Mark F Bear

List of Publications by Year
in descending order

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129 papers	31,110 citations	13332 70 h-index	18944 123 g-index
138 all docs	138 docs citations	138 times ranked	22685 citing authors

#	Article	IF	Citations
1	Partial Recovery of Amblyopia After Fellow Eye Ischemic Optic Neuropathy. Journal of Neuro-Ophthalmology, 2023, 43, 76-81.	0.4	4
2	Dissociation of functional and structural plasticity of dendritic spines during NMDAR and mGluR-dependent long-term synaptic depression in wild-type and fragile X model mice. Molecular Psychiatry, 2021, 26, 4652-4669.	4.1	34
3	The Immediate Early Gene Arc Is Not Required for Hippocampal Long-Term Potentiation. Journal of Neuroscience, 2021, 41, 4202-4211.	1.7	13
4	Visual Recognition Is Heralded by Shifts in Local Field Potential Oscillations and Inhibitory Networks in Primary Visual Cortex. Journal of Neuroscience, 2021, 41, 6257-6272.	1.7	24
5	Microglia enable mature perineuronal nets disassembly upon anesthetic ketamine exposure or 60-Hz light entrainment in the healthy brain. Cell Reports, 2021, 36, 109313.	2.9	58
6	Correction of amblyopia in cats and mice after the critical period. ELife, 2021, 10, .	2.8	14
7	mGluR5 Negative Modulators for Fragile X: Treatment Resistance and Persistence. Frontiers in Psychiatry, 2021, 12, 718953.	1.3	17
8	The spatiotemporal organization of experience dictates hippocampal involvement in primary visual cortical plasticity. Current Biology, 2021, 31, 3996-4008.e6.	1.8	26
9	Stimulus-Selective Response Plasticity in Primary Visual Cortex: Progress and Puzzles. Frontiers in Neural Circuits, 2021, 15, 815554.	1.4	14
10	Distinct Laminar Requirements for NMDA Receptors in Experience-Dependent Visual Cortical Plasticity. Cerebral Cortex, 2020, 30, 2555-2572.	1.6	25
11	Spatial Multiplexing of Fluorescent Reporters for Imaging Signaling Network Dynamics. Cell, 2020, 183, 1682-1698.e24.	13.5	38
12	Selective inhibition of glycogen synthase kinase 3Î± corrects pathophysiology in a mouse model of fragile X syndrome. Science Translational Medicine, 2020, 12, .	5.8	42
13	Dynamic Changes in the Bridging Collaterals of the Basal Ganglia Circuitry Control Stress-Related Behaviors in Mice. Molecules and Cells, 2020, 43, 360-372.	1.0	0
14	Sustained correction of associative learning deficits after brief, early treatment in a rat model of Fragile X Syndrome. Science Translational Medicine, 2019, 11, .	5.8	57
15	Opposing Somatic and Dendritic Expression of Stimulus-Selective Response Plasticity in Mouse Primary Visual Cortex. Frontiers in Cellular Neuroscience, 2019, 13, 555.	1.8	19
16	Recovery from the anatomical effects of longâ€term monocular deprivation in cat lateral geniculate nucleus. Journal of Comparative Neurology, 2018, 526, 310-323.	0.9	26
17	R-Baclofen Reverses Cognitive Deficits and Improves Social Interactions in Two Lines of 16p11.2 Deletion Mice. Neuropsychopharmacology, 2018, 43, 513-524.	2.8	75
18	Drug development for neurodevelopmental disorders: lessons learned from fragile X syndrome. Nature Reviews Drug Discovery, 2018, 17, 280-299.	21.5	247

