

# Matthew F S Rushworth

## List of Publications by Year in descending order

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149  
papers

27,377  
citations

7087

78  
h-index

9334

143  
g-index

158  
all docs

158  
docs citations

158  
times ranked

18364  
citing authors

#	ARTICLE	IF	CITATIONS
1	Learning the value of information in an uncertain world. <i>Nature Neuroscience</i> , 2007, 10, 1214-1221.	7.1	1,650
2	Frontal Cortex and Reward-Guided Learning and Decision-Making. <i>Neuron</i> , 2011, 70, 1054-1069.	3.8	921
3	Action sets and decisions in the medial frontal cortex. <i>Trends in Cognitive Sciences</i> , 2004, 8, 410-417.	4.0	911
4	Associative learning of social value. <i>Nature</i> , 2008, 456, 245-249.	13.7	825
5	Optimal decision making and the anterior cingulate cortex. <i>Nature Neuroscience</i> , 2006, 9, 940-947.	7.1	802
6	Connectivity-Based Parcellation of Human Cingulate Cortex and Its Relation to Functional Specialization. <i>Journal of Neuroscience</i> , 2009, 29, 1175-1190.	1.7	734
7	Choice, uncertainty and value in prefrontal and cingulate cortex. <i>Nature Neuroscience</i> , 2008, 11, 389-397.	7.1	727
8	The role of ipsilateral premotor cortex in hand movement after stroke. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 14518-14523.	3.3	720
9	On the relationship between the "default mode network" and the "social brain". <i>Frontiers in Human Neuroscience</i> , 2012, 6, 189.	1.0	601
10	How Green Is the Grass on the Other Side? Frontopolar Cortex and the Evidence in Favor of Alternative Courses of Action. <i>Neuron</i> , 2009, 62, 733-743.	3.8	578
11	Neural Mechanisms of Foraging. <i>Science</i> , 2012, 336, 95-98.	6.0	527
12	Separate neural pathways process different decision costs. <i>Nature Neuroscience</i> , 2006, 9, 1161-1168.	7.1	521
13	Semantic Processing in the Left Inferior Prefrontal Cortex: A Combined Functional Magnetic Resonance Imaging and Transcranial Magnetic Stimulation Study. <i>Journal of Cognitive Neuroscience</i> , 2003, 15, 71-84.	1.1	498
14	Effort-Based Cost-Benefit Valuation and the Human Brain. <i>Journal of Neuroscience</i> , 2009, 29, 4531-4541.	1.7	458
15	Contrasting roles for cingulate and orbitofrontal cortex in decisions and social behaviour. <i>Trends in Cognitive Sciences</i> , 2007, 11, 168-176.	4.0	456
16	Connectivity-Based Subdivisions of the Human Right "Temporoparietal Junction Area": Evidence for Different Areas Participating in Different Cortical Networks. <i>Cerebral Cortex</i> , 2012, 22, 1894-1903.	1.6	452
17	Diffusion-Weighted Imaging Tractography-Based Parcellation of the Human Parietal Cortex and Comparison with Human and Macaque Resting-State Functional Connectivity. <i>Journal of Neuroscience</i> , 2011, 31, 4087-4100.	1.7	446
18	Functional Specialization within Medial Frontal Cortex of the Anterior Cingulate for Evaluating Effort-Related Decisions. <i>Journal of Neuroscience</i> , 2003, 23, 6475-6479.	1.7	434

