Reza Shadmehr

List of Publications by Year
in descending order

87 papers	15,097 citations	36303 51 h-index	58581 82 g-index
161 all docs	161 docs citations	161 times ranked	7109 citing authors

#	Article	IF	Citations
1	Error Correction, Sensory Prediction, and Adaptation in Motor Control. Annual Review of Neuroscience, 2010, 33, 89-108.	10.7	1,435
2	A computational neuroanatomy for motor control. Experimental Brain Research, 2008, 185, 359-381.	1.5	983
3	Interacting Adaptive Processes with Different Timescales Underlie Short-Term Motor Learning. PLoS Biology, 2006, 4, e179.	5.6	953
4	Consolidation in human motor memory. Nature, 1996, 382, 252-255.	27.8	883
5	Learning of action through adaptive combination of motor primitives. Nature, 2000, 407, 742-747.	27.8	818
6	Sensory Prediction Errors Drive Cerebellum-Dependent Adaptation of Reaching. Journal of Neurophysiology, 2007, 98, 54-62.	1.8	749
7	Neural Correlates of Reach Errors. Journal of Neuroscience, 2005, 25, 9919-9931.	3.6	550
8	Intact Ability to Learn Internal Models of Arm Dynamics in Huntington's Disease But Not Cerebellar Degeneration. Journal of Neurophysiology, 2005, 93, 2809-2821.	1.8	439
9	Quantifying Generalization from Trial-by-Trial Behavior of Adaptive Systems that Learn with Basis Functions: Theory and Experiments in Human Motor Control. Journal of Neuroscience, 2003, 23, 9032-9045.	3.6	415
10	Electromyographic Correlates of Learning an Internal Model of Reaching Movements. Journal of Neuroscience, 1999, 19, 8573-8588.	3.6	392
11	Motor disorder in Huntington's disease begins as a dysfunction in error feedback control. Nature, 2000, 403, 544-549.	27.8	384
12	The dynamics of memory as a consequence of optimal adaptation to a changing body. Nature Neuroscience, 2007, 10, 779-786.	14.8	383
13	Computational nature of human adaptive control during learning of reaching movements in force fields. Biological Cybernetics, 1999, 81, 39-60.	1.3	293
14	Learned Dynamics of Reaching Movements Generalize From Dominant to Nondominant Arm. Journal of Neurophysiology, 2003, 89, 168-176.	1.8	290
15	A memory of errors in sensorimotor learning. Science, 2014, 345, 1349-1353.	12.6	279
16	Encoding of action by the Purkinje cells of the cerebellum. Nature, 2015, 526, 439-442.	27.8	271
17	Cerebellar Contributions to Reach Adaptation and Learning Sensory Consequences of Action. Journal of Neuroscience, 2012, 32, 4230-4239.	3.6	268
18	Adaptive Control of Saccades via Internal Feedback. Journal of Neuroscience, 2008, 28, 2804-2813.	3.6	208

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19	Spatial Generalization from Learning Dynamics of Reaching Movements. Journal of Neuroscience, 2000, 20, 7807-7815.	3.6	207
20	A Representation of Effort in Decision-Making and Motor Control. Current Biology, 2016, 26, 1929-1934.	3.9	189
21	Temporal Discounting of Reward and the Cost of Time in Motor Control. Journal of Neuroscience, 2010, 30, 10507-10516.	3.6	171
22	Encoding of error and learning to correct that error by the Purkinje cells of the cerebellum. Nature Neuroscience, 2018, 21, 736-743.	14.8	170
23	Cerebellar Contributions to Adaptive Control of Saccades in Humans. Journal of Neuroscience, 2009, 29, 12930-12939.	3.6	163
24	Impairment of Retention But Not Acquisition of a Visuomotor Skill Through Time-Dependent Disruption of Primary Motor Cortex. Journal of Neuroscience, 2007, 27, 13413-13419.	3.6	158
25	Contributions of the cerebellum and the motor cortex to acquisition and retention of motor memories. NeuroImage, 2014, 98, 147-158.	4.2	157
26	Reward-Dependent Modulation of Movement Variability. Journal of Neuroscience, 2015, 35, 4015-4024.	3.6	147
27	Generalization as a behavioral window to the neural mechanisms of learning internal models. Human Movement Science, 2004, 23, 543-568.	1.4	144
28	The intrinsic value of visual information affects saccade velocities. Experimental Brain Research, 2009, 196, 475-481.	1.5	134
29	Vigor of reaching movements: reward discounts the cost of effort. Journal of Neurophysiology, 2018, 119, 2347-2357.	1.8	131
30	A Shared Resource between Declarative Memory and Motor Memory. Journal of Neuroscience, 2010, 30, 14817-14823.	3.6	127
31	Consolidation Patterns of Human Motor Memory. Journal of Neuroscience, 2008, 28, 9610-9618.	3.6	124
32	Spontaneous Recovery of Motor Memory During Saccade Adaptation. Journal of Neurophysiology, 2008, 99, 2577-2583.	1.8	121
33	On-Line Processing of Uncertain Information in Visuomotor Control. Journal of Neuroscience, 2008, 28, 11360-11368.	3.6	120
34	Behavioural and neural basis of anomalous motor learning in children with autism. Brain, 2015, 138, 784-797.	7.6	117
35	Movement Vigor as a Reflection of Subjective Economic Utility. Trends in Neurosciences, 2019, 42, 323-336.	8.6	116
36	Motor variability is not noise, but grist for the learning mill. Nature Neuroscience, 2014, 17, 149-150.	14.8	110