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19	The mouse as a model for neuropsychiatric drug development. Current Biology, 2018, 28, R909-R914.	1.8	26
20	Interneuron Simplification and Loss of Structural Plasticity As Markers of Aging-Related Functional Decline. Journal of Neuroscience, 2018, 38, 8421-8432.	1.7	23
21	Die Entstehung neuronaler Schaltkreise. , 2018, , 849-892.		0
22	Î²-Arrestin2 Couples Metabotropic Glutamate Receptor 5 to Neuronal Protein Synthesis and Is a Potential Target to Treat Fragile X. Cell Reports, 2017, 18, 2807-2814.	2.9	60
23	Experience-Dependent Synaptic Plasticity in V1 Occurs without Microglial CX3CR1. Journal of Neuroscience, 2017, 37, 10541-10553.	1.7	45
24	Arc restores juvenile plasticity in adult mouse visual cortex. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9182-9187.	3.3	40
25	Arbaclofen in fragile X syndrome: results of phase 3 trials. Journal of Neurodevelopmental Disorders, 2017, 9, 3.	1.5	135
26	Plasticity and Memory in Cerebral Cortex. , 2017, , 233-262.		0
27	The mGluR Theory of Fragile X: From Mice to Men. , 2017, , 173-204.		4
28	Rapid recovery from the effects of early monocular deprivation is enabled by temporary inactivation of the retinas. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14139-14144.	3.3	52
29	Negative Allosteric Modulation of mGluR5 Partially Corrects Pathophysiology in a Mouse Model of Rett Syndrome. Journal of Neuroscience, 2016, 36, 11946-11958.	1.7	41
30	Contrasting roles for parvalbumin-expressing inhibitory neurons in two forms of adult visual cortical plasticity. ELife, 2016, 5, .	2.8	63
31	Gene expression analysis in Fmr1KO mice identifies an immunological signature in brain tissue and mGluR5-related signaling in primary neuronal cultures. Molecular Autism, 2015, 6, 66.	2.6	18
32	Visual recognition memory, manifested as long-term habituation, requires synaptic plasticity in V1. Nature Neuroscience, 2015, 18, 262-271.	7.1	126
33	Contribution of mGluR5 to pathophysiology in a mouse model of human chromosome 16p11.2 microdeletion. Nature Neuroscience, 2015, 18, 182-184.	7.1	94
34	Visual recognition memory: a view from V1. Current Opinion in Neurobiology, 2015, 35, 57-65.	2.0	29
35	Metabotropic glutamate receptor signaling is required for NMDA receptor-dependent ocular dominance plasticity and LTD in visual cortex. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12852-12857.	3.3	21
36	Conserved hippocampal cellular pathophysiology but distinct behavioural deficits in a new rat model of FXS. Human Molecular Genetics, 2015, 24, 5977-5984.	1.4	92

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37	Convergence of Hippocampal Pathophysiology in<i>Syngap</i>^{+/âˆ’}and<i>Fmr1</i>^{âˆ’/<i>y</i>}Mice. Journal of Neuroscience, 2015, 35, 15073-15081.	1.7	76
38	Microchip amplifier for in vitro, in vivo, and automated whole cell patch-clamp recording. Journal of Neurophysiology, 2015, 113, 1275-1282.	0.9	16
39	Higher brain functions served by the lowly rodent primary visual cortex. Learning and Memory, 2014, 21, 527-533.	0.5	39
40	STX209 (Arbaclofen) for Autism Spectrum Disorders: An 8-Week Open-Label Study. Journal of Autism and Developmental Disorders, 2014, 44, 958-964.	1.7	111
41	Learned spatiotemporal sequence recognition and prediction in primary visual cortex. Nature Neuroscience, 2014, 17, 732-737.	7.1	185
42	Divergent dysregulation of gene expression in murine models of fragile X syndrome and tuberous sclerosis. Molecular Autism, 2014, 5, 16.	2.6	18
43	How the mechanisms of long-term synaptic potentiation and depression serve experience-dependent plasticity in primary visual cortex. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130284.	1.8	101
44	Fragile X mental retardation protein and synaptic plasticity. Molecular Brain, 2013, 6, 15.	1.3	189
45	Is metabotropic glutamate receptor 5 upregulated in prefrontal cortex in fragile X syndrome?. Molecular Autism, 2013, 4, 15.	2.6	50
46	A Cholinergic Mechanism for Reward Timing within Primary Visual Cortex. Neuron, 2013, 77, 723-735.	3.8	174
47	Lovastatin Corrects Excess Protein Synthesis and Prevents Epileptogenesis in a Mouse Model of Fragile X Syndrome. Neuron, 2013, 77, 243-250.	3.8	206
48	Reversal of Disease-Related Pathologies in the Fragile X Mouse Model by Selective Activation of GABA _B Receptors with Arbaclofen. Science Translational Medicine, 2012, 4, 152ra128.	5.8	217
49	Synaptic Dysfunction in Neurodevelopmental Disorders Associated with Autism and Intellectual Disabilities. Cold Spring Harbor Perspectives in Biology, 2012, 4, a009886-a009886.	2.3	650
50	Effects of STX209 (Arbaclofen) on Neurobehavioral Function in Children and Adults with Fragile X Syndrome: A Randomized, Controlled, Phase 2 Trial. Science Translational Medicine, 2012, 4, 152ra127.	5.8	289
51	Chronic Pharmacological mGlu5 Inhibition Corrects Fragile X in Adult Mice. Neuron, 2012, 74, 49-56.	3.8	437
52	The BCM theory of synapse modification at 30: interaction of theory with experiment. Nature Reviews Neuroscience, 2012, 13, 798-810.	4.9	314
53	Stimulus-Selective Response Plasticity in the Visual Cortex: An Assay for the Assessment of Pathophysiology and Treatment of Cognitive Impairment Associated with Psychiatric Disorders. Biological Psychiatry, 2012, 71, 487-495.	0.7	73
54	Lifting the Mood on Treating Fragile X. Biological Psychiatry, 2012, 72, 895-897.	0.7	7

