

# Chiara Cirelli

## List of Publications by Year in descending order

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131  
papers

20,923  
citations

17405

63  
h-index

14156

128  
g-index

135  
all docs

135  
docs citations

135  
times ranked

11819  
citing authors

#	ARTICLE	IF	CITATIONS
1	Sleep function and synaptic homeostasis. <i>Sleep Medicine Reviews</i> , 2006, 10, 49-62.	3.8	1,738
2	Sleep and the Price of Plasticity: From Synaptic and Cellular Homeostasis to Memory Consolidation and Integration. <i>Neuron</i> , 2014, 81, 12-34.	3.8	1,673
3	Correlates of Sleep and Waking in <i>Drosophila melanogaster</i> . <i>Science</i> , 2000, 287, 1834-1837.	6.0	1,146
4	Sleep and synaptic homeostasis: a hypothesis. <i>Brain Research Bulletin</i> , 2003, 62, 143-150.	1.4	976
5	Regional Slow Waves and Spindles in Human Sleep. <i>Neuron</i> , 2011, 70, 153-169.	3.8	794
6	Local sleep in awake rats. <i>Nature</i> , 2011, 472, 443-447.	13.7	708
7	Molecular and electrophysiological evidence for net synaptic potentiation in wake and depression in sleep. <i>Nature Neuroscience</i> , 2008, 11, 200-208.	7.1	693
8	Cortical Firing and Sleep Homeostasis. <i>Neuron</i> , 2009, 63, 865-878.	3.8	623
9	Extensive and Divergent Effects of Sleep and Wakefulness on Brain Gene Expression. <i>Neuron</i> , 2004, 41, 35-43.	3.8	591
10	Is Sleep Essential?. <i>PLoS Biology</i> , 2008, 6, e216.	2.6	509
11	Ultrastructural evidence for synaptic scaling across the wake/sleep cycle. <i>Science</i> , 2017, 355, 507-510.	6.0	438
12	Reduced sleep in <i>Drosophila</i> Shaker mutants. <i>Nature</i> , 2005, 434, 1087-1092.	13.7	420
13	Sleep Homeostasis in <i>Drosophila Melanogaster</i> . <i>Sleep</i> , 2004, 27, 628-639.	0.6	362
14	Differential Expression of Plasticity-Related Genes in Waking and Sleep and Their Regulation by the Noradrenergic System. <i>Journal of Neuroscience</i> , 2000, 20, 9187-9194.	1.7	347
15	Gene expression in the brain across the sleep-waking cycle. Published on the World Wide Web on 30 October 2000.. <i>Brain Research</i> , 2000, 885, 303-321.	1.1	346
16	The genetic and molecular regulation of sleep: from fruit flies to humans. <i>Nature Reviews Neuroscience</i> , 2009, 10, 549-560.	4.9	323
17	Widespread Changes in Synaptic Markers as a Function of Sleep and Wakefulness in <i>Drosophila</i> . <i>Science</i> , 2009, 324, 109-112.	6.0	321
18	Sleep and Synaptic Homeostasis: Structural Evidence in <i>Drosophila</i> . <i>Science</i> , 2011, 332, 1576-1581.	6.0	315

