Dora E Angelaki

List of Publications by Year
in descending order

153 papers	10,889 citations	38742 50 h-index	42399 92 g-index
267 all docs	267 docs citations	267 times ranked	4560 citing authors

#	Article	IF	Citations
1	Vestibular System: The Many Facets of a Multimodal Sense. Annual Review of Neuroscience, 2008, 31, 125-150.	10.7	729
2	Neural correlates of multisensory cue integration in macaque MSTd. Nature Neuroscience, 2008, 11, 1201-1210.	14.8	497
3	Neural correlates of reliability-based cue weighting during multisensory integration. Nature Neuroscience, 2012, 15, 146-154.	14.8	372
4	Dynamic Reweighting of Visual and Vestibular Cues during Self-Motion Perception. Journal of Neuroscience, 2009, 29, 15601-15612.	3.6	347
5	Multisensory integration: psychophysics, neurophysiology, and computation. Current Opinion in Neurobiology, 2009, 19, 452-458.	4.2	316
6	Neurons compute internal models of the physical laws of motion. Nature, 2004, 430, 560-564.	27.8	300
7	Computation of Inertial Motion: Neural Strategies to Resolve Ambiguous Otolith Information. Journal of Neuroscience, 1999, 19, 316-327.	3.6	288
8	Visual and Nonvisual Contributions to Three-Dimensional Heading Selectivity in the Medial Superior Temporal Area. Journal of Neuroscience, 2006, 26, 73-85.	3.6	271
9	A functional link between area MSTd and heading perception based on vestibular signals. Nature Neuroscience, 2007, 10, 1038-1047.	14.8	269
10	Representation of Vestibular and Visual Cues to Self-Motion in Ventral Intraparietal Cortex. Journal of Neuroscience, 2011, 31, 12036-12052.	3.6	198
11	Macaque Parieto-Insular Vestibular Cortex: Responses to Self-Motion and Optic Flow. Journal of Neuroscience, 2010, 30, 3022-3042.	3.6	186
12	Multimodal Coding of Three-Dimensional Rotation and Translation in Area MSTd: Comparison of Visual and Vestibular Selectivity. Journal of Neuroscience, 2007, 27, 9742-9756.	3.6	178
13	Purkinje Cells in Posterior Cerebellar Vermis Encode Motion in an Inertial Reference Frame. Neuron, 2007, 54, 973-985.	8.1	176
14	Decoding of MSTd Population Activity Accounts for Variations in the Precision of Heading Perception. Neuron, 2010, 66, 596-609.	8.1	173
15	The functional significance of velocity storage and its dependence on gravity. Experimental Brain Research, 2011, 210, 407-422.	1.5	162
16	Spatiotemporal Processing of Linear Acceleration: Primary Afferent and Central Vestibular Neuron Responses. Journal of Neurophysiology, 2000, 84, 2113-2132.	1.8	158
17	Convergence of Vestibular and Visual Self-Motion Signals in an Area of the Posterior Sylvian Fissure. Journal of Neuroscience, 2011, 31, 11617-11627.	3.6	156
18	A computational perspective on autism. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9158-9165.	7.1	139