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19	Complementary localization and lateralization of orienting and motor attention. Nature Neuroscience, 2001, 4, 656-661.	7.1	399
20	Mechanisms underlying cortical activity during value-guided choice. Nature Neuroscience, 2012, 15, 470-476.	7.1	394
21	Interactions between decision making and performance monitoring within prefrontal cortex. Nature Neuroscience, 2004, 7, 1259-1265.	7.1	393
22	The Computation of Social Behavior. Science, 2009, 324, 1160-1164.	6.0	391
23	The Anterior Cingulate Gyrus and Social Cognition: Tracking the Motivation of Others. Neuron, 2016, 90, 692-707.	3.8	381
24	Quantitative Investigation of Connections of the Prefrontal Cortex in the Human and Macaque using Probabilistic Diffusion Tractography. Journal of Neuroscience, 2005, 25, 8854-8866.	1.7	371
25	Functional organization of the medial frontal cortex. Current Opinion in Neurobiology, 2007, 17, 220-227.	2.0	368
26	Comparison of Human Ventral Frontal Cortex Areas for Cognitive Control and Language with Areas in Monkey Frontal Cortex. Neuron, 2014, 81, 700-713.	3.8	359
27	The Attentional Role of the Left Parietal Cortex: The Distinct Lateralization and Localization of Motor Attention in the Human Brain. Journal of Cognitive Neuroscience, 2001, 13, 698-710.	1.1	357
28	Value, search, persistence and model updating in anterior cingulate cortex. Nature Neuroscience, 2016, 19, 1280-1285.	7.1	357
29	Separable Learning Systems in the Macaque Brain and the Role of Orbitofrontal Cortex in Contingent Learning. Neuron, 2010, 65, 927-939.	3.8	344
30	Connectivity reveals relationship of brain areas for reward-guided learning and decision making in human and monkey frontal cortex. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E2695-704.	3.3	327
31	The Role of Rat Medial Frontal Cortex in Effort-Based Decision Making. Journal of Neuroscience, 2002, 22, 10996-11003.	1.7	317
32	Attention Systems and the Organization of the Human Parietal Cortex. Journal of Neuroscience, 2001, 21, 5262-5271.	1.7	308
33	Diffusion-Weighted Imaging Tractography-Based Parcellation of the Human Lateral Premotor Cortex Identifies Dorsal and Ventral Subregions with Anatomical and Functional Specializations. Journal of Neuroscience, 2007, 27, 10259-10269.	1.7	303
34	Frontal Cortex Subregions Play Distinct Roles in Choices between Actions and Stimuli. Journal of Neuroscience, 2008, 28, 13775-13785.	1.7	299
35	Using Diffusion Imaging to Study Human Connectional Anatomy. Annual Review of Neuroscience, 2009, 32, 75-94.	5.0	289
36	Dissociable effects of surprise and model update in parietal and anterior cingulate cortex. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3660-9.	3.3	277

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37	Functionally Specific Reorganization in Human Premotor Cortex. <i>Neuron</i> , 2007, 54, 479-490.	3.8	274
38	The left parietal cortex and motor attention. <i>Neuropsychologia</i> , 1997, 35, 1261-1273.	0.7	266
39	Valuation and decision-making in frontal cortex: one or many serial or parallel systems?. <i>Current Opinion in Neurobiology</i> , 2012, 22, 946-955.	2.0	265
40	Manipulation of Subcortical and Deep Cortical Activity in the Primate Brain Using Transcranial Focused Ultrasound Stimulation. <i>Neuron</i> , 2019, 101, 1109-1116.e5.	3.8	253
41	Cortical and subcortical interactions during action reprogramming and their related white matter pathways. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 13240-13245.	3.3	225
42	Components of Switching Intentional Set. <i>Journal of Cognitive Neuroscience</i> , 2002, 14, 1139-1150.	1.1	224
43	Response-Selection-Related Parietal Activation during Number Comparison. <i>Journal of Cognitive Neuroscience</i> , 2004, 16, 1536-1551.	1.1	216
44	Causal effect of disconnection lesions on interhemispheric functional connectivity in rhesus monkeys. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 13982-13987.	3.3	195
45	An Open Resource for Non-human Primate Imaging. <i>Neuron</i> , 2018, 100, 61-74.e2.	3.8	190
46	Parietal cortex and movement. <i>Experimental Brain Research</i> , 1997, 117, 292-310.	0.7	188
47	Ventral Prefrontal Cortex Is Not Essential for Working Memory. <i>Journal of Neuroscience</i> , 1997, 17, 4829-4838.	1.7	176
48	FEF TMS Affects Visual Cortical Activity. <i>Cerebral Cortex</i> , 2006, 17, 391-399.	1.6	176
49	Topography of connections between human prefrontal cortex and mediodorsal thalamus studied with diffusion tractography. <i>NeuroImage</i> , 2010, 51, 555-564.	2.1	165
50	Neural correlates of visuomotor associations. <i>Experimental Brain Research</i> , 2001, 141, 359-369.	0.7	164
51	Multiple Neural Mechanisms of Decision Making and Their Competition under Changing Risk Pressure. <i>Neuron</i> , 2014, 81, 1190-1202.	3.8	154
52	Short-Latency Influence of Medial Frontal Cortex on Primary Motor Cortex during Action Selection under Conflict. <i>Journal of Neuroscience</i> , 2009, 29, 6926-6931.	1.7	152
53	Connectivity profiles reveal the relationship between brain areas for social cognition in human and monkey temporoparietal cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 10806-10811.	3.3	149
54	Subsecond Changes in Top-down Control Exerted by Human Medial Frontal Cortex during Conflict and Action Selection: A Combined Transcranial Magnetic Stimulation-electroencephalography Study. <i>Journal of Neuroscience</i> , 2007, 27, 11343-11353.	1.7	145

