

Christoph Koch

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.

388
papers

48,656
citations

102
h-index

215
g-index

461
ext. papers

59,949
ext. citations

10.7
avg, IF

7.92
L-index

#	Paper	IF	Citations
388	Computational modelling of visual attention. <i>Nature Reviews Neuroscience</i> , 2001 , 2, 194-203	13.5	2935
387	The origin of extracellular fields and currents--EEG, ECoG, LFP and spikes. <i>Nature Reviews Neuroscience</i> , 2012 , 13, 407-20	13.5	2191
386	A saliency-based search mechanism for overt and covert shifts of visual attention. <i>Vision Research</i> , 2000 , 40, 1489-506	2.1	2169
385	An anatomically comprehensive atlas of the adult human brain transcriptome. <i>Nature</i> , 2012 , 489, 391-399	50.4	1525
384	A mesoscale connectome of the mouse brain. <i>Nature</i> , 2014 , 508, 207-14	50.4	1380
383	Computational vision and regularization theory. <i>Nature</i> , 1985 , 317, 314-9	50.4	1163
382	Invariant visual representation by single neurons in the human brain. <i>Nature</i> , 2005 , 435, 1102-7	50.4	1138
381	Adult mouse cortical cell taxonomy revealed by single cell transcriptomics. <i>Nature Neuroscience</i> , 2016 , 19, 335-46	25.5	1007
380	Are we aware of neural activity in primary visual cortex?. <i>Nature</i> , 1995 , 375, 121-3	50.4	957
379	Modeling attention to salient proto-objects. <i>Neural Networks</i> , 2006 , 19, 1395-407	9.1	897
378	A framework for consciousness. <i>Nature Neuroscience</i> , 2003 , 6, 119-26	25.5	856
377	Fully integrated silicon probes for high-density recording of neural activity. <i>Nature</i> , 2017 , 551, 232-236	50.4	849
376	Attention and consciousness: two distinct brain processes. <i>Trends in Cognitive Sciences</i> , 2007 , 11, 16-22	14	692
375	Shared and distinct transcriptomic cell types across neocortical areas. <i>Nature</i> , 2018 , 563, 72-78	50.4	674
374	Continuous flash suppression reduces negative afterimages. <i>Nature Neuroscience</i> , 2005 , 8, 1096-101	25.5	622
373	Neural correlates of consciousness: progress and problems. <i>Nature Reviews Neuroscience</i> , 2016 , 17, 307-23	13.5	591
372	Neural correlates of consciousness in humans. <i>Nature Reviews Neuroscience</i> , 2002 , 3, 261-70	13.5	579

371	Conserved cell types with divergent features in human versus mouse cortex. <i>Nature</i> , 2019 , 573, 61-68	50.4	569
370	The Secrets of Salient Object Segmentation 2014 ,		558
369	Image Signature: Highlighting Sparse Salient Regions. <i>IEEE Transactions on Pattern Analysis and Machine Intelligence</i> , 2012 , 34, 194-201	13.3	549
368	Integrated information theory: from consciousness to its physical substrate. <i>Nature Reviews Neuroscience</i> , 2016 , 17, 450-61	13.5	543
367	Rapid natural scene categorization in the near absence of attention. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 9596-601	11.5	530
366	A direct quantitative relationship between the functional properties of human and macaque V5. <i>Nature Neuroscience</i> , 2000 , 3, 716-23	25.5	501
365	Components of bottom-up gaze allocation in natural images. <i>Vision Research</i> , 2005 , 45, 2397-416	2.1	462
364	Is perception discrete or continuous?. <i>Trends in Cognitive Sciences</i> , 2003 , 7, 207-213	14	437
363	What is the function of the claustrum?. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2005 , 360, 1271-9	5.8	436
362	On the origin of the extracellular action potential waveform: A modeling study. <i>Journal of Neurophysiology</i> , 2006 , 95, 3113-28	3.2	394
361	Category-specific visual responses of single neurons in the human medial temporal lobe. <i>Nature Neuroscience</i> , 2000 , 3, 946-53	25.5	376
360	The control of retinogeniculate transmission in the mammalian lateral geniculate nucleus. <i>Experimental Brain Research</i> , 1986 , 63, 1-20	2.3	374
359	The role of single neurons in information processing. <i>Nature Neuroscience</i> , 2000 , 3 Suppl, 1171-7	25.5	358
358	Attention activates winner-take-all competition among visual filters. <i>Nature Neuroscience</i> , 1999 , 2, 375-81	25.5	347
357	The neural correlates of consciousness: an update. <i>Annals of the New York Academy of Sciences</i> , 2008 , 1124, 239-61	6.5	324
356	Ephaptic coupling of cortical neurons. <i>Nature Neuroscience</i> , 2011 , 14, 217-23	25.5	322
355	Shifts in Selective Visual Attention: Towards the Underlying Neural Circuitry 1987 , 115-141		306
354	Canonical genetic signatures of the adult human brain. <i>Nature Neuroscience</i> , 2015 , 18, 1832-44	25.5	301