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19	Vestibular Convergence Patterns in Vestibular Nuclei Neurons of Alert Primates. Journal of Neurophysiology, 2002, 88, 3518-3533.	1.8	134
20	Eyes on Target: What Neurons Must do for the Vestibuloocular Reflex During Linear Motion. Journal of Neurophysiology, 2004, 92, 20-35.	1.8	125
21	Vestibular Signals in Primate Thalamus: Properties and Origins. Journal of Neuroscience, 2007, 27, 13590-13602.	3.6	123
22	How Can Single Sensory Neurons Predict Behavior?. Neuron, 2015, 87, 411-423.	8.1	123
23	Functional Specializations of the Ventral Intraparietal Area for Multisensory Heading Discrimination. Journal of Neuroscience, 2013, 33, 3567-3581.	3.6	118
24	Optimal multisensory decision-making in a reaction-time task. ELife, 2014, 3, .	6.0	108
25	A neural representation of depth from motion parallax in macaque visual cortex. Nature, 2008, 452, 642-645.	27.8	100
26	A Comparison of Vestibular Spatiotemporal Tuning in Macaque Parietoinsular Vestibular Cortex, Ventral Intraparietal Area, and Medial Superior Temporal Area. Journal of Neuroscience, 2011, 31, 3082-3094.	3.6	100
27	Neural Representation of Orientation Relative to Gravity in the Macaque Cerebellum. Neuron, 2013, 80, 1508-1518.	8.1	100
28	Computational Approaches to Spatial Orientation: From Transfer Functions to Dynamic Bayesian Inference. Journal of Neurophysiology, 2008, 100, 2981-2996.	1.8	92
29	A Vestibular Sensation: Probabilistic Approaches to Spatial Perception. Neuron, 2009, 64, 448-461.	8.1	90
30	Models and processes of multisensory cue combination. Current Opinion in Neurobiology, 2014, 25, 38-46.	4.2	89
31	Standardized and reproducible measurement of decision-making in mice. ELife, 2021, 10, .	6.0	88
32	Self-motion-induced eye movements: effects on visual acuity and navigation. Nature Reviews Neuroscience, 2005, 6, 966-976.	10.2	87
33	Control of eye orientation: where does the brain's role end and the muscle's begin?. European Journal of Neuroscience, 2004, 19, 1-10.	2.6	84
34	Diverse Spatial Reference Frames of Vestibular Signals in Parietal Cortex. Neuron, 2013, 80, 1310-1321.	8.1	84
35	Multisensory integration: resolving sensory ambiguities to build novel representations. Current Opinion in Neurobiology, 2010, 20, 353-360.	4.2	82
36	Computation of linear acceleration through an internal model in the macaque cerebellum. Nature Neuroscience, 2013, 16, 1701-1708.	14.8	81

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37	Sensory vestibular contributions to constructing internal models of self-motion. Journal of Neural Engineering, 2005, 2, S164-S179.	3.5	80
38	Visual and vestibular cue integration for heading perception in extrastriate visual cortex. Journal of Physiology, 2011, 589, 825-833.	2.9	80
39	Properties of Cerebellar Fastigial Neurons During Translation, Rotation, and Eye Movements. Journal of Neurophysiology, 2005, 93, 853-863.	1.8	77
40	Evidence for a Causal Contribution of Macaque Vestibular, But Not Intraparietal, Cortex to Heading Perception. Journal of Neuroscience, 2016, 36, 3789-3798.	3.6	75
41	Choice-related activity and correlated noise in subcortical vestibular neurons. Nature Neuroscience, 2013, 16, 89-97.	14.8	73
42	Self-motion perception in autism is compromised by visual noise but integrated optimally across multiple senses. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6461-6466.	7.1	69
43	Gravity orientation tuning in macaque anterior thalamus. Nature Neuroscience, 2016, 19, 1566-1568.	14.8	69
44	Inference in the Brain: Statistics Flowing in Redundant Population Codes. Neuron, 2017, 94, 943-953.	8.1	69
45	Bayesian comparison of explicit and implicit causal inference strategies in multisensory heading perception. PLoS Computational Biology, 2018, 14, e1006110.	3.2	69
46	Sensory Convergence Solves a Motion Ambiguity Problem. Current Biology, 2005, 15, 1657-1662.	3.9	67
47	How Vestibular Neurons Solve the Tilt/Translation Ambiguity. Annals of the New York Academy of Sciences, 2009, 1164, 19-28.	3.8	66
48	Direction-dependent arm kinematics reveal optimal integration of gravity cues. ELife, 2016, 5, .	6.0	64
49	Individuals with autism spectrum disorder have altered visual encoding capacity. PLoS Biology, 2021, 19, e3001215.	5.6	61
50	Response properties of pigeon otolith afferents to linear acceleration. Experimental Brain Research, 1997, 117, 242-250.	1.5	60
51	An International Laboratory for Systems and Computational Neuroscience. Neuron, 2017, 96, 1213-1218.	8.1	60
52	Spatial tuning and dynamics of vestibular semicircular canal afferents in rhesus monkeys. Experimental Brain Research, 2004, 155, 81-90.	1.5	58
53	MT Neurons Combine Visual Motion with a Smooth Eye Movement Signal to Code Depth-Sign from Motion Parallax. Neuron, 2009, 63, 523-532.	8.1	56
54	Two-dimensional coding of linear acceleration and the angular velocity sensitivity of the otolith system. Biological Cybernetics, 1992, 67, 511-521.	1.3	55

