Eric Halgren

List of Publications by Year
in descending order

74 papers	11,125 citations	147566 31 h-index	82410 72 g-index
81 all docs	81 docs citations	81 times ranked	14415 citing authors

#	Article	IF	Citations
1	Automatically Parcellating the Human Cerebral Cortex. Cerebral Cortex, 2004, 14, 11-22.	1.6	3,657
2	Automatic parcellation of human cortical gyri and sulci using standard anatomical nomenclature. NeuroImage, 2010, 53, 1-15.	2.1	2,251
3	MENTAL PHENOMENA EVOKED BY ELECTRICAL STIMULATION OF THE HUMAN HIPPOCAMPAL FORMATION AND AMYGDALA. Brain, 1978, 101, 83-115.	3.7	674
4	Sequential Processing of Lexical, Grammatical, and Phonological Information Within Brocaâ€™s Area. Science, 2009, 326, 445-449.	6.0	383
5	The Human K-Complex Represents an Isolated Cortical Down-State. Science, 2009, 324, 1084-1087.	6.0	328
6	The generation and propagation of the human alpha rhythm. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23772-23782.	3.3	229
7	Automated whiteâ€matter tractography using a probabilistic diffusion tensor atlas: Application to temporal lobe epilepsy. Human Brain Mapping, 2009, 30, 1535-1547.	1.9	217
8	Dynamic Balance of Excitation and Inhibition in Human and Monkey Neocortex. Scientific Reports, 2016, 6, 23176.	1.6	212
9	Laminar analysis of slow wave activity in humans. Brain, 2010, 133, 2814-2829.	3.7	207
10	Heterogeneous neuronal firing patterns during interictal epileptiform discharges in the human cortex. Brain, 2010, 133, 1668-1681.	3.7	168
11	Spatiotemporal dynamics of neocortical excitation and inhibition during human sleep. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 1731-1736.	3.3	166
12	Rotating waves during human sleep spindles organize global patterns of activity that repeat precisely through the night. ELife, 2016, 5, .	2.8	151
13	Coordination of cortical and thalamic activity during non-REM sleep in humans. Nature Communications, 2017, 8, 15499.	5.8	132
14	First-Pass Selectivity for Semantic Categories in Human Anteroventral Temporal Lobe. Journal of Neuroscience, 2011, 31, 18119-18129.	1.7	129
15	Speech-Specific Tuning of Neurons in Human Superior Temporal Gyrus. Cerebral Cortex, 2014, 24, 2679-2693.	1.6	121
16	Sequential then interactive processing of letters and words in the left fusiform gyrus. Nature Communications, 2012, 3, 1284.	5.8	116
17	Localization of dense intracranial electrode arrays using magnetic resonance imaging. NeuroImage, 2012, 63, 157-165.	2.1	109
18	Development and Translation of PEDOT:PSS Microelectrodes for Intraoperative Monitoring. Advanced Functional Materials, 2018, 28, 1700232.	7.8	97