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19	Sleep Loss Promotes Astrocytic Phagocytosis and Microglial Activation in Mouse Cerebral Cortex. <i>Journal of Neuroscience</i> , 2017, 37, 5263-5273.	1.7	281
20	Sleep and waking modulate spine turnover in the adolescent mouse cortex. <i>Nature Neuroscience</i> , 2011, 14, 1418-1420.	7.1	267
21	A Causal Role for Brain-Derived Neurotrophic Factor in the Homeostatic Regulation of Sleep. <i>Journal of Neuroscience</i> , 2008, 28, 4088-4095.	1.7	250
22	Long-Term Homeostasis of Extracellular Glutamate in the Rat Cerebral Cortex across Sleep and Waking States. <i>Journal of Neuroscience</i> , 2009, 29, 620-629.	1.7	229
23	Effects of Sleep and Wake on Oligodendrocytes and Their Precursors. <i>Journal of Neuroscience</i> , 2013, 33, 14288-14300.	1.7	213
24	Sleep Homeostasis and Cortical Synchronization: II. A Local Field Potential Study of Sleep Slow Waves in the Rat. <i>Sleep</i> , 2007, 30, 1631-1642.	0.6	201
25	Sleep-Dependent Improvement in Visuomotor Learning: A Causal Role for Slow Waves. <i>Sleep</i> , 2009, 32, 1273-1284.	0.6	200
26	Direct Evidence for Wake-Related Increases and Sleep-Related Decreases in Synaptic Strength in Rodent Cortex. <i>Journal of Neuroscience</i> , 2010, 30, 8671-8675.	1.7	197
27	Exploratory Behavior, Cortical BDNF Expression, and Sleep Homeostasis. <i>Sleep</i> , 2007, 30, 129-139.	0.6	191
28	Sleep Deprivation and Cellular Responses to Oxidative Stress. <i>Sleep</i> , 2004, 27, 27-35.	0.6	179
29	Enhancement of sleep slow waves: underlying mechanisms and practical consequences. <i>Frontiers in Systems Neuroscience</i> , 2014, 8, 208.	1.2	179
30	Local Experience-Dependent Changes in the Wake EEG after Prolonged Wakefulness. <i>Sleep</i> , 2013, 36, 59-72.	0.6	178
31	Changes in brain gene expression after long-term sleep deprivation. <i>Journal of Neurochemistry</i> , 2006, 98, 1632-1645.	2.1	167
32	Sleep and wakefulness modulate gene expression in <i>Drosophila</i> . <i>Journal of Neurochemistry</i> , 2005, 94, 1411-1419.	2.1	150
33	Local Slow Waves in Superficial Layers of Primary Cortical Areas during REM Sleep. <i>Current Biology</i> , 2016, 26, 396-403.	1.8	150
34	<i>Drosophila</i> Hyperkinetic Mutants Have Reduced Sleep and Impaired Memory. <i>Journal of Neuroscience</i> , 2007, 27, 5384-5393.	1.7	146
35	Effects of sleep and wake on astrocytes: clues from molecular and ultrastructural studies. <i>BMC Biology</i> , 2015, 13, 66.	1.7	144
36	Selective neuronal lapses precede human cognitive lapses following sleep deprivation. <i>Nature Medicine</i> , 2017, 23, 1474-1480.	15.2	142

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37	Cellular consequences of sleep deprivation in the brain†. <i>Sleep Medicine Reviews</i> , 2006, 10, 307-321.	3.8	140
38	Effects of Skilled Training on Sleep Slow Wave Activity and Cortical Gene Expression in the Rat. <i>Sleep</i> , 2009, 32, 719-729.	0.6	139
39	Immediate-early genes in spontaneous wakefulness and sleep: expression of <i>c-fos</i> and <i>NGF</i> mRNA and protein. <i>Journal of Sleep Research</i> , 1994, 3, 80-96.	1.7	137
40	Sleep homeostasis in the rat is preserved during chronic sleep restriction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 15939-15944.	3.3	134
41	On the Functional Significance of <i>c-fos</i> Induction During the Sleep-waking Cycle. <i>Sleep</i> , 2000, 23, 9-25.	0.6	127
42	Locus Ceruleus Control of Slow-Wave Homeostasis. <i>Journal of Neuroscience</i> , 2005, 25, 4503-4511.	1.7	127
43	Molecular Mechanisms of Sleep Homeostasis in Flies and Mammals. <i>Cold Spring Harbor Perspectives in Biology</i> , 2017, 9, a027730.	2.3	118
44	Role of Somatostatin-Positive Cortical Interneurons in the Generation of Sleep Slow Waves. <i>Journal of Neuroscience</i> , 2017, 37, 9132-9148.	1.7	118
45	Sleep and synaptic down-selection. <i>European Journal of Neuroscience</i> , 2020, 51, 413-421.	1.2	117
46	Triggering Slow Waves During NREM Sleep in the Rat by Intracortical Electrical Stimulation: Effects of Sleep/Wake History and Background Activity. <i>Journal of Neurophysiology</i> , 2009, 101, 1921-1931.	0.9	114
47	The <i>Drosophila</i> Fragile X Mental Retardation Gene Regulates Sleep Need. <i>Journal of Neuroscience</i> , 2009, 29, 1948-1961.	1.7	108
48	Neural and Behavioral Correlates of Extended Training during Sleep Deprivation in Humans: Evidence for Local, Task-Specific Effects. <i>Journal of Neuroscience</i> , 2015, 35, 4487-4500.	1.7	108
49	Auditory Responses and Stimulus-Specific Adaptation in Rat Auditory Cortex are Preserved Across NREM and REM Sleep. <i>Cerebral Cortex</i> , 2015, 25, 1362-1378.	1.6	102
50	Sleep in <i>Kcna2</i> knockout mice. <i>BMC Biology</i> , 2007, 5, 42.	1.7	101
51	Single-neuron activity and eye movements during human REM sleep and awake vision. <i>Nature Communications</i> , 2015, 6, 7884.	5.8	100
52	Locus Ceruleus Control of State-Dependent Gene Expression. <i>Journal of Neuroscience</i> , 2004, 24, 5410-5419.	1.7	97
53	Electrophysiological correlates of sleep homeostasis in freely behaving rats. <i>Progress in Brain Research</i> , 2011, 193, 17-38.	0.9	97
54	Cortical Development, Electroencephalogram Rhythms, and the Sleep/Wake Cycle. <i>Biological Psychiatry</i> , 2015, 77, 1071-1078.	0.7	95