353	Feature combination strategies for saliency-based visual attention systems. <i>Journal of Electronic Imaging</i> , 2001 , 10, 161	0.7	286
352	Constraints on cortical and thalamic projections: the no-strong-loops hypothesis. <i>Nature</i> , 1998 , 391, 245-504	50.4	285
351	Multiplicative computation in a visual neuron sensitive to looming. <i>Nature</i> , 2002 , 420, 320-4	50.4	283
350	Transcranial electric stimulation entrains cortical neuronal populations in rats. <i>Journal of Neuroscience</i> , 2010 , 30, 11476-85	6.6	275
349	Temporal precision of spike trains in extrastriate cortex of the behaving macaque monkey. <i>Neural Computation</i> , 1996 , 8, 1185-202	2.9	271
348	Theta phase segregation of input-specific gamma patterns in entorhinal-hippocampal networks. <i>Neuron</i> , 2014 , 84, 470-85	13.9	252
347	Consciousness: here, there and everywhere?. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2015 , 370,	5.8	250
346	Pupil dilation reflects perceptual selection and predicts subsequent stability in perceptual rivalry. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 1704-9	11.5	249
345	Encoding of visual information by LGN bursts. <i>Journal of Neurophysiology</i> , 1999 , 81, 2558-69	3.2	247
344	Imagery neurons in the human brain. <i>Nature</i> , 2000 , 408, 357-61	50.4	245
343	Electrical interactions via the extracellular potential near cell bodies. <i>Journal of Computational Neuroscience</i> , 1999 , 6, 169-84	1.4	245
342	Complexity and the nervous system. <i>Science</i> , 1999 , 284, 96-8	33.3	243
341	Biophysics of Computation 1998 ,		241
340	Trace but not delay fear conditioning requires attention and the anterior cingulate cortex. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 13087-92	11.5	229
339	What do we perceive in a glance of a real-world scene?. <i>Journal of Vision</i> , 2007 , 7, 10	0.4	225
338	Gender differences in the functional organization of the brain for working memory. <i>NeuroReport</i> , 2000 , 11, 2581-5	1.7	206
337	. <i>Computer</i> , 1988 , 21, 52-63	1.6	200
336	Shunting inhibition does not have a divisive effect on firing rates. <i>Neural Computation</i> , 1997 , 9, 1001-13	2.9	199

