Neuroscience, 2002, 15, 1244-1254. | 2.6 | 96 |
| 117 | Dynamics of neuronal sensitivity in visual cortex and local feature discrimination. Nature Neuroscience, 2002, 5, 883-891. | 14.8 | 185 |
| 118 | Cognitive Focus through Adaptive Neural Coding in the Primate Prefrontal Cortex. , 2002, , 278-291. | | 46 |
| 119 | Categorical Representation of Visual Stimuli in the Primate Prefrontal Cortex. Science, 2001, 291, 312-316. | 12.6 | 983 |
| 120 | An Integrative Theory of Prefrontal Cortex Function. Annual Review of Neuroscience, 2001, 24, 167-202. | 10.7 | 10,240 |
| 121 | Single neurons in prefrontal cortex encode abstract rules. Nature, 2001, 411, 953-956. | 27.8 | 901 |
| 122 | Organization through experience. Nature Neuroscience, 2000, 3, 1066-1068. | 14.8 | 13 |
| 123 | The prefontral cortex and cognitive control. Nature Reviews Neuroscience, 2000, 1, 59-65. | 10.2 | 1,770 |
| 124 | Neural ensemble states in prefrontal cortex identified using a hidden Markov model with a modified EM algorithm. Neurocomputing, 2000, 32-33, 961-966. | 5.9 | 23 |
| 125 | Task-Specific Neural Activity in the Primate Prefrontal Cortex. Journal of Neurophysiology, 2000, 84, 451-459. | 1.8 | 423 |
| 126 | Effects of Visual Experience on the Representation of Objects in the Prefrontal Cortex. Neuron, 2000, 27, 179-189. | 8.1 | 327 |

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| 128 | Prospective Coding for Objects in Primate Prefrontal Cortex. Journal of Neuroscience, 1999, 19, 5493-5505. | 3.6 | 397 |
| 129 | Straight from the top. Nature, 1999, 401, 650-651. | 27.8 | 8 |
| 130 | The Prefrontal Cortex. Neuron, 1999, 22, 15-17. | 8.1 | 252 |
| 131 | Selective representation of relevant information by neurons in the primate prefrontal cortex. Nature, 1998, 393, 577-579. | 27.8 | 571 |
| 132 | Neural Activity in the Primate Prefrontal Cortex during Associative Learning. Neuron, 1998, 21, 1399-1407. | 8.1 | 542 |
| 133 | Memory fields of neurons in the primate prefrontal cortex. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 15008-15013. | 7.1 | 258 |
| 134 | Responses of Neurons in Inferior Temporal Cortex During Memory-Guided Visual Search. Journal of Neurophysiology, 1998, 80, 2918-2940. | 1.8 | 630 |
| 135 | Integration of What and Where in the Primate Prefrontal Cortex. Science, 1997, 276, 821-824. | 12.6 | 846 |
| 136 | Object and Place Memory in the Macaque Entorhinal Cortex. Journal of Neurophysiology, 1997, 78, 1062-1081. | 1.8 | 346 |
| 137 | Neural Mechanisms of Visual Working Memory in Prefrontal Cortex of the Macaque. Journal of Neuroscience, 1996, 16, 5154-5167. | 3.6 | 1,363 |
| 138 | Neocortical memory traces. Behavioral and Brain Sciences, 1994, 17, 488-489. | 0.7 | 2 |
| 139 | Inferior Temporal Mechanisms for Invariant Object Recognition. Cerebral Cortex, 1994, 4, 523-531. | 2.9 | 204 |
| 140 | Parallel neuronal mechanisms for short-term memory. Science, 1994, 263, 520-522. | 12.6 | 600 |
| 141 | A neural basis for visual search in inferior temporal cortex. Nature, 1993, 363, 345-347. | 27.8 | 1,257 |
| 142 | Suppression of visual responses of neurons in inferior temporal cortex of the awake macaque by addition of a second stimulus. Brain Research, 1993, 616, 25-29. | 2.2 | 212 |
| 143 | Scopolamine affects short-term memory but not inferior temporal neurons. NeuroReport, 1993, 4, 81. | 1.2 | 59 |
| 144 | Functional interactions among neurons in inferior temporal cortex of the awake macaque. Experimental Brain Research, 1991, 84, 505-16. | 1.5 | 158 |

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| 145 | Habituation-like decrease in the responses of neurons in inferior temporal cortex of the macaque. Visual Neuroscience, 1991, 7, 357-362. | 1.0 | 149 |
| 146 | A neural mechanism for working and recognition memory in inferior temporal cortex. Science, 1991, 254, 1377-1379. | 12.6 | 663 |
| 147 | Compressed Timeline of Recent Experience in Monkey lPFC. SSRN Electronic Journal, 0, , . | 0.4 | 0 |