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55	Time to Be SHY? Some Comments on Sleep and Synaptic Homeostasis. <i>Neural Plasticity</i> , 2012, 2012, 1-12.	1.0	93
56	Differences in gene expression between sleep and waking as revealed by mRNA differential display. <i>Molecular Brain Research</i> , 1998, 56, 293-305.	2.5	91
57	Disrupted Sleep: From Molecules to Cognition. <i>Journal of Neuroscience</i> , 2015, 35, 13889-13895.	1.7	91
58	Invited Review: How sleep deprivation affects gene expression in the brain: a review of recent findings. <i>Journal of Applied Physiology</i> , 2002, 92, 394-400.	1.2	90
59	Sleep deprivation and <i>c-fos</i> expression in the rat brain. <i>Journal of Sleep Research</i> , 1995, 4, 92-106.	1.7	87
60	Molecular correlates of sleep and wakefulness in the brain of the white-crowned sparrow. <i>Journal of Neurochemistry</i> , 2008, 105, 46-62.	2.1	87
61	Sleep, aging, and lifespan in <i>Drosophila</i> . <i>BMC Neuroscience</i> , 2010, 11, 56.	0.8	83
62	No evidence of brain cell degeneration after long-term sleep deprivation in rats1Published on the World Wide Web on 8 July 1999.1. <i>Brain Research</i> , 1999, 840, 184-193.	1.1	82
63	Regulation of cortical activity and arousal by the matrix cells of the ventromedial thalamic nucleus. <i>Nature Communications</i> , 2018, 9, 2100.	5.8	78
64	Sleep- and wake-dependent changes in neuronal activity and reactivity demonstrated in fly neurons using in vivo calcium imaging. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4785-4790.	3.3	76
65	Myelin modifications after chronic sleep loss in adolescent mice. <i>Sleep</i> , 2018, 41, .	0.6	75
66	Sleep Deprivation by Exposure to Novel Objects Increases Synapse Density and Axon-Spine Interface in the Hippocampal CA1 Region of Adolescent Mice. <i>Journal of Neuroscience</i> , 2019, 39, 6613-6625.	1.7	69
67	Homeostatic regulation of sleep in the white-crowned sparrow ( <i>Zonotrichia leucophrys gambelii</i> ). <i>BMC Neuroscience</i> , 2008, 9, 47.	0.8	66
68	Sleep-Dependent Synaptic Down-Selection (I): Modeling the Benefits of Sleep on Memory Consolidation and Integration. <i>Frontiers in Neurology</i> , 2013, 4, 143.	1.1	64
69	Sleep Patterns and Homeostatic Mechanisms in Adolescent Mice. <i>Brain Sciences</i> , 2013, 3, 318-343.	1.1	63
70	Oxidative stress, cancer, and sleep deprivation: is there a logical link in this association?. <i>Sleep and Breathing</i> , 2013, 17, 905-910.	0.9	61
71	Why Does Sleep Slow-Wave Activity Increase After Extended Wake? Assessing the Effects of Increased Cortical Firing During Wake and Sleep. <i>Journal of Neuroscience</i> , 2016, 36, 12436-12447.	1.7	60
72	A Molecular Window on Sleep: Changes in Gene Expression between Sleep and Wakefulness. <i>Neuroscientist</i> , 2005, 11, 63-74.	2.6	59