335	Faces and text attract gaze independent of the task: Experimental data and computer model. <i>Journal of Vision</i> , 2009 , 9, 10.1-15	0.4	198
334	A biophysically detailed model of neocortical local field potentials predicts the critical role of active membrane currents. <i>Neuron</i> , 2013 , 79, 375-90	13.9	197
333	From stimulus encoding to feature extraction in weakly electric fish. <i>Nature</i> , 1996 , 384, 564-7	50.4	196
332	Cable theory in neurons with active, linearized membranes. <i>Biological Cybernetics</i> , 1984 , 50, 15-33	2.8	196
331	Are the Neural Correlates of Consciousness in the Front or in the Back of the Cerebral Cortex? Clinical and Neuroimaging Evidence. <i>Journal of Neuroscience</i> , 2017 , 37, 9603-9613	6.6	192
330	The Allen Mouse Brain Common Coordinate Framework: A 3D Reference Atlas. <i>Cell</i> , 2020 , 181, 936-953.e70	370	191
329	Sparse but not grandmother-cell coding in the medial temporal lobe. <i>Trends in Cognitive Sciences</i> , 2008 , 12, 87-91	14	185
328	Learning a saliency map using fixated locations in natural scenes. <i>Journal of Vision</i> , 2011 , 11,	0.4	177
327	Relative visual saliency differences induce sizable bias in consumer choice. <i>Journal of Consumer Psychology</i> , 2012 , 22, 67-74	3.1	176
326	How voltage-dependent conductances can adapt to maximize the information encoded by neuronal firing rate. <i>Nature Neuroscience</i> , 1999 , 2, 521-7	25.5	176
325	Comprehensive cellular-resolution atlas of the adult human brain. <i>Journal of Comparative Neurology</i> , 2016 , 524, 3127-481	3.4	174
324	Task-demands can immediately reverse the effects of sensory-driven saliency in complex visual stimuli. <i>Journal of Vision</i> , 2008 , 8, 2.1-19	0.4	171
323	Information integration without awareness. <i>Trends in Cognitive Sciences</i> , 2014 , 18, 488-96	14	166
322	Classification of electrophysiological and morphological neuron types in the mouse visual cortex. <i>Nature Neuroscience</i> , 2019 , 22, 1182-1195	25.5	160
321	Brain areas specific for attentional load in a motion-tracking task. <i>Journal of Cognitive Neuroscience</i> , 2001 , 13, 1048-58	3.1	160
320	Hierarchical organization of cortical and thalamic connectivity. <i>Nature</i> , 2019 , 575, 195-202	50.4	155
319	On the relationship between synaptic input and spike output jitter in individual neurons. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1997 , 94, 735-40	11.5	155
318	Neuroscience thinks big (and collaboratively). <i>Nature Reviews Neuroscience</i> , 2013 , 14, 659-64	13.5	153

317	Latency and selectivity of single neurons indicate hierarchical processing in the human medial temporal lobe. <i>Journal of Neuroscience</i> , 2008 , 28, 8865-72	6.6	153
316	Sparse representation in the human medial temporal lobe. <i>Journal of Neuroscience</i> , 2006 , 26, 10232-4	6.6	152
315	A brief history of time (constants). <i>Cerebral Cortex</i> , 1996 , 6, 93-101	5.1	151
314	Selective visual attention enables learning and recognition of multiple objects in cluttered scenes. <i>Computer Vision and Image Understanding</i> , 2005 , 100, 41-63	4.3	146
313	Single-neuron correlates of subjective vision in the human medial temporal lobe. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 8378-83	11.5	145
312	Does anesthesia cause loss of consciousness?. <i>Trends in Neurosciences</i> , 1991 , 14, 6-10	13.3	144
311	The spiking component of oscillatory extracellular potentials in the rat hippocampus. <i>Journal of Neuroscience</i> , 2012 , 32, 11798-811	6.6	139
310	The effect of spatially inhomogeneous extracellular electric fields on neurons. <i>Journal of Neuroscience</i> , 2010 , 30, 1925-36	6.6	139
309	Working memory and fear conditioning. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2003 , 100, 1399-404	11.5	134
308	An oscillation-based model for the neuronal basis of attention. <i>Vision Research</i> , 1993 , 33, 2789-802	2.1	132
307	Simultaneous modeling of visual saliency and value computation improves predictions of economic choice. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, E3858-67	11.5	131
306	Depth of interocular suppression associated with continuous flash suppression, flash suppression, and binocular rivalry. <i>Journal of Vision</i> , 2006 , 6, 1068-78	0.4	131
305	Challenges and opportunities for large-scale electrophysiology with Neuropixels probes. <i>Current Opinion in Neurobiology</i> , 2018 , 50, 92-100	7.6	130
304	Detecting and estimating signals in noisy cable structure, I: neuronal noise sources. <i>Neural Computation</i> , 1999 , 11, 1797-829	2.9	130
303	Face adaptation depends on seeing the face. <i>Neuron</i> , 2005 , 45, 169-75	13.9	127
302	Face-gender discrimination is possible in the near-absence of attention. <i>Journal of Vision</i> , 2004 , 4, 106-17	7.4	125
301	Consciousness and attention: on sufficiency and necessity. <i>Frontiers in Psychology</i> , 2010 , 1, 217	3.4	124
300	Visual Motion Area MT+/V5 Responds to Auditory Motion in Human Sight-Recovery Subjects. <i>Journal of Neuroscience</i> , 2008 , 28, 5141-8	6.6	123

