Christoph D Mathys

List of Publications by Year
in descending order

62 papers	5,498 citations	159585 30 h-index	168389 53 g-index
79 all docs	79 docs citations	79 times ranked	4155 citing authors

#	Article	IF	Citations
1	Pavlovian conditioning–induced hallucinations result from overweighting of perceptual priors. Science, 2017, 357, 596-600.	12.6	515
2	Active inference and epistemic value. Cognitive Neuroscience, 2015, 6, 187-214.	1.4	476
3	A Bayesian foundation for individual learning under uncertainty. Frontiers in Human Neuroscience, 2011, 5, 39.	2.0	460
4	Adults with autism overestimate the volatility of the sensory environment. Nature Neuroscience, 2017, 20, 1293-1299.	14.8	325
5	Uncertainty in perception and the Hierarchical Gaussian Filter. Frontiers in Human Neuroscience, 2014, 8, 825.	2.0	286
6	Hierarchical Prediction Errors in Midbrain and Basal Forebrain during Sensory Learning. Neuron, 2013, 80, 519-530.	8.1	285
7	Allostatic Self-efficacy: A Metacognitive Theory of Dyshomeostasis-Induced Fatigue and Depression. Frontiers in Human Neuroscience, 2016, 10, 550.	2.0	256
8	Computations of uncertainty mediate acute stress responses in humans. Nature Communications, 2016, 7, 10996.	12.8	216
9	Computational approaches to psychiatry. Current Opinion in Neurobiology, 2014, 25, 85-92.	4.2	203
10	Dynamic causal modelling revisited. NeuroImage, 2019, 199, 730-744.	4.2	196
11	The Dopaminergic Midbrain Encodes the Expected Certainty about Desired Outcomes. Cerebral Cortex, 2015, 25, 3434-3445.	2.9	158
12	Action–perception mismatch in tone-deafness. Current Biology, 2008, 18, R331-R332.	3.9	151
13	Spatial Attention, Precision, and Bayesian Inference: A Study of Saccadic Response Speed. Cerebral Cortex, 2014, 24, 1436-1450.	2.9	151
14	Inferring on the Intentions of Others by Hierarchical Bayesian Learning. PLoS Computational Biology, 2014, 10, e1003810.	3.2	134
15	Role of the Medial Prefrontal Cortex in Impaired Decision Making in Juvenile Attention-Deficit/Hyperactivity Disorder. JAMA Psychiatry, 2014, 71, 1165.	11.0	133
16	Scene Construction, Visual Foraging, and Active Inference. Frontiers in Computational Neuroscience, 2016, 10, 56.	2.1	133
17	Hierarchical prediction errors in midbrain and septum during social learning. Social Cognitive and Affective Neuroscience, 2017, 12, 618-634.	3.0	103
18	Cortical Coupling Reflects Bayesian Belief Updating in the Deployment of Spatial Attention. Journal of Neuroscience, 2015, 35, 11532-11542.	3.6	92

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19	Pharmacological Fingerprints of Contextual Uncertainty. PLoS Biology, 2016, 14, e1002575.	5.6	91
20	Beliefs about bad people are volatile. Nature Human Behaviour, 2018, 2, 750-756.	12.0	82
21	Optimal inference with suboptimal models: Addiction and active Bayesian inference. Medical Hypotheses, 2015, 84, 109-117.	1.5	80
22	TAPAS: An Open-Source Software Package for Translational Neuromodeling and Computational Psychiatry. Frontiers in Psychiatry, 2021, 12, 680811.	2.6	69
23	Human visual exploration reduces uncertainty about the sensed world. PLoS ONE, 2018, 13, e0190429.	2.5	66
24	Paranoia as a deficit in non-social belief updating. ELife, 2020, 9, .	6.0	65
25	Evidence for surprise minimization over value maximization in choice behavior. Scientific Reports, 2015, 5, 16575.	3.3	63
26	Non-Invasive Brain Stimulation Applied to Heschl's Gyrus Modulates Pitch Discrimination. Frontiers in Psychology, 2010, 1, 193.	2.1	61
27	Paranoia and belief updating during the COVID-19 crisis. Nature Human Behaviour, 2021, 5, 1190-1202.	12.0	59
28	Cholinergic Stimulation Enhances Bayesian Belief Updating in the Deployment of Spatial Attention. Journal of Neuroscience, 2014, 34, 15735-15742.	3.6	57
29	Attractor-like Dynamics in Belief Updating in Schizophrenia. Journal of Neuroscience, 2018, 38, 9471-9485.	3.6	51
30	Ketamine Affects Prediction Errors about Statistical Regularities: A Computational Single-Trial Analysis of the Mismatch Negativity. Journal of Neuroscience, 2020, 40, 5658-5668.	3.6	44
31	Atypical processing of uncertainty in individuals at risk for psychosis. NeuroImage: Clinical, 2020, 26, 102239.	2.7	37
32	Aberrant computational mechanisms of social learning and decision-making in schizophrenia and borderline personality disorder. PLoS Computational Biology, 2020, 16, e1008162.	3.2	33
33	Volatility Estimates Increase Choice Switching and Relate to Prefrontal Activity in Schizophrenia. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 2020, 5, 173-183.	1.5	32
34	Cholinergic and dopaminergic effects on prediction error and uncertainty responses during sensory associative learning. NeuroImage, 2021, 226, 117590.	4.2	31
35	Variational Bayesian mixed-effects inference for classification studies. NeuroImage, 2013, 76, 345-361.	4.2	30
36	Moral dilemmas and trust in leaders during a global health crisis. Nature Human Behaviour, 2021, 5, 1074-1088.	12.0	27