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55	The Pathophysiology of Fragile X (and What It Teaches Us about Synapses). Annual Review of Neuroscience, 2012, 35, 417-443.	5.0	342
56	Toward Fulfilling the Promise of Molecular Medicine in Fragile X Syndrome. Annual Review of Medicine, 2011, 62, 411-429.	5.0	244
57	Mutations causing syndromic autism define an axis of synaptic pathophysiology. Nature, 2011, 480, 63-68.	13.7	546
58	New views of Arc, a master regulator of synaptic plasticity. Nature Neuroscience, 2011, 14, 279-284.	7.1	430
59	Pharmacological reversal of synaptic plasticity deficits in the mouse model of Fragile X syndrome by group II mGluR antagonist or lithium treatment. Brain Research, 2011, 1380, 106-119.	1.1	98
60	Cognitive dysfunction and prefrontal synaptic abnormalities in a mouse model of fragile X syndrome. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 2587-2592.	3.3	143
61	Loss of the Fragile X Mental Retardation Protein Decouples Metabotropic Glutamate Receptor Dependent Priming of Long-Term Potentiation From Protein Synthesis. Journal of Neurophysiology, 2010, 104, 1047-1051.	0.9	57
62	Activation of mGluR5 Induces Rapid and Long-Lasting Protein Kinase D Phosphorylation in Hippocampal Neurons. Journal of Molecular Neuroscience, 2010, 42, 1-8.	1.1	14
63	Mechanism-based approaches to treating fragile X. , 2010, 127, 78-93.		121
64	Loss of Arc renders the visual cortex impervious to the effects of sensory experience or deprivation. Nature Neuroscience, 2010, 13, 450-457.	7.1	142
65	Bidirectional ocular dominance plasticity of inhibitory networks: recent advances and unresolved questions. Frontiers in Cellular Neuroscience, 2010, 4, 21.	1.8	20
66	Visual Experience Induces Long-Term Potentiation in the Primary Visual Cortex. Journal of Neuroscience, 2010, 30, 16304-16313.	1.7	214
67	Rapid Structural Remodeling of Thalamocortical Synapses Parallels Experience-Dependent Functional Plasticity in Mouse Primary Visual Cortex. Journal of Neuroscience, 2010, 30, 9670-9682.	1.7	82
68	Promoting neurological recovery of function via metaplasticity. Future Neurology, 2010, 5, 21-26.	0.9	21
69	Hypersensitivity to mGluR5 and ERK1/2 Leads to Excessive Protein Synthesis in the Hippocampus of a Mouse Model of Fragile X Syndrome. Journal of Neuroscience, 2010, 30, 15616-15627.	1.7	336
70	Relative Contribution of Feedforward Excitatory Connections to Expression of Ocular Dominance Plasticity in Layer 4 of Visual Cortex. Neuron, 2010, 66, 493-500.	3.8	67
71	Essential role for a long-term depression mechanism in ocular dominance plasticity. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 9860-9865.	3.3	95
72	Learning reward timing in cortex through reward dependent expression of synaptic plasticity. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 6826-6831.	3.3	70

