Christoph D Mathys

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

62 papers	3,691 citations	28 h-index	60 g-index
79 ext. papers	4,895 ext. citations	6.3 avg, IF	5.91 L-index

#	Paper	IF	Citations
62	Active inference and epistemic value. *Cognitive Neuroscience*, **2015**, 6, 187-214	1.7	350
61	Pavlovian conditioning-induced hallucinations result from overweighting of perceptual priors. *Science*, **2017**, 357, 596-600	33.3	333
60	A bayesian foundation for individual learning under uncertainty. *Frontiers in Human Neuroscience*, **2011**, 5, 39	3.3	311
59	Hierarchical prediction errors in midbrain and basal forebrain during sensory learning. *Neuron*, **2013** , 80, 519-30	13.9	200
58	Adults with autism overestimate the volatility of the sensory environment. *Nature Neuroscience*, **2017**, 20, 1293-1299	25.5	186
57	Allostatic Self-efficacy: A Metacognitive Theory of Dyshomeostasis-Induced Fatigue and Depression. *Frontiers in Human Neuroscience*, **2016**, 10, 550	3.3	169
56	Uncertainty in perception and the Hierarchical Gaussian Filter. *Frontiers in Human Neuroscience*, **2014**, 8, 825	3.3	165
55	Computational approaches to psychiatry. *Current Opinion in Neurobiology*, **2014**, 25, 85-92	7.6	159
54	Action-perception mismatch in tone-deafness. *Current Biology*, **2008**, 18, R331-2	6.3	140
53	Computations of uncertainty mediate acute stress responses in humans. *Nature Communications*, **2016**, 7, 10996	17.4	139
52	Spatial attention, precision, and Bayesian inference: a study of saccadic response speed. *Cerebral Cortex*, **2014**, 24, 1436-50	5.1	127
51	The Dopaminergic Midbrain Encodes the Expected Certainty about Desired Outcomes. *Cerebral Cortex*, **2015**, 25, 3434-45	5.1	114
50	Scene Construction, Visual Foraging, and Active Inference. *Frontiers in Computational Neuroscience*, **2016**, 10, 56	3.5	102
49	Inferring on the intentions of others by hierarchical Bayesian learning. *PLoS Computational Biology*, **2014**, 10, e1003810	5	97
48	Dynamic causal modelling revisited. *NeuroImage*, **2019**, 199, 730-744	7.9	97
47	Role of the medial prefrontal cortex in impaired decision making in juvenile attention-deficit/hyperactivity disorder. *JAMA Psychiatry*, **2014**, 71, 1165-73	14.5	88
46	29.1 COMPUTATIONAL MODELING OF PERCEPTION AND BEHAVIOR REVEALS HIDDEN INSIGHTS INTO MECHANISMS OF PSYCHOTIC SYMPTOMS. *Schizophrenia Bulletin*, **2019**, 45, S136-S136	1.3	78

45	T64. LINKING SUBCLINICAL PERSECUTORY IDEATION TO INFLEXIBLE SOCIAL INFERENCE UNDER UNCERTAINTY. *Schizophrenia Bulletin*, **2020**, 46, S255-S256	1.3	78
44	Cortical Coupling Reflects Bayesian Belief Updating in the Deployment of Spatial Attention. *Journal of Neuroscience*, **2015**, 35, 11532-42	6.6	68
43	Optimal inference with suboptimal models: addiction and active Bayesian inference. *Medical Hypotheses*, **2015**, 84, 109-17	3.8	60
42	Hierarchical prediction errors in midbrain and septum during social learning. *Social Cognitive and Affective Neuroscience*, **2017**, 12, 618-634	4	58
41	Pharmacological Fingerprints of Contextual Uncertainty. *PLoS Biology*, **2016**, 14, e1002575	9.7	55
40	Non-invasive brain stimulation applied to Heschl's gyrus modulates pitch discrimination. *Frontiers in Psychology*, **2010**, 1, 193	3.4	52
39	Human visual exploration reduces uncertainty about the sensed world. *PLoS ONE*, **2018**, 13, e0190429	3.7	50
38	Beliefs about bad people are volatile. *Nature Human Behaviour*, **2018**, 2, 750-756	12.8	49
37	Evidence for surprise minimization over value maximization in choice behavior. *Scientific Reports*, **2015**, 5, 16575	4.9	40
36	Cholinergic stimulation enhances Bayesian belief updating in the deployment of spatial attention. *Journal of Neuroscience*, **2014**, 34, 15735-42	6.6	36
35	Variational Bayesian mixed-effects inference for classification studies. *NeuroImage*, **2013**, 76, 345-61	7.9	28
34	Attractor-like Dynamics in Belief Updating in Schizophrenia. *Journal of Neuroscience*, **2018**, 38, 9471-9485	5.6	28
33	Paranoia as a deficit in non-social belief updating. *ELife*, **2020**, 9,	8.9	18
32	Paranoia and belief updating during the COVID-19 crisis. *Nature Human Behaviour*, **2021**, 5, 1190-1202	12.8	16
31	Representational Uncertainty in the Brain During Threat Conditioning and the Link With Psychopathic Traits. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, **2017**, 2, 689-695	3.4	15
30	Ketamine Affects Prediction Errors about Statistical Regularities: A Computational Single-Trial Analysis of the Mismatch Negativity. *Journal of Neuroscience*, **2020**, 40, 5658-5668	6.6	15
29	Volatility Estimates Increase Choice Switching and Relate to Prefrontal Activity in Schizophrenia. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, **2020**, 5, 173-183	3.4	15
28	Atypical processing of uncertainty in individuals at risk for psychosis. *NeuroImage: Clinical*, **2020**, 26, 102239	3.9	14