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19	Interactions between Core and Matrix Thalamocortical Projections in Human Sleep Spindle Synchronization. Journal of Neuroscience, 2012, 32, 5250-5263.	1.7	89
20	Local field potentials primarily reflect inhibitory neuron activity in human and monkey cortex. Scientific Reports, 2017, 7, 40211.	1.6	82
21	Multimodal imaging of repetition priming: Using fMRI, MEG, and intracranial EEG to reveal spatiotemporal profiles of word processing. NeuroImage, 2010, 53, 707-717.	2.1	77
22	Cellular and neurochemical basis of sleep stages in the thalamocortical network. ELife, 2016, 5, .	2.8	73
23	Processing stages underlying word recognition in the anteroventral temporal lobe. NeuroImage, 2006, 30, 1401-1413.	2.1	69
24	High-frequency oscillations in human and monkey neocortex during the wakeâ€“sleep cycle. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9363-9368.	3.3	67
25	Scaling Effects on the Electrochemical Stimulation Performance of Au, Pt, and PEDOT:PSS Electrocorticography Arrays. Advanced Functional Materials, 2017, 27, 1703019.	7.8	61
26	Coordination of Human Hippocampal Sharpwave Ripples during NREM Sleep with Cortical Theta Bursts, Spindles, Downstates, and Upstates. Journal of Neuroscience, 2019, 39, 8744-8761.	1.7	57
27	Superficial Slow Rhythms Integrate Cortical Processing in Humans. Scientific Reports, 2018, 8, 2055.	1.6	56
28	Theta Bursts Precede, and Spindles Follow, Cortical and Thalamic Downstates in Human NREM Sleep. Journal of Neuroscience, 2018, 38, 9989-10001.	1.7	52
29	Selective Formation of Porous Pt Nanorods for Highly Electrochemically Efficient Neural Electrode Interfaces. Nano Letters, 2019, 19, 6244-6254.	4.5	51
30	Posterior Hippocampal Spindle Ripples Co-occur with Neocortical Theta Bursts and Downstates-Upstates, and Phase-Lock with Parietal Spindles during NREM Sleep in Humans. Journal of Neuroscience, 2019, 39, 8949-8968.	1.7	46
31	Travelling spindles create necessary conditions for spike-timing-dependent plasticity in humans. Nature Communications, 2021, 12, 1027.	5.8	45
32	Laminar profile of spontaneous and evoked theta: Rhythmic modulation of cortical processing during word integration. Neuropsychologia, 2015, 76, 108-124.	0.7	43
33	Replay of large-scale spatio-temporal patterns from waking during subsequent NREM sleep in human cortex. Scientific Reports, 2017, 7, 17380.	1.6	43
34	A Whole-Cortex Probabilistic Diffusion Tractography Connectome. ENeuro, 2021, 8, ENEURO.0416-20.2020.	0.9	43
35	Heterogeneous Origins of Human Sleep Spindles in Different Cortical Layers. Journal of Neuroscience, 2018, 38, 3013-3025.	1.7	40
36	Effects of Early Language Deprivation on Brain Connectivity: Language Pathways in Deaf Native and Late First-Language Learners of American Sign Language. Frontiers in Human Neuroscience, 2019, 13, 320.	1.0	38

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37	Replay of Learned Neural Firing Sequences during Rest in Human Motor Cortex. Cell Reports, 2020, 31, 107581.	2.9	37
38	Sub-millimeter ECoG pitch in human enables higher fidelity cognitive neural state estimation. NeuroImage, 2018, 176, 454-464.	2.1	36
39	Monolithic and Scalable Au Nanorod Substrates Improve PEDOTâ€“Metal Adhesion and Stability in Neural Electrodes. Advanced Healthcare Materials, 2018, 7, e1800923.	3.9	35
40	Distribution, Amplitude, Incidence, Co-Occurrence, and Propagation of Human K-Complexes in Focal Transcortical Recordings. ENeuro, 2015, 2, ENEURO.0028-15.2015.	0.9	35
41	Independence of Early Speech Processing from Word Meaning. Cerebral Cortex, 2013, 23, 2370-2379.	1.6	34
42	Neural Language Processing in Adolescent First-Language Learners. Cerebral Cortex, 2014, 24, 2772-2783.	1.6	33
43	Williams syndrome-specific neuroanatomical profile and its associations with behavioral features. NeuroImage: Clinical, 2017, 15, 343-347.	1.4	33
44	Sequential temporoâ€frontoâ€temporal activation during monitoring of the auditory environment for temporal patterns. Human Brain Mapping, 2011, 32, 1260-1276.	1.9	32
45	Correlation Structure in Micro-ECoG Recordings is Described by Spatially Coherent Components. PLoS Computational Biology, 2019, 15, e1006769.	1.5	32
46	Widespread ripples synchronize human cortical activity during sleep, waking, and memory recall. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	29
47	Neural Language Processing in Adolescent First-Language Learners: Longitudinal Case Studies in American Sign Language. Cerebral Cortex, 2016, 26, 1015-1026.	1.6	27
48	Neurolinguistic processing when the brain matures without language. Cortex, 2018, 99, 390-403.	1.1	27
49	Learned Motor Patterns Are Replayed in Human Motor Cortex during Sleep. Journal of Neuroscience, 2022, 42, 5007-5020.	1.7	27
50	Resting-State fMRI Activity Predicts Unsupervised Learning and Memory in an Immersive Virtual Reality Environment. PLoS ONE, 2014, 9, e109622.	1.1	26
51	Synchronization of Isolated Downstates (K-Complexes) May Be Caused by Cortically-Induced Disruption of Thalamic Spindling. PLoS Computational Biology, 2014, 10, e1003855.	1.5	25
52	Thalamocortical and intracortical laminar connectivity determines sleep spindle properties. PLoS Computational Biology, 2018, 14, e1006171.	1.5	23
53	Periventricular white matter abnormalities and restricted repetitive behavior in autism spectrum disorder. NeuroImage: Clinical, 2016, 10, 36-45.	1.4	21
54	Interpretation of the Precision Matrix and Its Application in Estimating Sparse Brain Connectivity during Sleep Spindles from Human Electrocorticography Recordings. Neural Computation, 2017, 29, 603-642.	1.3	20