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73	Contribution of sleep to the repair of neuronal DNA double-strand breaks: evidence from flies and mice. <i>Scientific Reports</i> , 2016, 6, 36804.	1.6	58
74	Practice changes beta power at rest and its modulation during movement in healthy subjects but not in patients with <sc>P</sc>arkinson's disease. <i>Brain and Behavior</i> , 2015, 5, e00374.	1.0	56
75	Region-Specific Dissociation between Cortical Noradrenaline Levels and the Sleep/Wake Cycle. <i>Sleep</i> , 2016, 39, 143-154.	0.6	56
76	Responses in Rat Core Auditory Cortex are Preserved during Sleep Spindle Oscillations. <i>Sleep</i> , 2016, 39, 1069-1082.	0.6	56
77	Searching for sleep mutants of <i>Drosophila melanogaster</i> . <i>BioEssays</i> , 2003, 25, 940-949.	1.2	55
78	Sleep, synaptic homeostasis and neuronal firing rates. <i>Current Opinion in Neurobiology</i> , 2017, 44, 72-79.	2.0	51
79	Sleep reverts changes in human gray and white matter caused by wake-dependent training. <i>NeuroImage</i> , 2016, 129, 367-377.	2.1	50
80	Beta Oscillatory Changes and Retention of Motor Skills during Practice in Healthy Subjects and in Patients with Parkinson's Disease. <i>Frontiers in Human Neuroscience</i> , 2017, 11, 104.	1.0	49
81	From Genetics to Structure to Function: Exploring Sleep in <i>Drosophila</i> . <i>International Review of Neurobiology</i> , 2011, 99, 213-244.	0.9	48
82	Synaptic Potentiation and Sleep Need: Clues from Molecular and Electrophysiological Studies. <i>Current Topics in Medicinal Chemistry</i> , 2011, 11, 2472-2482.	1.0	47
83	Unilateral Cortical Spreading Depression Affects Sleep Need and Induces Molecular and Electrophysiological Signs of Synaptic Potentiation In Vivo. <i>Cerebral Cortex</i> , 2010, 20, 2939-2947.	1.6	46
84	Effects of Anesthesia on the Response to Sleep Deprivation. <i>Sleep</i> , 2010, 33, 1659-1667.	0.6	45
85	The Dynamics of Cortical Neuronal Activity in the First Minutes after Spontaneous Awakening in Rats and Mice. <i>Sleep</i> , 2014, 37, 1337-1347.	0.6	44
86	Sleep and Synaptic Homeostasis. <i>Sleep</i> , 2015, 38, 161-162.	0.6	44
87	Extracellular Levels of Lactate, but Not Oxygen, Reflect Sleep Homeostasis in the Rat Cerebral Cortex. <i>Sleep</i> , 2012, 35, 909-919.	0.6	43
88	Characterization of Sleep in <i>Aplysia californica</i> . <i>Sleep</i> , 2014, 37, 1453-63.	0.6	43
89	NGFI-A expression in the rat brain after sleep deprivation. <i>Molecular Brain Research</i> , 1997, 46, 143-153.	2.5	40
90	Sleep and synaptic changes. <i>Current Opinion in Neurobiology</i> , 2013, 23, 841-846.	2.0	40

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91	Metabolomic analysis of mouse prefrontal cortex reveals upregulated analytes during wakefulness compared to sleep. <i>Scientific Reports</i> , 2018, 8, 11225.	1.6	40
92	Sleep/wake dependent changes in cortical glucose concentrations. <i>Journal of Neurochemistry</i> , 2013, 124, 79-89.	2.1	39
93	Developmental Patterns of Sleep Slow Wave Activity and Synaptic Density in Adolescent Mice. <i>Sleep</i> , 2014, 37, 689-700.	0.6	38
94	Loss of Sleep Affects the Ultrastructure of Pyramidal Neurons in the Adolescent Mouse Frontal Cortex. <i>Sleep</i> , 2016, 39, 861-874.	0.6	37
95	Circadian clocks, brain function, and development. <i>Annals of the New York Academy of Sciences</i> , 2013, 1306, 43-67.	1.8	36
96	Changes in brain gene expression during migration in the white-crowned sparrow. <i>Brain Research Bulletin</i> , 2008, 76, 536-544.	1.4	35
97	Sleep Consolidates Motor Learning of Complex Movement Sequences in Mice. <i>Sleep</i> , 2017, 40, .	0.6	32
98	Brain Plasticity, Sleep and Aging. <i>Gerontology</i> , 2012, 58, 441-445.	1.4	31
99	Sleep and Wake Affect Glycogen Content and Turnover at Perisynaptic Astrocytic Processes. <i>Frontiers in Cellular Neuroscience</i> , 2018, 12, 308.	1.8	31
100	Effects of sleep and waking on the synaptic ultrastructure. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2020, 375, 20190235.	1.8	31
101	Differences in gene expression during sleep and wakefulness. <i>Annals of Medicine</i> , 1999, 31, 117-124.	1.5	30
102	Net decrease in spine-surface GluA1-containing AMPA receptors after post-learning sleep in the adult mouse cortex. <i>Nature Communications</i> , 2021, 12, 2881.	5.8	29
103	Sleep disruption, oxidative stress, and aging: New insights from fruit flies. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 13901-13902.	3.3	28
104	The why and how of sleep-dependent synaptic down-selection. <i>Seminars in Cell and Developmental Biology</i> , 2022, 125, 91-100.	2.3	28
105	The evolving view of replay and its functions in wake and sleep. <i>SLEEP Advances</i> , 2020, 1, zpab002.	0.1	28
106	Increased Volatile Anesthetic Requirement in Short-sleeping <i>Drosophila</i> Mutants. <i>Anesthesiology</i> , 2009, 110, 313-316.	1.3	25
107	Uncoupling proteins and sleep deprivation. <i>Archives Italiennes De Biologie</i> , 2004, 142, 541-9.	0.1	24
108	Synaptic refinement during development and its effect on slow-wave activity: a computational study. <i>Journal of Neurophysiology</i> , 2016, 115, 2199-2213.	0.9	22