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37	Variability in Action Selection Relates to Striatal Dopamine 2/3 Receptor Availability in Humans: A PET Neuroimaging Study Using Reinforcement Learning and Active Inference Models. Cerebral Cortex, 2020, 30, 3573-3589.	2.9	24
38	Hierarchical Bayesian models of social inference for probing persecutory delusional ideation.. Journal of Abnormal Psychology, 2020, 129, 556-569.	1.9	24
39	Modeling subjective relevance in schizophrenia and its relation to aberrant salience. PLoS Computational Biology, 2018, 14, e1006319.	3.2	23
40	A unifying Bayesian account of contextual effects in value-based choice. PLoS Computational Biology, 2017, 13, e1005769.	3.2	21
41	Representational Uncertainty in the Brain DuringÂThreat Conditioning and the Link WithÂPsychopathic Traits. Biological Psychiatry: Cognitive Neuroscience and Neuroimaging, 2017, 2, 689-695.	1.5	18
42	Bayesian modelling captures inter-individual differences in social belief computations in the putamen and insula. Cortex, 2020, 131, 221-236.	2.4	16
43	Conditioned Hallucinations and Prior Overweighting Are State-Sensitive Markers of Hallucination Susceptibility. Biological Psychiatry, 2022, 92, 772-780.	1.3	16
44	Subjective estimates of uncertainty during gambling and impulsivity after subthalamic deep brain stimulation for Parkinsonâ€™s disease. Scientific Reports, 2019, 9, 14795.	3.3	15
45	Neural arbitration between social and individual learning systems. ELife, 2020, 9, .	6.0	14
46	A generative framework for the study of delusions. Schizophrenia Research, 2022, 245, 42-49.	2.0	12
47	Updating beliefs beyond the here-and-now: the counter-factual self in anosognosia for hemiplegia. Brain Communications, 2021, 3, fcab098.	3.3	11
48	Computational modeling of perceptual inference: A hierarchical Bayesian approach that allows for individual and contextual differences in weighting of input. International Journal of Psychophysiology, 2012, 85, 317-318.	1.0	5
49	F157. HIERARCHICAL PREDICTION ERRORS DURING AUDITORY MISMATCH UNDER PHARMACOLOGICAL MANIPULATIONS: A COMPUTATIONAL SINGLE-TRIAL EEG ANALYSIS. Schizophrenia Bulletin, 2018, 44, S281-S282.	4.3	2
50	The Switching Hierarchical Gaussian Filter. , 2021, , .		2
51	How Could We Get Nosology from Computation?. , 2016, , .		2
52	A Novel Framework for Improving Psychiatric Diagnostic Nosology. , 2016, , .		2
53	F150. OVERESTIMATING ENVIRONMENTAL VOLATILITY INCREASES SWITCHING BEHAVIOR AND IS LINKED TO ACTIVATION OF DORSOLATERAL PREFRONTAL CORTEX IN SCHIZOPHRENIA. Schizophrenia Bulletin, 2018, 44, S278-S278.	4.3	1
54	Playing with free energy. Neuropsychoanalysis, 2020, 22, 81-82.	0.7	1

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55	Poster #M80 SCHIZOTYPY IS ASSOCIATED WITH A "REVERSAL INFERENCE" DEFICIT BUT NO "JUMPING TO CONCLUSIONS" Schizophrenia Research, 2014, 153, S218-S219.	2.0	0
56	Editorial Note to: Hierarchical Prediction Errors in Midbrain and Basal Forebrain during Sensory Learning. Neuron, 2019, 101, 1195.	8.1	0
57	29.1 COMPUTATIONAL MODELING OF PERCEPTION AND BEHAVIOR REVEALS HIDDEN INSIGHTS INTO MECHANISMS OF PSYCHOTIC SYMPTOMS. Schizophrenia Bulletin, 2019, 45, S136-S136.	4.3	0
58	T64. LINKING SUBCLINICAL PERSECUTORY IDEATION TO INFLEXIBLE SOCIAL INFERENCE UNDER UNCERTAINTY. Schizophrenia Bulletin, 2020, 46, S255-S256.	4.3	0
59	Title is missing!. , 2020, 16, e1008162.		0
60	Title is missing!. , 2020, 16, e1008162.		0
61	Title is missing!. , 2020, 16, e1008162.		0
62	Title is missing!. , 2020, 16, e1008162.		0