299	Optimal reward harvesting in complex perceptual environments. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 5232-7	11.5	121
298	A model for the neuronal implementation of selective visual attention based on temporal correlation among neurons. <i>Journal of Computational Neuroscience</i> , 1994 , 1, 141-58	1.4	121
297	On-line, voluntary control of human temporal lobe neurons. <i>Nature</i> , 2010 , 467, 1104-8	50.4	114
296	Explicit encoding of multimodal percepts by single neurons in the human brain. <i>Current Biology</i> , 2009 , 19, 1308-13	6.3	114
295	Inverse temporal contributions of the dorsal hippocampus and medial prefrontal cortex to the expression of long-term fear memories. <i>Learning and Memory</i> , 2008 , 15, 368-72	2.8	111
294	Face identification in the near-absence of focal attention. <i>Vision Research</i> , 2006 , 46, 2336-43	2.1	108
293	Opposing effects of attention and consciousness on afterimages. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 8883-8	11.5	105
292	Contingency awareness in human aversive conditioning involves the middle frontal gyrus. <i>NeuroImage</i> , 2006 , 29, 1007-12	7.9	105
291	The action of the corticofugal pathway on sensory thalamic nuclei: a hypothesis. <i>Neuroscience</i> , 1987 , 23, 399-406	3.9	103
290	Neuronal shot noise and Brownian 1/f ² behavior in the local field potential. <i>PLoS ONE</i> , 2009 , 4, e4338	3.7	102
289	Attentional Selection for Object Recognition A Gentle Way. <i>Lecture Notes in Computer Science</i> , 2002 , 472-479	0.9	102
288	Using extracellular action potential recordings to constrain compartmental models. <i>Journal of Computational Neuroscience</i> , 2007 , 23, 39-58	1.4	101
287	Visual selective behavior can be triggered by a feed-forward process. <i>Journal of Cognitive Neuroscience</i> , 2003 , 15, 209-17	3.1	101
286	Seeing properties of an invisible object: feature inheritance and shine-through. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001 , 98, 4271-5	11.5	101
285	Subthreshold voltage noise due to channel fluctuations in active neuronal membranes. <i>Journal of Computational Neuroscience</i> , 2000 , 9, 133-48	1.4	101
284	AdaBoost for Text Detection in Natural Scene 2011 ,		99
283	Optogenetics: 10 years after Chr2 in neurons--views from the community. <i>Nature Neuroscience</i> , 2015 , 18, 1202-12	25.5	98
282	A category-specific response to animals in the right human amygdala. <i>Nature Neuroscience</i> , 2011 , 14, 1247-9	25.5	97