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109	Visual imagery and visual perception induce similar changes in occipital slow waves of sleep. <i>Journal of Neurophysiology</i> , 2019, 121, 2140-2152.	0.9	21
110	Effects of Chronic Sleep Restriction during Early Adolescence on the Adult Pattern of Connectivity of Mouse Secondary Motor Cortex. <i>ENeuro</i> , 2016, 3, ENEURO.0053-16.2016.	0.9	20
111	Linking the need to sleep with synaptic function. <i>Science</i> , 2019, 366, 189-190.	6.0	20
112	Evidence for sleep-dependent synaptic renormalization in mouse pups. <i>Sleep</i> , 2019, 42, .	0.6	20
113	Molecular neurobiology of sleep. <i>Handbook of Clinical Neurology</i> / Edited By P J Vinken and G W Bruyn, 2011, 98, 191-203.	1.0	19
114	Reduction of EEG Theta Power and Changes in Motor Activity in Rats Treated with Ceftriaxone. <i>PLoS ONE</i> , 2012, 7, e34139.	1.1	19
115	The search for the molecular correlates of sleep and wakefulness. <i>Sleep Medicine Reviews</i> , 2001, 5, 397-408.	3.8	15
116	Neural fatigue due to intensive learning is reversed by a nap but not by quiet waking. <i>Sleep</i> , 2021, 44, .	0.6	14
117	Proteomic profiling of the rat cerebral cortex in sleep and waking. <i>Archives Italiennes De Biologie</i> , 2009, 147, 59-68.	0.1	14
118	Prior Practice Affects Movement-Related Beta Modulation and Quiet Wake Restores It to Baseline. <i>Frontiers in Systems Neuroscience</i> , 2020, 14, 61.	1.2	13
119	Transcriptome profiling of sleeping, waking, and sleep deprived adult heterozygous <i>Aldh1l1</i> eGFP-L10a mice. <i>Genomics Data</i> , 2015, 6, 114-117.	1.3	11
120	Chlorotoxin-mediated disinhibition of noradrenergic locus coeruleus neurons using a conditional transgenic approach. <i>Brain Research</i> , 2004, 1016, 20-32.	1.1	10
121	Higher Arc Nucleus-to-Cytoplasm Ratio during Sleep in the Superficial Layers of the Mouse Cortex. <i>Frontiers in Neural Circuits</i> , 2017, 11, 60.	1.4	10
122	Effects of Severe Sleep Disruption on the Synaptic Ultrastructure of Young Mice. <i>ENeuro</i> , 2021, 8, ENEURO.0077-21.2021.	0.9	6
123	Identification of ultrastructural signatures of sleep and wake in the fly brain. <i>Sleep</i> , 2022, 45, .	0.6	5
124	The Sleeping Brain. <i>Cerebrum: the Dana Forum on Brain Science</i> , 2017, 2017, .	0.1	5
125	Measuring Stimulus-Evoked Neurophysiological Differentiation in Distinct Populations of Neurons in Mouse Visual Cortex. <i>ENeuro</i> , 2022, 9, ENEURO.0280-21.2021.	0.9	5
126	Sleep and synaptic homeostasis. <i>Behavioral and Brain Sciences</i> , 2005, 28, 85-85.	0.4	3

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127	Extended Visual Sequence Learning Leaves a Local Trace in the Spontaneous EEG. <i>Frontiers in Neuroscience</i> , 2021, 15, 707828.	1.4	2
128	A POSSIBLE ROLE FOR SLEEP IN SYNAPTIC HOMEOSTASIS. , 2005, , 77-101.		1
129	Changes in Brain Gene Expression between Sleep and Wakefulness. , 2004, , 188-195.		0
130	Sleep and synaptic homeostasis. , 0, , 219-226.		0
131	Searching for Sleep Mutants of <i>Drosophila Melanogaster</i> . , 2004, , 141-158.		0