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37	Long-term adaptation to dynamics of reaching movements: a PET study. Experimental Brain Research, 2001, 140, 66-76.	1.5	109
38	Sensitivity to prediction error in reach adaptation. Journal of Neurophysiology, 2012, 108, 1752-1763.	1.8	108
39	Changes in Control of Saccades during Gain Adaptation. Journal of Neuroscience, 2008, 28, 13929-13937.	3.6	102
40	Evidence for Hyperbolic Temporal Discounting of Reward in Control of Movements. Journal of Neuroscience, 2012, 32, 11727-11736.	3.6	102
41	Biological Learning and Control. , 2012, , .		102
42	Vigor of Movements and the Cost of Time in Decision Making. Journal of Neuroscience, 2014, 34, 1212-1223.	3.6	92
43	Modulation of Saccade Vigor during Value-Based Decision Making. Journal of Neuroscience, 2015, 35, 15369-15378.	3.6	92
44	Dissociable effects of the implicit and explicit memory systems on learning control of reaching. Experimental Brain Research, 2006, 173, 425-437.	1.5	91
45	Internal models of limb dynamics and the encoding of limb state. Journal of Neural Engineering, 2005, 2, S266-S278.	3.5	90
46	Control of movement vigor and decision making during foraging. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10476-E10485.	7.1	83
47	Protection and Expression of Human Motor Memories. Journal of Neuroscience, 2011, 31, 13829-13839.	3.6	78
48	Learning the dynamics of reaching movements results in the modification of arm impedance and long-latency perturbation responses. Biological Cybernetics, 2001, 85, 437-448.	1.3	72
49	Effects of Human Cerebellar Thalamus Disruption on Adaptive Control of Reaching. Cerebral Cortex, 2006, 16, 1462-1473.	2.9	72
50	Distinct neural circuits for control of movement vs. holding still. Journal of Neurophysiology, 2017, 117, 1431-1460.	1.8	67
51	Time-Dependent Motor Memory Processes in Amnesic Subjects. Journal of Neurophysiology, 1998, 80, 1590-1597.	1.8	66
52	Persistent Residual Errors in Motor Adaptation Tasks: Reversion to Baseline and Exploratory Escape. Journal of Neuroscience, 2015, 35, 6969-6977.	3.6	66
53	The Neural Feedback Response to Error As a Teaching Signal for the Motor Learning System. Journal of Neuroscience, 2016, 36, 4832-4845.	3.6	64
54	An implicit memory of errors limits human sensorimotor adaptation. Nature Human Behaviour, 2021, 5, 920-934.	12.0	63