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55	Causal inference accounts for heading perception in the presence of object motion. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 9060-9065.	7.1	55
56	Tuning the speed-accuracy trade-off to maximize reward rate in multisensory decision-making. ELife, 2015, 4, e06678.	6.0	55
57	Spatial modulation of hippocampal activity in freely moving macaques. Neuron, 2021, 109, 3521-3534.e6.	8.1	55
58	A Neural Signature of Divisive Normalization at the Level of Multisensory Integration in Primate Cortex. Neuron, 2017, 95, 399-411.e8.	8.1	54
59	The Brain Compass: A Perspective on How Self-Motion Updates the Head Direction Cell Attractor. Neuron, 2018, 97, 275-289.	8.1	54
60	The Algebra of Neural Response Vectors. Annals of the New York Academy of Sciences, 1992, 656, 190-204.	3.8	53
61	Frequency-Selective Coding of Translation and Tilt in Macaque Cerebellar Nodulus and Uvula. Journal of Neuroscience, 2008, 28, 9997-10009.	3.6	53
62	Detection Thresholds of Macaque Otolith Afferents. Journal of Neuroscience, 2012, 32, 8306-8316.	3.6	53
63	Computation of Egomotion in the Macaque Cerebellar Vermis. Cerebellum, 2010, 9, 174-182.	2.5	52
64	Multisensory Integration of Visual and Vestibular Signals Improves Heading Discrimination in the Presence of a Moving Object. Journal of Neuroscience, 2015, 35, 13599-13607.	3.6	50
65	Multisensory Convergence of Visual and Vestibular Heading Cues in the Pursuit Area of the Frontal Eye Field. Cerebral Cortex, 2016, 26, 3785-3801.	2.9	50
66	Primate Translational Vestibuloocular Reflexes. I. High-Frequency Dynamics and Three-Dimensional Properties During Lateral Motion. Journal of Neurophysiology, 2000, 83, 1637-1647.	1.8	49
67	Does the Middle Temporal Area Carry Vestibular Signals Related to Self-Motion?. Journal of Neuroscience, 2009, 29, 12020-12030.	3.6	49
68	Supervised Calibration Relies on the Multisensory Percept. Neuron, 2013, 80, 1544-1557.	8.1	48
69	A unified internal model theory to resolve the paradox of active versus passive self-motion sensation. ELife, 2017, 6, .	6.0	47
70	Dissecting neural circuits for multisensory integration and crossmodal processing. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140203.	4.0	46
71	Vestibular Facilitation of Optic Flow Parsing. PLoS ONE, 2012, 7, e40264.	2.5	45
72	Decoupled choice-driven and stimulus-related activity in parietal neurons may be misrepresented by choice probabilities. Nature Communications, 2017, 8, 715.	12.8	45

