Andreas Savas Tolias

List of Publications by Year
in descending order

77 papers	11,123 citations	57631 44 h-index	74018 75 g-index
109 all docs	109 docs citations	109 times ranked	10231 citing authors

#	Article	IF	Citations
1	Principles of connectivity among morphologically defined cell types in adult neocortex. Science, 2015, 350, aac9462.	6.0	736
2	Spike sorting for large, dense electrode arrays. Nature Neuroscience, 2016, 19, 634-641.	7.1	671
3	Waking State: Rapid Variations Modulate Neural and Behavioral Responses. Neuron, 2015, 87, 1143-1161.	3.8	648
4	Pupil fluctuations track rapid changes in adrenergic and cholinergic activity in cortex. Nature Communications, 2016, 7, 13289.	5.8	618
5	Pupil Fluctuations Track Fast Switching of Cortical States during Quiet Wakefulness. Neuron, 2014, 84, 355-362.	3.8	610
6	Decorrelated Neuronal Firing in Cortical Microcircuits. Science, 2010, 327, 584-587.	6.0	562
7	Electrophysiological, transcriptomic and morphologic profiling of single neurons using Patch-seq. Nature Biotechnology, 2016, 34, 199-203.	9.4	478
8	In vivo three-photon imaging of activity of GCaMP6-labeled neurons deep in intact mouse brain. Nature Methods, 2017, 14, 388-390.	9.0	434
9	A multimodal cell census and atlas of the mammalian primary motor cortex. Nature, 2021, 598, 86-102.	13.7	316
10	State Dependence of Noise Correlations in Macaque Primary Visual Cortex. Neuron, 2014, 82, 235-248.	3.8	307
11	Eye Movements Modulate Visual Receptive Fields of V4 Neurons. Neuron, 2001, 29, 757-767.	3.8	263
12	Integration of Local Features into Global Shapes. Neuron, 2003, 37, 333-346.	3.8	260
13	The Effect of Noise Correlations in Populations of Diversely Tuned Neurons. Journal of Neuroscience, 2011, 31, 14272-14283.	1.7	240
14	Mapping Cortical Activity Elicited with Electrical Microstimulation Using fMRI in the Macaque. Neuron, 2005, 48, 901-911.	3.8	234
15	Lack of long-term cortical reorganization after macaque retinal lesions. Nature, 2005, 435, 300-307.	13.7	205
16	Phenotypic variation of transcriptomic cell types in mouse motor cortex. Nature, 2021, 598, 144-150.	13.7	196
17	A community-based transcriptomics classification and nomenclature of neocortical cell types. Nature Neuroscience, 2020, 23, 1456-1468.	7.1	183
18	Deep convolutional models improve predictions of macaque V1 responses to natural images. PLoS Computational Biology, 2019, 15, e1006897.	1.5	179

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19	Brain-inspired replay for continual learning with artificial neural networks. Nature Communications, 2020, 11, 4069.	5.8	178
20	Generating Spike Trains with Specified Correlation Coefficients. Neural Computation, 2009, 21, 397-423.	1.3	167
21	Population code in mouse V1 facilitates readout of natural scenes through increased sparseness. Nature Neuroscience, 2014, 17, 851-857.	7.1	167
22	Benchmarking Spike Rate Inference in Population Calcium Imaging. Neuron, 2016, 90, 471-482.	3.8	154
23	Recording Chronically From the Same Neurons in Awake, Behaving Primates. Journal of Neurophysiology, 2007, 98, 3780-3790.	0.9	151
24	Comparing the feature selectivity of the gamma-band of the local field potential and the underlying spiking activity in primate visual cortex. Frontiers in Systems Neuroscience, 2008, 2, 2.	1.2	141
25	Neurons in macaque area V4 acquire directional tuning after adaptation to motion stimuli. Nature Neuroscience, 2005, 8, 591-593.	7.1	126
26	Multimodal profiling of single-cell morphology, electrophysiology, and gene expression using Patch-seq. Nature Protocols, 2017, 12, 2531-2553.	5.5	126
27	fMRI of the Face-Processing Network in the Ventral Temporal Lobe of Awake and Anesthetized Macaques. Neuron, 2011, 70, 352-362.	3.8	121
28	Community-based benchmarking improves spike rate inference from two-photon calcium imaging data. PLoS Computational Biology, 2018, 14, e1006157.	1.5	118
29	Engineering a Less Artificial Intelligence. Neuron, 2019, 103, 967-979.	3.8	113
30	Inception loops discover what excites neurons most using deep predictive models. Nature Neuroscience, 2019, 22, 2060-2065.	7.1	104
31	A Fast and Simple Population Code for Orientation in Primate V1. Journal of Neuroscience, 2012, 32, 10618-10626.	1.7	103
32	Layer 4 of mouse neocortex differs in cell types and circuit organization between sensory areas. Nature Communications, 2019, 10, 4174.	5.8	101
33	Motion Processing in the Macaque: Revisited with Functional Magnetic Resonance Imaging. Journal of Neuroscience, 2001, 21, 8594-8601.	1.7	99
34	On the Structure of Neuronal Population Activity under Fluctuations in Attentional State. Journal of Neuroscience, 2016, 36, 1775-1789.	1.7	90
35	Precision Calcium Imaging of Dense Neural Populations via a Cell-Body-Targeted Calcium Indicator. Neuron, 2020, 107, 470-486.e11.	3.8	87
36	Reconstruction of neocortex: Organelles, compartments, cells, circuits, and activity. Cell, 2022, 185, 1082-1100.e24.	13.5	84