281	The Effect of Synchronized Inputs at the Single Neuron Level. <i>Neural Computation</i> , 1994 , 6, 622-641	2.9	97
280	Neurodata Without Borders: Creating a Common Data Format for Neurophysiology. <i>Neuron</i> , 2015 , 88, 629-34	13.9	96
279	Subthreshold voltage noise of rat neocortical pyramidal neurones. <i>Journal of Physiology</i> , 2005 , 564, 145-60	9.9	95
278	A large-scale standardized physiological survey reveals functional organization of the mouse visual cortex. <i>Nature Neuroscience</i> , 2020 , 23, 138-151	25.5	94
277	Cortical Cells Should Fire Regularly, But Do Not. <i>Neural Computation</i> , 1992 , 4, 643-646	2.9	93
276	Organization of the connections between claustrum and cortex in the mouse. <i>Journal of Comparative Neurology</i> , 2017 , 525, 1317-1346	3.4	91
275	Pupil dilation betrays the timing of decisions. <i>Frontiers in Human Neuroscience</i> , 2010 , 4, 18	3.3	88
274	The continuous wagon wheel illusion is associated with changes in electroencephalogram power at approximately 13 Hz. <i>Journal of Neuroscience</i> , 2006 , 26, 502-7	6.6	88
273	Attention-driven discrete sampling of motion perception. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 5291-6	11.5	88
272	The ethics of experimenting with human brain tissue. <i>Nature</i> , 2018 , 556, 429-432	50.4	86
271	Why does natural scene categorization require little attention? Exploring attentional requirements for natural and synthetic stimuli. <i>Visual Cognition</i> , 2005 , 12, 893-924	1.8	86
270	Quantum mechanics in the brain. <i>Nature</i> , 2006 , 440, 611	50.4	86
269	Spatial displacement, but not temporal asynchrony, destroys figural binding. <i>Vision Research</i> , 1995 , 35, 491-4	2.1	86
268	Generalized leaky integrate-and-fire models classify multiple neuron types. <i>Nature Communications</i> , 2018 , 9, 709	17.4	83
267	The zombie within. <i>Nature</i> , 2001 , 411, 893	50.4	82
266	Decoding visual inputs from multiple neurons in the human temporal lobe. <i>Journal of Neurophysiology</i> , 2007 , 98, 1997-2007	3.2	80
265	Visual search and dual tasks reveal two distinct attentional resources. <i>Journal of Cognitive Neuroscience</i> , 2004 , 16, 4-14	3.1	80
264	Integrated Morphoelectric and Transcriptomic Classification of Cortical GABAergic Cells. <i>Cell</i> , 2020 , 183, 935-953.e19	56.2	78

263	Exploring cortex in a high-throughput manner by building brain observatories. <i>BMC Neuroscience</i> , 2014 , 15,	3.2	78
262	The computational properties of a simplified cortical column model. <i>BMC Neuroscience</i> , 2014 , 15,	3.2	78
261	Extracellular field signatures of CA1 spiking cell assemblies during sharp wave-ripple complexes. <i>BMC Neuroscience</i> , 2013 , 14,	3.2	78
260	Reply to Hupe et al.: The predictive correlation of pupil dilation and relative dominance durations in rivalry is not a statistical artifact. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, E44-E44	11.5	78
259	Neuroscience: Observatories of the mind. <i>Nature</i> , 2012 , 483, 397-8	50.4	77
258	Spatial vision thresholds in the near absence of attention. <i>Vision Research</i> , 1997 , 37, 2409-18	2.1	77
257	Intrinsic noise in cultured hippocampal neurons: experiment and modeling. <i>Journal of Neuroscience</i> , 2004 , 24, 9723-33	6.6	74
256	The problem of consciousness. <i>Scientific American</i> , 1992 , 267, 152-9	0.5	72
255	Detecting and estimating signals over noisy and unreliable synapses: information-theoretic analysis. <i>Neural Computation</i> , 2001 , 13, 1-33	2.9	71
254	Toward color image segmentation in analog VLSI: Algorithm and hardware. <i>International Journal of Computer Vision</i> , 1994 , 12, 17-42	10.6	71
253	Sparse recurrent excitatory connectivity in the microcircuit of the adult mouse and human cortex. <i>ELife</i> , 2018 , 7,	8.9	71
252	Ephaptic coupling to endogenous electric field activity: why bother?. <i>Current Opinion in Neurobiology</i> , 2015 , 31, 95-103	7.6	69
251	Worldwide initiatives to advance brain research. <i>Nature Neuroscience</i> , 2016 , 19, 1118-22	25.5	69
250	Network Amplification of Local Fluctuations Causes High Spike Rate Variability, Fractal Firing Patterns and Oscillatory Local Field Potentials. <i>Neural Computation</i> , 1994 , 6, 795-836	2.9	68
249	Systematic generation of biophysically detailed models for diverse cortical neuron types. <i>Nature Communications</i> , 2018 , 9, 710	17.4	66
248	Binding sites for metabolic disease related transcription factors inferred at base pair resolution by chromatin immunoprecipitation and genomic microarrays. <i>Human Molecular Genetics</i> , 2005 , 14, 3435-47	5.6	66
247	Robustness and variability of neuronal coding by amplitude-sensitive afferents in the weakly electric fish eigenmannia. <i>Journal of Neurophysiology</i> , 2000 , 84, 189-204	3.2	66
246	Integrated information increases with fitness in the evolution of animats. <i>PLoS Computational Biology</i> , 2011 , 7, e1002236	5	64