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73	A Dynamic Bayesian Observer Model Reveals Origins of Bias in Visual Path Integration. Neuron, 2018, 99, 194-206.e5.	8.1	45
74	Spatio-temporal convergence (STC) in otolith neurons. Biological Cybernetics, 1992, 67, 83-96.	1.3	44
75	Visual and Vestibular Selectivity for Self-Motion in Macaque Posterior Parietal Area 7a. Cerebral Cortex, 2019, 29, 3932-3947.	2.9	44
76	Oculomotor Control of Primary Eye Position Discriminates Between Translation and Tilt. Journal of Neurophysiology, 1999, 81, 394-398.	1.8	43
77	Vestibular Signals in Macaque Extrastriate Visual Cortex Are Functionally Appropriate for Heading Perception. Journal of Neuroscience, 2009, 29, 8936-8945.	3.6	43
78	Flexible egocentric and allocentric representations of heading signals in parietal cortex. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3305-E3312.	7.1	43
79	Pursuitâ€"Vestibular Interactions in Brain Stem Neurons During Rotation and Translation. Journal of Neurophysiology, 2005, 93, 3418-3433.	1.8	41
80	Vestibular Discrimination of Gravity and Translational Acceleration. Annals of the New York Academy of Sciences, 2001, 942, 114-127.	3.8	39
81	Clustering of Self-Motion Selectivity and Visual Response Properties in Macaque Area MSTd. Journal of Neurophysiology, 2008, 100, 2669-2683.	1.8	39
82	Canalâ€"Otolith Interactions and Detection Thresholds of Linear and Angular Components During Curved-Path Self-Motion. Journal of Neurophysiology, 2010, 104, 765-773.	1.8	39
83	Low-frequency otolith and semicircular canal interactions after canal inactivation. Experimental Brain Research, 2000, 132, 539-549.	1.5	38
84	Gravity Influences the Visual Representation of Object Tilt in Parietal Cortex. Journal of Neuroscience, 2014, 34, 14170-14180.	3.6	38
85	Multisensory Self-Motion Compensation During Object Trajectory Judgments. Cerebral Cortex, 2015, 25, 619-630.	2.9	38
86	A novel role for visual perspective cues in the neural computation of depth. Nature Neuroscience, 2015, 18, 129-137.	14.8	37
87	Foveal Versus Full-Field Visual Stabilization Strategies for Translational and Rotational Head Movements. Journal of Neuroscience, 2003, 23, 1104-1108.	3.6	36
88	Relationship between Complex and Simple Spike Activity in Macaque Caudal Vermis during Three-Dimensional Vestibular Stimulation. Journal of Neuroscience, 2010, 30, 8111-8126.	3.6	36
89	Heading Tuning in Macaque Area V6. Journal of Neuroscience, 2015, 35, 16303-16314.	3.6	36
90	A gravity-based three-dimensional compass in the mouse brain. Nature Communications, 2020, 11, 1855.	12.8	36

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91	Contribution of correlated noise and selective decoding to choice probability measurements in extrastriate visual cortex. ELife, 2014, 3, .	6.0	36
92	Kinematic Principles of Primate Rotational Vestibulo-Ocular Reflex II. Gravity-Dependent Modulation of Primary Eye Position. Journal of Neurophysiology, 1997, 78, 2203-2216.	1.8	34
93	A simple approach to ignoring irrelevant variables by population decoding based on multisensory neurons. Journal of Neurophysiology, 2016, 116, 1449-1467.	1.8	34
94	Transformation of spatiotemporal dynamics in the macaque vestibular system from otolith afferents to cortex. ELife, 2017, 6, .	6.0	33
95	Responses of Ventral Posterior Thalamus Neurons to Three-Dimensional Vestibular and Optic Flow Stimulation. Journal of Neurophysiology, 2010, 103, 817-826.	1.8	32
96	Joint Representation of Depth from Motion Parallax and Binocular Disparity Cues in Macaque Area MT. Journal of Neuroscience, 2013, 33, 14061-14074.	3.6	32
97	Dissociation of Self-Motion and Object Motion by Linear Population Decoding That Approximates Marginalization. Journal of Neuroscience, 2017, 37, 11204-11219.	3.6	32
98	Tracking the Mindâ€™s Eye: Primate Gaze Behavior during Virtual Visuomotor Navigation Reflects Belief Dynamics. Neuron, 2020, 106, 662-674.e5.	8.1	32
99	Primate Translational Vestibuloocular Reflexes. IV. Changes After Unilateral Labyrinthectomy. Journal of Neurophysiology, 2000, 83, 3005-3018.	1.8	30
100	Reliability-dependent contributions of visual orientation cues in parietal cortex. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 18043-18048.	7.1	30
101	Joint representation of translational and rotational components of optic flow in parietal cortex. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 5077-5082.	7.1	30
102	Detection of rotating gravity signals. Biological Cybernetics, 1992, 67, 523-533.	1.3	29
103	Increased variability but intact integration during visual navigation in Autism Spectrum Disorder. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11158-11166.	7.1	29
104	Optokinetic and Vestibular Responsiveness in the Macaque Rostral Vestibular and Fastigial Nuclei. Journal of Neurophysiology, 2009, 101, 714-720.	1.8	28
105	Response Dynamics and Tilt versus Translation Discrimination in Parietoinsular Vestibular Cortex. Cerebral Cortex, 2011, 21, 563-573.	2.9	28
106	A cross-species neural integration of gravity for motor optimization. Science Advances, 2021, 7, .	10.3	28
107	Role of visual and non-visual cues in constructing a rotation-invariant representation of heading in parietal cortex. ELife, 2015, 4, .	6.0	27
108	Premotor Neurons Encode Torsional Eye Velocity during Smooth-Pursuit Eye Movements. Journal of Neuroscience, 2003, 23, 2971-2979.	3.6	26