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73	The ratio of NR2A/B NMDA receptor subunits determines the qualities of ocular dominance plasticity in visual cortex. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5377-5382.	3.3	96
74	The effects of l-amphetamine sulfate on cognition in MS patients: results of a randomized controlled trial. Journal of Neurology, 2009, 256, 1095-1102.	1.8	67
75	Fragile x syndrome and autism: from disease model to therapeutic targets. Journal of Neurodevelopmental Disorders, 2009, 1, 133-140.	1.5	39
76	Thalamic activity that drives visual cortical plasticity. Nature Neuroscience, 2009, 12, 390-392.	7.1	73
77	Bidirectional synaptic mechanisms of ocular dominance plasticity in visual cortex. Philosophical Transactions of the Royal Society B: Biological Sciences, 2009, 364, 357-367.	1.8	169
78	The levo enantiomer of amphetamine increases memory consolidation and gene expression in the hippocampus without producing locomotor stimulation. Neurobiology of Learning and Memory, 2009, 92, 106-113.	1.0	23
79	Role for metabotropic glutamate receptor 5 (mGluR5) in the pathogenesis of fragile X syndrome. Journal of Physiology, 2008, 586, 1503-1508.	1.3	244
80	Cannabinoid Receptor Blockade Reveals Parallel Plasticity Mechanisms in Different Layers of Mouse Visual Cortex. Neuron, 2008, 58, 340-345.	3.8	94
81	The Autistic Neuron: Troubled Translation?. Cell, 2008, 135, 401-406.	13.5	517
82	Smaller Dendritic Spines, Weaker Synaptic Transmission, but Enhanced Spatial Learning in Mice Lacking Shank1. Journal of Neuroscience, 2008, 28, 1697-1708.	1.7	321
83	Fragile X: Translation in Action. Neuropsychopharmacology, 2008, 33, 84-87.	2.8	94
84	Recovery From Monocular Deprivation Using Binocular Deprivation. Journal of Neurophysiology, 2008, 100, 2217-2224.	0.9	23
85	Deprivation-induced synaptic depression by distinct mechanisms in different layers of mouse visual cortex. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 1383-1388.	3.3	145
86	Obligatory Role of NR2A for Metaplasticity in Visual Cortex. Neuron, 2007, 53, 495-502.	3.8	169
87	Correction of Fragile X Syndrome in Mice. Neuron, 2007, 56, 955-962.	3.8	895
88	Activity-dependent regulation of NR2B translation contributes to metaplasticity in mouse visual cortex. Neuropharmacology, 2007, 52, 200-214.	2.0	92
89	Group I Metabotropic Glutamate Receptors: A Role in Neurodevelopmental Disorders?. Molecular Neurobiology, 2007, 35, 298-307.	1.9	53
90	Instructive Effect of Visual Experience in Mouse Visual Cortex. Neuron, 2006, 51, 339-349.	3.8	263

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91	Stimulus for Rapid Ocular Dominance Plasticity in Visual Cortex. Journal of Neurophysiology, 2006, 95, 2947-2950.	0.9	23
92	Learning Induces Long-Term Potentiation in the Hippocampus. Science, 2006, 313, 1093-1097.	6.0	1,638
93	Reward Timing in the Primary Visual Cortex. Science, 2006, 311, 1606-1609.	6.0	598
94	Bidirectional Modifications of Visual Acuity Induced by Monocular Deprivation in Juvenile and Adult Rats. Journal of Neuroscience, 2006, 26, 7368-7374.	1.7	50
95	Role for A Kinase-anchoring Proteins (AKAPS) in Glutamate Receptor Trafficking and Long Term Synaptic Depression. Journal of Biological Chemistry, 2005, 280, 16962-16968.	1.6	107
96	Courting a Cure for Fragile X. Neuron, 2005, 45, 642-644.	3.8	35
97	A Morphological Correlate of Synaptic Scaling in Visual Cortex. Journal of Neuroscience, 2004, 24, 6928-6938.	1.7	131
98	Extracellular Signal-Regulated Protein Kinase Activation Is Required for Metabotropic Glutamate Receptor-Dependent Long-Term Depression in Hippocampal Area CA1. Journal of Neuroscience, 2004, 24, 4859-4864.	1.7	228
99	The mGluR theory of fragile X mental retardation. Trends in Neurosciences, 2004, 27, 370-377.	4.2	1,431
100	LTP and LTD. Neuron, 2004, 44, 5-21.	3.8	3,364
101	How Monocular Deprivation Shifts Ocular Dominance in Visual Cortex of Young Mice. Neuron, 2004, 44, 917-923.	3.8	349
102	Molecular mechanism for loss of visual cortical responsiveness following brief monocular deprivation. Nature Neuroscience, 2003, 6, 854-862.	7.1	301
103	Bidirectional synaptic plasticity: from theory to reality. Philosophical Transactions of the Royal Society B: Biological Sciences, 2003, 358, 649-655.	1.8	222
104	NMDA Receptor-Dependent Ocular Dominance Plasticity in Adult Visual Cortex. Neuron, 2003, 38, 977-985.	3.8	422
105	Evidence for Altered NMDA Receptor Function as a Basis for Metaplasticity in Visual Cortex. Journal of Neuroscience, 2003, 23, 5583-5588.	1.7	162
106	Altered synaptic plasticity in a mouse model of fragile X mental retardation. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 7746-7750.	3.3	1,208
107	Visual Experience and Deprivation Bidirectionally Modify the Composition and Function of NMDA Receptors in Visual Cortex. Neuron, 2001, 29, 157-169.	3.8	360
108	Forebrain-Specific Calcineurin Knockout Selectively Impairs Bidirectional Synaptic Plasticity and Working/Episodic-like Memory. Cell, 2001, 107, 617-629.	13.5	457