245	Learning saliency-based visual attention: A review. <i>Signal Processing</i> , 2013 , 93, 1401-1407	4.4	63
244	Comparison of feature combination strategies for saliency-based visual attention systems 1999 ,		63
243	Learning visual saliency by combining feature maps in a nonlinear manner using AdaBoost. <i>Journal of Vision</i> , 2012 , 12, 22	0.4	62
242	Computing optical flow across multiple scales: An adaptive coarse-to-fine strategy. <i>International Journal of Computer Vision</i> , 1991 , 6, 133-145	10.6	62
241	Neuronal connections underlying orientation selectivity in cat visual cortex. <i>Trends in Neurosciences</i> , 1987 , 10, 487-492	13.3	62
240	A test for consciousness. <i>Scientific American</i> , 2011 , 304, 44-7	0.5	61
239	Visual attention and target detection in cluttered natural scenes. <i>Optical Engineering</i> , 2001 , 40, 1784	1.1	61
238	Persistent Single-Neuron Activity during Working Memory in the Human Medial Temporal Lobe. <i>Current Biology</i> , 2017 , 27, 1026-1032	6.3	60
237	Spatial attention increases performance but not subjective confidence in a discrimination task. <i>Journal of Vision</i> , 2008 , 8, 7.1-10	0.4	60
236	Attentional capacity is undifferentiated: concurrent discrimination of form, color, and motion. <i>Perception & Psychophysics</i> , 1999 , 61, 1241-55		60
235	h-Channels Contribute to Divergent Intrinsic Membrane Properties of Supragranular Pyramidal Neurons in Human versus Mouse Cerebral Cortex. <i>Neuron</i> , 2018 , 100, 1194-1208.e5	13.9	60
234	Multisensory integration in complete unawareness: evidence from audiovisual congruency priming. <i>Psychological Science</i> , 2014 , 25, 2006-16	7.9	59
233	Physiology of layer 5 pyramidal neurons in mouse primary visual cortex: coincidence detection through bursting. <i>PLoS Computational Biology</i> , 2015 , 11, e1004090	5	58
232	Local field potentials and spikes in the human medial temporal lobe are selective to image category. <i>Journal of Cognitive Neuroscience</i> , 2007 , 19, 479-92	3.1	58
231	Survey of spiking in the mouse visual system reveals functional hierarchy. <i>Nature</i> , 2021 , 592, 86-92	50.4	58
230	Flanker effects in peripheral contrast discrimination--psychophysics and modeling. <i>Vision Research</i> , 2001 , 41, 3663-75	2.1	57
229	Do neurons have a voltage or a current threshold for action potential initiation?. <i>Journal of Computational Neuroscience</i> , 1995 , 2, 63-82	1.4	57
228	Pupil responses allow communication in locked-in syndrome patients. <i>Current Biology</i> , 2013 , 23, R647-8	6.3	56