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109	Eye-centered visual receptive fields in the ventral intraparietal area. Journal of Neurophysiology, 2014, 112, 353-361.	1.8	26
110	Neuronal thresholds and choice-related activity of otolith afferent fibers during heading perception. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6467-6472.	7.1	26
111	The neural basis of depth perception from motion parallax. Philosophical Transactions of the Royal Society B: Biological Sciences, 2016, 371, 20150256.	4.0	26
112	Flexible coding of object motion in multiple reference frames by parietal cortex neurons. Nature Neuroscience, 2020, 23, 1004-1015.	14.8	26
113	Inactivation of Semicircular Canals Causes Adaptive Increases in Otolith-Driven Tilt Responses. Journal of Neurophysiology, 2002, 87, 1635-1640.	1.8	25
114	Three-Dimensional Ocular Kinematics During Eccentric Rotations: Evidence for Functional Rather Than Mechanical Constraints. Journal of Neurophysiology, 2003, 89, 2685-2696.	1.8	25
115	Three-dimensional organization of vestibular-related eye movements to off-vertical axis rotation and linear translation in pigeons. Experimental Brain Research, 1999, 129, 0391-0400.	1.5	24
116	Spatiotemporal Properties of Optic Flow and Vestibular Tuning in the Cerebellar Nodulus and Uvula. Journal of Neuroscience, 2013, 33, 15145-15160.	3.6	24
117	A Functional Link between MT Neurons and Depth Perception Based on Motion Parallax. Journal of Neuroscience, 2015, 35, 2766-2777.	3.6	23
118	Spatial and temporal coding in single neurons. Biological Cybernetics, 1993, 69, 147-154.	1.3	22
119	Head unrestrained horizontal gaze shifts after unilateral labyrinthectomy in the rhesus monkey. Experimental Brain Research, 2001, 140, 25-33.	1.5	22
120	Long-term deficits in motion detection thresholds and spike count variability after unilateral vestibular lesion. Journal of Neurophysiology, 2014, 112, 870-889.	1.8	22
121	The head direction cell network: attractor dynamics, integration within the navigation system, and three-dimensional properties. Current Opinion in Neurobiology, 2020, 60, 136-144.	4.2	22
122	Visually Induced Adaptation in Three-Dimensional Organization of Primate Vestibuloocular Reflex. Journal of Neurophysiology, 1998, 79, 791-807.	1.8	21
123	Reduced choice-related activity and correlated noise accompany perceptual deficits following unilateral vestibular lesion. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17999-18004.	7.1	21
124	Processing of object motion and self-motion in the lateral subdivision of the medial superior temporal area in macaques. Journal of Neurophysiology, 2019, 121, 1207-1221.	1.8	20
125	Gravity or translation: Central processing of vestibular signals to detect motion or tilt. Journal of Vestibular Research: Equilibrium and Orientation, 2003, 13, 245-253.	2.0	20
126	Neural Correlates of the Dependence of Compensatory Eye Movements During Translation on Target Distance and Eccentricity. Journal of Neurophysiology, 2006, 95, 2530-2540.	1.8	19