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109	Chemical Induction of mGluR5- and Protein Synthesisâ€“Dependent Long-Term Depression in Hippocampal Area CA1. Journal of Neurophysiology, 2001, 86, 321-325.	0.9	342
110	PLC-Î²1, activated via mGluRs, mediates activity-dependent differentiation in cerebral cortex. Nature Neuroscience, 2001, 4, 282-288.	7.1	210
111	Internalization of ionotropic glutamate receptors in response to mGluR activation. Nature Neuroscience, 2001, 4, 1079-1085.	7.1	492
112	Regulation of distinct AMPA receptor phosphorylation sites during bidirectional synaptic plasticity. Nature, 2000, 405, 955-959.	13.7	996
113	Role for Rapid Dendritic Protein Synthesis in Hippocampal mGluR-Dependent Long-Term Depression. Science, 2000, 288, 1254-1256.	6.0	835
114	Induction of NMDA Receptor-Dependent Long-Term Depression in Visual Cortex Does Not Require Metabotropic Glutamate Receptors. Journal of Neurophysiology, 1999, 82, 3594-3597.	0.9	31
115	Monocular deprivation induces homosynaptic long-term depression in visual cortex. Nature, 1999, 397, 347-350.	13.7	219
116	A molecular correlate of memory and amnesia in the hippocampus. Nature Neuroscience, 1999, 2, 309-310.	7.1	125
117	Rapid, experience-dependent expression of synaptic NMDA receptors in visual cortex in vivo. Nature Neuroscience, 1999, 2, 352-357.	7.1	519
118	Molecular basis for induction of ocular dominance plasticity. , 1999, 41, 83-91.		102
119	BDNF Regulates the Maturation of Inhibition and the Critical Period of Plasticity in Mouse Visual Cortex. Cell, 1999, 98, 739-755.	13.5	1,072
120	NMDA Induces Long-Term Synaptic Depression and Dephosphorylation of the GluR1 Subunit of AMPA Receptors in Hippocampus. Neuron, 1998, 21, 1151-1162.	3.8	617
121	Effects of the Metabotropic Glutamate Receptor Antagonist MCPG on Phosphoinositide Turnover and Synaptic Plasticity in Visual Cortex. Journal of Neuroscience, 1998, 18, 1-9.	1.7	75
122	How do memories leave their mark?. Nature, 1997, 385, 481-482.	13.7	18
123	Long-Term Depression in Hippocampus. Annual Review of Neuroscience, 1996, 19, 437-462.	5.0	580
124	Metaplasticity: the plasticity of synaptic plasticity. Trends in Neurosciences, 1996, 19, 126-130.	4.2	1,415
125	Bidirectional modification of CA1 synapses in the adult hippocampus in vivo. Nature, 1996, 381, 163-166.	13.7	170
126	Experience-dependent modification of synaptic plasticity in visual cortex. Nature, 1996, 381, 526-528.	13.7	567

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127	Co-regulation of long-term potentiation and experience-dependent synaptic plasticity in visual cortex by age and experience. Nature, 1995, 375, 328-331.	13.7	410
128	Stimulation of Phosphoinositide Turnover by Excitatory Amino Acids.. Annals of the New York Academy of Sciences, 1991, 627, 42-56.	1.8	34
129	The Spatiotemporal Organization of Experience Dictates Hippocampal Involvement in Primary Visual Cortical Plasticity. SSRN Electronic Journal, 0, , .	0.4	1