227	Visual saliency computations: mechanisms, constraints, and the effect of feedback. <i>Journal of Neuroscience</i> , 2010 , 30, 12831-43	6.6	56
226	Evolution of integrated causal structures in animats exposed to environments of increasing complexity. <i>PLoS Computational Biology</i> , 2014 , 10, e1003966	5	55
225	Probabilistic modeling of eye movement data during conjunction search via feature-based attention. <i>Journal of Vision</i> , 2007 , 7, 5	0.4	55
224	Multiplication and stimulus invariance in a looming-sensitive neuron. <i>Journal of Physiology (Paris)</i> , 2004 , 98, 19-34		55
223	Coding of Time-Varying Signals in Spike Trains of Integrate-and-Fire Neurons with Random Threshold. <i>Neural Computation</i> , 1996 , 8, 44-66	2.9	55
222	Functional properties of models for direction selectivity in the retina. <i>Synapse</i> , 1987 , 1, 417-34	2.4	55
221	Inferring cortical function in the mouse visual system through large-scale systems neuroscience. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 7337-44	11.5	55
220	Analog VLSI-based modeling of the primate oculomotor system. <i>Neural Computation</i> , 1999 , 11, 243-65	2.9	54
219	Revisiting spatial vision: toward a unifying model. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2000 , 17, 1899-917	1.8	53
218	Experimentalists and modelers: can we all just get along?. <i>Trends in Neurosciences</i> , 1992 , 15, 458-61	13.3	53
217	The Feeling of Life Itself 2019 ,		52
216	Spatial aspects of object formation revealed by a new illusion, shine-through. <i>Vision Research</i> , 2001 , 41, 2325-35	2.1	51
215	Multiplying with Synapses and Neurons 1992 , 315-345		50
214	A simple algorithm for solving the cable equation in dendritic trees of arbitrary geometry. <i>Journal of Neuroscience Methods</i> , 1985 , 12, 303-15	3	50
213	The role of the polycomb complex in silencing alpha-globin gene expression in nonerythroid cells. <i>Blood</i> , 2008 , 112, 3889-99	2.2	49
212	Systematic Integration of Structural and Functional Data into Multi-scale Models of Mouse Primary Visual Cortex. <i>Neuron</i> , 2020 , 106, 388-403.e18	13.9	48
211	Attention and consciousness: related yet different. <i>Trends in Cognitive Sciences</i> , 2012 , 16, 103-5	14	48
210	The influence of synaptic weight distribution on neuronal population dynamics. <i>PLoS Computational Biology</i> , 2013 , 9, e1003248	5	48

209	Seeing Chips: Analog VLSI Circuits for Computer Vision. <i>Neural Computation</i> , 1989 , 1, 184-200	2.9	48
208	A large-scale, standardized physiological survey reveals higher order coding throughout the mouse visual cortex		48
207	Automated High-Throughput Characterization of Single Neurons by Means of Simplified Spiking Models. <i>PLoS Computational Biology</i> , 2015 , 11, e1004275	5	47
206	Stimulus encoding and feature extraction by multiple sensory neurons. <i>Journal of Neuroscience</i> , 2002 , 22, 2374-82	6.6	47
205	Attention in hierarchical models of object recognition. <i>Progress in Brain Research</i> , 2007 , 165, 57-78	2.9	46
204	Attentional effects on contrast detection in the presence of surround masks. <i>Vision Research</i> , 2000 , 40, 3717-24	2.1	46
203	Electrical properties of dendritic spines. <i>Trends in Neurosciences</i> , 1983 , 6, 80-83	13.3	46
202	Homo economicus in visual search. <i>Journal of Vision</i> , 2009 , 9, 31.1-16	0.4	45
201	Selectivity of pyramidal cells and interneurons in the human medial temporal lobe. <i>Journal of Neurophysiology</i> , 2011 , 106, 1713-21	3.2	44
200	Cell type- and activity-dependent extracellular correlates of intracellular spiking. <i>Journal of Neurophysiology</i> , 2015 , 114, 608-23	3.2	43
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