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127	Inferring decoding strategies for multiple correlated neural populations. PLoS Computational Biology, 2018, 14, e1006371.	3.2	18
128	Cognitive, Systems, and Computational Neurosciences of the Self in Motion. Annual Review of Psychology, 2022, 73, 103-129.	17.7	18
129	Inertial Processing of Vestibulo-Ocular Signals. Annals of the New York Academy of Sciences, 1999, 871, 148-161.	3.8	16
130	Eye movements reveal spatiotemporal dynamics of visually-informed planning in navigation. ELife, 2022, 11, .	6.0	15
131	Vestibular Neurons Encoding Two-Dimensional Linear Acceleration Assist in the Estimation of Rotational Velocity during Off-Vertical Axis Rotation. Annals of the New York Academy of Sciences, 1992, 656, 910-913.	3.8	14
132	Simple spike dynamics of Purkinje cells in the macaque vestibulo-cerebellum during passive whole-body self-motion. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 3232-3238.	7.1	14
133	Supporting generalization in non-human primate behavior by tapping into structural knowledge: Examples from sensorimotor mappings, inference, and decision-making. Progress in Neurobiology, 2021, 201, 101996.	5.7	14
134	Aberrant causal inference and presence of a compensatory mechanism in autism spectrum disorder. ELife, 2022, 11, .	6.0	14
135	Cross-axis adaptation of the translational vestibulo-ocular reflex. Experimental Brain Research, 2001, 138, 304-312.	1.5	13
136	Genetically eliminating Purkinje neuron GABAergic neurotransmission increases their response gain to vestibular motion. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 3245-3250.	7.1	13
137	Gravity or translation: central processing of vestibular signals to detect motion or tilt. Journal of Vestibular Research: Equilibrium and Orientation, 2003, 13, 245-53.	2.0	13
138	Gain Modulation as a Mechanism for Coding Depth from Motion Parallax in Macaque Area MT. Journal of Neuroscience, 2017, 37, 8180-8197.	3.6	12
139	Time Course of Sensory Substitution for Gravity Sensing in Visual Vertical Orientation Perception following Complete Vestibular Loss. ENeuro, 2020, 7, ENEURO.0021-20.2020.	1.9	11
140	Clustering of heading selectivity and perception-related activity in the ventral intraparietal area. Journal of Neurophysiology, 2018, 119, 1113-1126.	1.8	10
141	Choice-Related Activity during Visual Slant Discrimination in Macaque CIP But Not V3A. ENeuro, 2019, 6, ENEURO.0248-18.2019.	1.9	10
142	How the Vestibulocerebellum Builds an Internal Model of Self-motion. , 2016, , 97-115.		9
143	Optic flow parsing in the macaque monkey. Journal of Vision, 2020, 20, 8.	0.3	9
144	Supervised Multisensory Calibration Signals Are Evident in VIP But Not MSTd. Journal of Neuroscience, 2021, 41, 10108-10119.	3.6	9

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145	Functional Organization of Primate Translational Vestibulo-Ocular Reflexes and Effects of Unilateral Labyrinthectomy. Annals of the New York Academy of Sciences, 1999, 871, 136-147.	3.8	8
146	How Optic Flow and Inertial Cues Improve Motion Perception. Cold Spring Harbor Symposia on Quantitative Biology, 2014, 79, 141-148.	1.1	8
147	Construction of an Improved Multi-Tetrode Hyperdrive for Large-Scale Neural Recording in Behaving Rats. Journal of Visualized Experiments, 2018, , .	0.3	8
148	A model-based reassessment of the three-dimensional tuning of head direction cells in rats. Journal of Neurophysiology, 2019, 122, 1274-1287.	1.8	8
149	Dynamics of Heading and Choice-Related Signals in the Parieto-Insular Vestibular Cortex of Macaque Monkeys. Journal of Neuroscience, 2021, 41, 3254-3265.	3.6	7
150	Influence of sensory modality and control dynamics on human path integration. ELife, 2022, 11, .	6.0	7
151	A neural mechanism for detecting object motion during self-motion. ELife, 0, 11, .	6.0	5
152	Non-uniform temporal scaling of hand and finger kinematics during typing. Experimental Brain Research, 1993, 95, 319-29.	1.5	4
153	Reply to Lawson et al.: A synergistic approach to mental health research. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5227-E5227.	7.1	1