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55	The macaque anterior cingulate cortex translates counterfactual choice value into actual behavioral change. <i>Nature Neuroscience</i> , 2019, 22, 797-808.	7.1	143
56	Adaptive decision making and value in the anterior cingulate cortex. <i>NeuroImage</i> , 2007, 36, T142-T154.	2.1	139
57	Contrasting Roles for Orbitofrontal Cortex and Amygdala in Credit Assignment and Learning in Macaques. <i>Neuron</i> , 2015, 87, 1106-1118.	3.8	138
58	A Network Centered on Ventral Premotor Cortex Exerts Both Facilitatory and Inhibitory Control over Primary Motor Cortex during Action Reprogramming. <i>Journal of Neuroscience</i> , 2010, 30, 1395-1401.	1.7	134
59	Distributed and causal influence of frontal operculum in task control. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 4230-4235.	3.3	133
60	A Neural Circuit Covarying with Social Hierarchy in Macaques. <i>PLoS Biology</i> , 2014, 12, e1001940.	2.6	133
61	Are there specialized circuits for social cognition and are they unique to humans?. <i>Current Opinion in Neurobiology</i> , 2013, 23, 436-442.	2.0	131
62	Functional specificity of human premotorâ€“motor cortical interactions during action selection. <i>European Journal of Neuroscience</i> , 2007, 26, 2085-2095.	1.2	128
63	Individual Differences in White-Matter Microstructure Reflect Variation in Functional Connectivity during Choice. <i>Current Biology</i> , 2007, 17, 1426-1431.	1.8	124
64	Contrasting Effects of Medial and Lateral Orbitofrontal Cortex Lesions on Credit Assignment and Decision-Making in Humans. <i>Journal of Neuroscience</i> , 2017, 37, 7023-7035.	1.7	123
65	Functional Specialization of the Primate Frontal Cortex during Decision Making. <i>Journal of Neuroscience</i> , 2007, 27, 8170-8173.	1.7	118
66	The Effect of Cingulate Cortex Lesions on Task Switching and Working Memory. <i>Journal of Cognitive Neuroscience</i> , 2003, 15, 338-353.	1.1	117
67	Comparing brains by matching connectivity profiles. <i>Neuroscience and Biobehavioral Reviews</i> , 2016, 60, 90-97.	2.9	117
68	A neural mechanism underlying failure of optimal choice with multiple alternatives. <i>Nature Neuroscience</i> , 2014, 17, 463-470.	7.1	116
69	Self-Other Mergence in the Frontal Cortex during Cooperation and Competition. <i>Neuron</i> , 2016, 91, 482-493.	3.8	115
70	<i>Intention, Choice, and the Medial Frontal Cortex</i>. <i>Annals of the New York Academy of Sciences</i> , 2008, 1124, 181-207.	1.8	114
71	Distinct contributions of frontal areas to emotion and social behaviour in the rat. <i>European Journal of Neuroscience</i> , 2007, 26, 2315-2326.	1.2	112
72	Comparing the role of the anterior cingulate cortex and 6â€“hydroxydopamine nucleus accumbens lesions on operant effortâ€“based decision making. <i>European Journal of Neuroscience</i> , 2009, 29, 1678-1691.	1.2	112