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55	Decay of Motor Memories in the Absence of Error. Journal of Neuroscience, 2013, 33, 7700-7709.	3.6	59
56	Movement vigor as a traitlike attribute of individuality. Journal of Neurophysiology, 2018, 120, 741-757.	1.8	58
57	Control of movements and temporal discounting of reward. Current Opinion in Neurobiology, 2010, 20, 726-730.	4.2	57
58	Adaptation and generalization in acceleration-dependent force fields. Experimental Brain Research, 2006, 169, 496-506.	1.5	55
59	Learning to Predict and Control the Physics of Our Movements. Journal of Neuroscience, 2017, 37, 1663-1671.	3.6	45
60	Competition between parallel sensorimotor learning systems. ELife, 2022, 11, .	6.0	44
61	Modulation of error-sensitivity during a prism adaptation task in people with cerebellar degeneration. Journal of Neurophysiology, 2015, 114, 2460-2471.	1.8	43
62	Reward Prediction Error Modulates Saccade Vigor. Journal of Neuroscience, 2019, 39, 5010-5017.	3.6	40
63	TMS Perturbs Saccade Trajectories and Unmasks an Internal Feedback Controller for Saccades. Journal of Neuroscience, 2011, 31, 11537-11546.	3.6	39
64	Biometric Recognition via Eye Movements. ACM Transactions on Applied Perception, 2016, 13, 1-21.	1.9	37
65	Estimating properties of the fast and slow adaptive processes during sensorimotor adaptation. Journal of Neurophysiology, 2018, 119, 1367-1393.	1.8	35
66	Postural control of arm and fingers through integration of movement commands. ELife, 2020, 9, .	6.0	34
67	Changes in corticospinal excitability during reach adaptation in force fields. Journal of Neurophysiology, 2013, 109, 124-136.	1.8	33
68	Behavioral training of marmosets and electrophysiological recording from the cerebellum. Journal of Neurophysiology, 2019, 122, 1502-1517.	1.8	31
69	Synchronous spiking of cerebellar Purkinje cells during control of movements. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2118954119.	7.1	31
70	Précis of <i>Vigor: Neuroeconomics of Movement Control</i>. Behavioral and Brain Sciences, 2021, 44, e123.	0.7	27
71	Altering Effort Costs in Parkinson's Disease with Noninvasive Cortical Stimulation. Journal of Neuroscience, 2015, 35, 12287-12302.	3.6	26
72	The Origins of Anterograde Interference in Visuomotor Adaptation. Cerebral Cortex, 2020, 30, 4000-4010.	2.9	25

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73	Saccade vigor and the subjective economic value of visual stimuli. Journal of Neurophysiology, 2020, 123, 2161-2172.	1.8	21
74	Population coding in the cerebellum: a machine learning perspective. Journal of Neurophysiology, 2020, 124, 2022-2051.	1.8	20
75	P-sort: an open-source software for cerebellar neurophysiology. Journal of Neurophysiology, 2021, 126, 1055-1075.	1.8	19
76	Cerebellum estimates the sensory state of the body. Trends in Cognitive Sciences, 2014, 18, 66-67.	7.8	18
77	The Aging Brain & the Dorsal Basal Ganglia: Implications for Age-Related Limitations of Mobility. Advances in Geriatric Medicine and Research, 2019, 1, .	0.6	15
78	Perceived effort affects choice of limb and reaction time of movements. Journal of Neurophysiology, 2021, 125, 63-73.	1.8	13
79	Optimizing effort: increased efficiency of motor memory with time away from practice. Journal of Neurophysiology, 2015, 113, 445-454.	1.8	12
80	The cost of correcting for error during sensorimotor adaptation. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	10
81	Adaptive control of movement deceleration during saccades. PLoS Computational Biology, 2021, 17, e1009176.	3.2	9
82	Motor Learning: A Cortical System for Adaptive Motor Control. Current Biology, 2018, 28, R793-R795.	3.9	7
83	Cerebellar output encodes a corrective saccadic command (Commentary on Sun *et al*.). European Journal of Neuroscience, 2016, 44, 2528-2530.	2.6	4
84	Changes in saccade kinematics associated with the value and novelty of a stimulus. , 2012, , .		3
85	Movement control, decision-making, and the building of Roman roads to link them. Behavioral and Brain Sciences, 2021, 44, e138.	0.7	0
86	How the cerebellum learns to build a sequence. ELife, 2018, 7, .	6.0	0
87	Neuromatch Academy: a 3-week, online summer school in computational neuroscience. The Journal of Open Source Education, 2022, 5, 118.	0.4	0