27	A unifying Bayesian account of contextual effects in value-based choice. *PLoS Computational Biology*, **2017**, 13, e1005769	5	14
26	Modeling subjective relevance in schizophrenia and its relation to aberrant salience. *PLoS Computational Biology*, **2018**, 14, e1006319	5	13
25	Aberrant computational mechanisms of social learning and decision-making in schizophrenia and borderline personality disorder. *PLoS Computational Biology*, **2020**, 16, e1008162	5	13
24	TAPAS: An Open-Source Software Package for Translational Neuromodeling and Computational Psychiatry. *Frontiers in Psychiatry*, **2021**, 12, 680811	5	13
23	Subjective estimates of uncertainty during gambling and impulsivity after subthalamic deep brain stimulation for Parkinson's disease. *Scientific Reports*, **2019**, 9, 14795	4.9	12
22	Moral dilemmas and trust in leaders during a global health crisis. *Nature Human Behaviour*, **2021**, 5, 1074-1088	11.8	11
21	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	5.1	10
20	Hierarchical Bayesian models of social inference for probing persecutory delusional ideation. *Journal of Abnormal Psychology*, **2020**, 129, 556-569	7	8
19	Bayesian modelling captures inter-individual differences in social belief computations in the putamen and insula. *Cortex*, **2020**, 131, 221-236	3.8	7
18	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	2.9	5
17	Ketamine Affects Prediction Errors about Statistical Regularities: A Computational Single-Trial Analysis of the Mismatch Negativity		5
16	Funktionelle und effektive Konnektivität. *Klinische Neurophysiologie*, **2009**, 40, 222-232	0.2	4
15	Cholinergic and dopaminergic effects on prediction error and uncertainty responses during sensory associative learning. *NeuroImage*, **2021**, 226, 117590	7.9	3
14	A generative framework for the study of delusions. *Schizophrenia Research*, **2021**,	3.6	3
13	How Could We Get Nosology from Computation? **2016**,		2
12	Neural arbitration between social and individual learning systems. *ELife*, **2020**, 9,	8.9	2
11	Updating beliefs beyond the here-and-now: the counter-factual self in anosognosia for hemiplegia. *Brain Communications*, **2021**, 3, fcab098	4.5	2
10	F157. HIERARCHICAL PREDICTION ERRORS DURING AUDITORY MISMATCH UNDER PHARMACOLOGICAL MANIPULATIONS: A COMPUTATIONAL SINGLE-TRIAL EEG ANALYSIS. *Schizophrenia Bulletin*, **2018**, 44, S281-S282	1.3	1

9	Hierarchical Gaussian Filtering of Sufficient Statistic Time Series for Active Inference. *Communications in Computer and Information Science*, **2020**, 52-58	0.3	1
8	Playing with free energy. *Neuropsychoanalysis*, **2020**, 22, 81-82	0.8	1
7	Volatility estimates increase choice switching and relate to prefrontal activity in schizophrenia		1
6	F150. OVERESTIMATING ENVIRONMENTAL VOLATILITY INCREASES SWITCHING BEHAVIOR AND IS LINKED TO ACTIVATION OF DORSOLATERAL PREFRONTAL CORTEX IN SCHIZOPHRENIA. *Schizophrenia Bulletin*, **2018**, 44, S278-S278	1.3	0
5	Inferring in Circles: Active Inference in Continuous State Space Using Hierarchical Gaussian Filtering of Sufficient Statistics. *Communications in Computer and Information Science*, **2021**, 810-818	0.3	
4	Aberrant computational mechanisms of social learning and decision-making in schizophrenia and borderline personality disorder **2020**, 16, e1008162		
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