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37	A neural basis of probabilistic computation in visual cortex. Nature Neuroscience, 2020, 23, 122-129.	7.1	78
38	Spatial Specificity of BOLD versus Cerebral Blood Volume fMRI for Mapping Cortical Organization. Journal of Cerebral Blood Flow and Metabolism, 2007, 27, 1248-1261.	2.4	70
39	Patterned photostimulation via visible-wavelength photonic probes for deep brain optogenetics. Neurophotonics, 2016, 4, 1.	1.7	66
40	Trial-to-trial, uncertainty-based adjustment of decision boundaries in visual categorization. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 20332-20337.	3.3	63
41	Biological underpinnings for lifelong learning machines. Nature Machine Intelligence, 2022, 4, 196-210.	8.3	62
42	Microstimulation of visual cortex to restore vision. Progress in Brain Research, 2009, 175, 347-375.	0.9	58
43	Electrocorticography links human temporoparietal junction to visual perception. Nature Neuroscience, 2012, 15, 957-959.	7.1	58
44	Improved Estimation and Interpretation of Correlations in Neural Circuits. PLoS Computational Biology, 2015, 11, e1004083.	1.5	58
45	Attentional fluctuations induce shared variability in macaque primary visual cortex. Nature Communications, 2018, 9, 2654.	5.8	58
46	Three-dimensional mapping of microcircuit correlation structure. Frontiers in Neural Circuits, 2013, 7, 151.	1.4	55
47	Reassessing optimal neural population codes with neurometric functions. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 4423-4428.	3.3	52
48	The Role of the Primary Visual Cortex in Perceptual Suppression of Salient Visual Stimuli. Journal of Neuroscience, 2010, 30, 12353-12365.	1.7	50
49	Structure and function of axo-axonic inhibition. ELife, 2021, 10, .	2.8	49
50	The Visual Cortex in Context. Annual Review of Vision Science, 2019, 5, 317-339.	2.3	45
51	Avalanche: an End-to-End Library for Continual Learning. , 2021, , .		42
52	Integrated Neurophotonics: Toward Dense Volumetric Interrogation of Brain Circuit Activityâ€"at Depth and in Real Time. Neuron, 2020, 108, 66-92.	3.8	40
53	Cell type composition and circuit organization of clonally related excitatory neurons in the juvenile mouse neocortex. ELife, 2020, 9, .	2.8	37
54	Developmental broadening of inhibitory sensory maps. Nature Neuroscience, 2017, 20, 189-199.	7.1	36

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55	fMRI of the temporal lobe of the awake monkey at 7ÂT. NeuroImage, 2008, 39, 1081-1093.	2.1	33
56	Faster processing of moving compared with flashed bars in awake macaque V1 provides a neural correlate of the flash lag illusion. Journal of Neurophysiology, 2018, 120, 2430-2452.	0.9	25
57	Learning divisive normalization in primary visual cortex. PLoS Computational Biology, 2021, 17, e1009028.	1.5	21
58	Sparse Reduced-Rank Regression for Exploratory Visualisation of Paired Multivariate Data. Journal of the Royal Statistical Society Series C: Applied Statistics, 2021, 70, 980-1000.	0.5	18
59	Are express saccades generated under natural viewing conditions?. European Journal of Neuroscience, 2004, 20, 2467-2473.	1.2	17
60	Q&A: using Patch-seq to profile single cells. BMC Biology, 2017, 15, 58.	1.7	16
61	Class-Incremental Learning with Generative Classifiers. , 2021, , .		16
62	Target specific functions of EPL interneurons in olfactory circuits. Nature Communications, 2019, 10, 3369.	5.8	15
63	Rewiring the adult brain (Reply). Nature, 2005, 438, E3-E4.	13.7	14
64	Is there signal in the noise?. Nature Neuroscience, 2014, 17, 750-751.	7.1	14
65	Follicle-stimulating hormone and luteinizing hormone increase Ca2+ in the granulosa cells of mouse ovarian folliclesâ€. Biology of Reproduction, 2019, 101, 433-444.	1.2	14
66	esfMRI of the upper STS: further evidence for the lack of electrically induced polysynaptic propagation of activity in the neocortex. Magnetic Resonance Imaging, 2011, 29, 1374-1381.	1.0	13
67	Response to Comment on â€œPrinciples of connectivity among morphologically defined cell types in adult neocortexâ€• Science, 2016, 353, 1108-1108.	6.0	13
68	Macaque Monkeys Perceive the Flash Lag Illusion. PLoS ONE, 2013, 8, e58788.	1.1	12
69	Local field potentials, BOLD and spiking activity â€" relationships and physiological mechanisms. Nature Precedings, 2010, , .	0.1	11
70	A CRISPR toolbox for generating intersectional genetic mouse models for functional, molecular, and anatomical circuit mapping. BMC Biology, 2022, 20, 28.	1.7	8
71	Inference of synaptic connectivity and external variability in neural microcircuits. Journal of Computational Neuroscience, 2020, 48, 123-147.	0.6	5
72	Revealing nonlinear neural decoding by analyzing choices. Nature Communications, 2021, 12, 6557.	5.8	5

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73	Investigating the Limits of Neurovascular Coupling. Neuron, 2016, 91, 954-956.	3.8	3
74	Reply to "Motion processing in macaque V4". Nature Neuroscience, 2005, 8, 1125-1125.	7.1	1
75	Learning Divisive Normalization in Primary Visual Cortex. , 2019, , .		1
76	Optimal Population Coding, Revisited. Nature Precedings, 2011, , .	0.1	0
77	Neural Likelihood. , 2019, , .		0