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73	Noninvasive Associative Plasticity Induction in a Corticocortical Pathway of the Human Brain. <i>Journal of Neuroscience</i> , 2011, 31, 17669-17679.	1.7	112
74	Predictive decision making driven by multiple time-linked reward representations in the anterior cingulate cortex. <i>Nature Communications</i> , 2016, 7, 12327.	5.8	111
75	TMS in the parietal cortex: Updating representations for attention and action. <i>Neuropsychologia</i> , 2006, 44, 2700-2716.	0.7	110
76	General mechanisms for making decisions?. <i>Current Opinion in Neurobiology</i> , 2009, 19, 75-83.	2.0	108
77	Parietal rTMS Disrupts the Initiation but not the Execution of On-line Adjustments to a Perturbation of Object Size. <i>Journal of Cognitive Neuroscience</i> , 2005, 17, 124-136.	1.1	100
78	The left hemisphere and the selection of learned actions. <i>Neuropsychologia</i> , 1998, 36, 11-24.	0.7	99
79	The extreme capsule fiber complex in humans and macaque monkeys: a comparative diffusion MRI tractography study. <i>Brain Structure and Function</i> , 2016, 221, 4059-4071.	1.2	91
80	Attentional Selection and Action Selection in the Ventral and Orbital Prefrontal Cortex. <i>Journal of Neuroscience</i> , 2005, 25, 11628-11636.	1.7	87
81	Calculating the Cost of Acting in Frontal Cortex. <i>Annals of the New York Academy of Sciences</i> , 2007, 1104, 340-356.	1.8	85
82	Giving credit where credit is due: orbitofrontal cortex and valuation in an uncertain world. <i>Annals of the New York Academy of Sciences</i> , 2011, 1239, 14-24.	1.8	85
83	Neural Mechanisms of Social Cognition in Primates. <i>Annual Review of Neuroscience</i> , 2018, 41, 99-118.	5.0	82
84	The Good, the Bad, and the Irrelevant: Neural Mechanisms of Learning Real and Hypothetical Rewards and Effort. <i>Journal of Neuroscience</i> , 2015, 35, 11233-11251.	1.7	74
85	Effects of Decision Variables and Intraparietal Stimulation on Sensorimotor Oscillatory Activity in the Human Brain. <i>Journal of Neuroscience</i> , 2012, 32, 13805-13818.	1.7	73
86	Reward-Guided Learning with and without Causal Attribution. <i>Neuron</i> , 2016, 90, 177-190.	3.8	69
87	A Basal Forebrain-Cingulate Circuit in Macaques Decides It Is Time to Act. <i>Neuron</i> , 2020, 105, 370-384.e8.	3.8	69
88	Simultaneous representation of a spectrum of dynamically changing value estimates during decision making. <i>Nature Communications</i> , 2017, 8, 1942.	5.8	66
89	Frontal and Parietal Cortical Interactions with Distributed Visual Representations during Selective Attention and Action Selection. <i>Journal of Neuroscience</i> , 2013, 33, 16443-16458.	1.7	62
90	Neural mechanisms for learning self and other ownership. <i>Nature Communications</i> , 2018, 9, 4747.	5.8	61