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55	Selective recruitment of cortical neurons by electrical stimulation. PLoS Computational Biology, 2019, 15, e1007277.	1.5	20
56	Microscale dynamics of electrophysiological markers of epilepsy. Clinical Neurophysiology, 2021, 132, 2916-2931.	0.7	20
57	An estimation of the absolute number of axons indicates that human cortical areas are sparsely connected. PLoS Biology, 2022, 20, e3001575.	2.6	17
58	Neural Correlates of Auditory Perceptual Awareness and Release from Informational Masking Recorded Directly from Human Cortex: A Case Study. Frontiers in Neuroscience, 2016, 10, 472.	1.4	16
59	The laminar profile of sleep spindles in humans. NeuroImage, 2021, 226, 117587.	2.1	13
60	Neurocognitive stages of spatial cognitive mapping measured during free exploration of a large-scale virtual environment. Journal of Neurophysiology, 2015, 113, 740-753.	0.9	12
61	Electrochemical safety limits for clinical stimulation investigated using depth and strip electrodes in the pig brain. Journal of Neural Engineering, 2021, 18, 046077.	1.8	12
62	Atypical Right Hemisphere Specialization for Object Representations in an Adolescent with Specific Language Impairment. Frontiers in Human Neuroscience, 2014, 8, 82.	1.0	11
63	Delay differential analysis for dynamical sleep spindle detection. Journal of Neuroscience Methods, 2019, 316, 12-21.	1.3	11
64	Increased glia density in the caudate nucleus in williams syndrome: Implications for frontostriatal dysfunction in autism. Developmental Neurobiology, 2018, 78, 531-545.	1.5	9
65	Stimulus Driven Single Unit Activity From Micro-Electrocorticography. Frontiers in Neuroscience, 2020, 14, 55.	1.4	9
66	Reactivation of Motor-Related Gamma Activity in Human NREM Sleep. Frontiers in Neuroscience, 2020, 14, 449.	1.4	8
67	The Precentral Gyrus Contributions to the Early Time-Course of Grapheme-to-Phoneme Conversion. Neurobiology of Language (Cambridge, Mass), 2022, 3, 18-45.	1.7	7
68	Human Spindle Variability. Journal of Neuroscience, 2022, 42, 4517-4537.	1.7	6
69	Response to Comment on â€œThe Human K-Complex Represents an Isolated Cortical Down-Stateâ€• Science, 2010, 330, 35-35.	6.0	3
70	Spatio-temporal dynamics and laterality effects of face inversion, feature presence and configuration, and face outline. Frontiers in Human Neuroscience, 2014, 8, 868.	1.0	3
71	Decreased density of cholinergic interneurons in striatal territories in Williams syndrome. Brain Structure and Function, 2020, 225, 1019-1032.	1.2	3
72	High Î³ Activity in Cortex and Hippocampus Is Correlated with Autonomic Tone during Sleep. ENeuro, 2021, 8, ENEURO.0194-21.2021.	0.9	3

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73	Robust representations of cortical speech and language information. , 2011, , .		2
74	Human intracranial recordings during spatial exploration of a 3D virtual environment. , 2013, , .		2