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91	Cognitive Neuroscience: Resolving Conflict in and over the Medial Frontal Cortex. <i>Current Biology</i> , 2005, 15, R54-R56.	1.8	60
92	Controlling Human Striatal Cognitive Function via the Frontal Cortex. <i>Journal of Neuroscience</i> , 2012, 32, 5631-5637.	1.7	60
93	Top-down Inhibitory Control Exerted by the Medial Frontal Cortex during Action Selection under Conflict. <i>Journal of Cognitive Neuroscience</i> , 2013, 25, 1634-1648.	1.1	56
94	Causal manipulation of functional connectivity in a specific neural pathway during behaviour and at rest. <i>ELife</i> , 2015, 4, .	2.8	55
95	Parietal cortex and movement. <i>Experimental Brain Research</i> , 1997, 117, 311-323.	0.7	54
96	Neural Mechanisms of Credit Assignment in a Multicue Environment. <i>Journal of Neuroscience</i> , 2016, 36, 1096-1112.	1.7	53
97	Medial and orbital frontal cortex in decision-making and flexible behavior. <i>Neuron</i> , 2022, 110, 2743-2770.	3.8	53
98	Activation and disruption of a neural mechanism for novel choice in monkeys. <i>Nature</i> , 2021, 591, 270-274.	13.7	52
99	Combining brain perturbation and neuroimaging in non-human primates. <i>NeuroImage</i> , 2021, 235, 118017.	2.1	50
100	Prospection, Perseverance, and Insight in Sequential Behavior. <i>Neuron</i> , 2018, 99, 1069-1082.e7.	3.8	49
101	Global reward state affects learning and activity in raphe nucleus and anterior insula in monkeys. <i>Nature Communications</i> , 2020, 11, 3771.	5.8	49
102	Foraging under Competition: The Neural Basis of Input-Matching in Humans. <i>Journal of Neuroscience</i> , 2013, 33, 9866-9872.	1.7	48
103	Trial-Type Dependent Frames of Reference for Value Comparison. <i>PLoS Computational Biology</i> , 2013, 9, e1003225.	1.5	48
104	A Common Space Approach to Comparative Neuroscience. <i>Annual Review of Neuroscience</i> , 2021, 44, 69-86.	5.0	48
105	Category-related activation for written words in the posterior fusiform is task specific. <i>Neuropsychologia</i> , 2005, 43, 69-74.	0.7	47
106	Inverted activity patterns in ventromedial prefrontal cortex during value-guided decision-making in a less-is-more task. <i>Nature Communications</i> , 2017, 8, 1886.	5.8	44
107	Polarity of uncertainty representation during exploration and exploitation in ventromedial prefrontal cortex. <i>Nature Human Behaviour</i> , 2021, 5, 83-98.	6.2	40
108	Model-based analyses: Promises, pitfalls, and example applications to the study of cognitive control. <i>Quarterly Journal of Experimental Psychology</i> , 2012, 65, 252-267.	0.6	38

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109	Chapter 33 The parietal cortex in visual search: a visuomotor hypothesis. Supplements To Clinical Neurophysiology, 2003, 56, 321-330.	2.1	37
110	Beyond negative valence: 2-week administration of a serotonergic antidepressant enhances both reward and effort learning signals. PLoS Biology, 2017, 15, e2000756.	2.6	37
111	Brain Systems for Probabilistic and Dynamic Prediction: Computational Specificity and Integration. PLoS Biology, 2013, 11, e1001662.	2.6	35
112	Choosing Where to Attend and the Medial Frontal Cortex: An fMRI Study. Journal of Neurophysiology, 2008, 100, 1397-1406.	0.9	32
113	Multiple associative structures created by reinforcement and incidental statistical learning mechanisms. Nature Communications, 2019, 10, 4835.	5.8	29
114	Modulation of short intra-cortical inhibition during action reprogramming. Experimental Brain Research, 2011, 211, 265-276.	0.7	28
115	Differential functional connectivity underlying asymmetric reward-related activity in human and nonhuman primates. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 28452-28462.	3.3	28
116	Ultrasound modulation of macaque prefrontal cortex selectively alters credit assignment-related activity and behavior. Science Advances, 2021, 7, eabg7700.	4.7	27
117	Imaging causal interactions during sensorimotor processing. Cortex, 2008, 44, 598-608.	1.1	26
118	Interactions between ventrolateral prefrontal and anterior cingulate cortex during learning and behavioural change. Neuropsychopharmacology, 2022, 47, 196-210.	2.8	25
119	Behavioral flexibility is associated with changes in structure and function distributed across a frontal cortical network in macaques. PLoS Biology, 2020, 18, e3000605.	2.6	24
120	Causal manipulation of self-other mergence in the dorsomedial prefrontal cortex. Neuron, 2021, 109, 2353-2361.e11.	3.8	24
121	Previously Reward-Associated Stimuli Capture Spatial Attention in the Absence of Changes in the Corresponding Sensory Representations as Measured with MEG. Journal of Neuroscience, 2020, 40, 5033-5050.	1.7	23
122	Cognitive Neuroscience: Acting on Numbers. Current Biology, 2004, 14, R517-R519.	1.8	22
123	Effects of an orientation illusion on motor performance and motor imagery. Experimental Brain Research, 2005, 166, 17-22.	0.7	20
124	Identification and disruption of a neural mechanism for accumulating prospective metacognitive information prior to decision-making. Neuron, 2021, 109, 1396-1408.e7.	3.8	19
125	The Timing of Neural Activity during Shifts of Spatial Attention. Journal of Cognitive Neuroscience, 2009, 21, 2369-2383.	1.1	16
126	Social prediction modulates activity of macaque superior temporal cortex. Science Advances, 2021, 7, eabh2392.	4.7	15



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127	Increasing and decreasing interregional brain coupling increases and decreases oscillatory activity in the human brain. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	15
128	Human decisions about when to act originate within a basal forebrainâ€“nigral circuit. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11799-11810.	3.3	14
129	Anatomical and functional subdivision within the primate lateral prefrontal cortex. Cognitive, Affective and Behavioral Neuroscience, 2000, 28, 187-196.	1.2	14
130	Multiple systems in macaques for tracking prediction errors and other types of surprise. PLoS Biology, 2020, 18, e3000899.	2.6	13
131	Conceptual Representation and the Making of New Decisions. Neuron, 2009, 63, 721-723.	3.8	12
132	The effect of apathy and compulsivity on planning and stopping in sequential decision-making. PLoS Biology, 2022, 20, e3001566.	2.6	12
133	A habenula-insular circuit encodes the willingness to act. Nature Communications, 2021, 12, 6329.	5.8	10
134	A Paradoxical Role for Inhibition in Initiation. Neuron, 2007, 54, 669-670.	3.8	9
135	Unilateral medial frontal cortex lesions cause a cognitive decisionâ€“making deficit in rats. European Journal of Neuroscience, 2014, 40, 3757-3765.	1.2	9
136	Complementary roles of serotonergic and cholinergic systems in decisions about when to act. Current Biology, 2022, 32, 1150-1162.e7.	1.8	9
137	Should I stay or should I go: genetic bases for uncertainty-driven exploration. Nature Neuroscience, 2009, 12, 963-965.	7.1	6
138	Combining Correlation and Interference Methods in the Human Brain. Focus on â€œCortico-Cortical Interactions in Spatial Attention: A Combined ERP/TMS Studyâ€. Journal of Neurophysiology, 2006, 95, 2731-2732.	0.9	3
139	Whatâ€™s Worth the Risk? A Neural Circuit for Trade-Offs. Cell, 2015, 161, 1243-1244.	13.5	3
140	Impact of internal and external factors on prosocial choices in rhesus macaques. Philosophical Transactions of the Royal Society B: Biological Sciences, 2021, 376, 20190678.	1.8	2
141	Obsessing about Uncertainty?. Neuron, 2017, 96, 250-252.	3.8	1
142	Introducing the PLOS ONE Collection on the neuroscience of reward and decision making. PLoS ONE, 2020, 15, e0240505.	1.1	1
143	Computational Model of the User's Learning Process When Cued by a Social Versus Non-Social Agent. , 2018, , .		0
144	Multiple systems in macaques for tracking prediction errors and other types of surprise. , 2020, 18, e3000899.		0

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145	Multiple systems in macaques for tracking prediction errors and other types of surprise. , 2020, 18, e3000899.		0
146	Multiple systems in macaques for tracking prediction errors and other types of surprise. , 2020, 18, e3000899.		0
147	Multiple systems in macaques for tracking prediction errors and other types of surprise. , 2020, 18, e3000899.		0
148	Multiple systems in macaques for tracking prediction errors and other types of surprise. , 2020, 18, e3000899.		0
149	Multiple systems in macaques for tracking prediction errors and other types of surprise. , 2020, 18, e3000899.		0