Tobias Bonhoeffer

List of Publications by Year
in descending order

118	22,653	14124 69	21239 119
papers	citations	h-index	g-index

131	131	131	19544
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Orientation and direction tuning align with dendritic morphology and spatial connectivity in mouse visual cortex. Current Biology, 2022, 32, 1743-1753.e7.	1.8	15
2	Mouse prefrontal cortex represents learned rules for categorization. Nature, 2021, 593, 411-417.	13.7	61
3	Limited functional convergence of eye-specific inputs in the retinogeniculate pathway of the mouse. Neuron, 2021, 109, 2457-2468.e12.	3.8	23
4	Mouse visual cortex areas represent perceptual and semantic features of learned visual categories. Nature Neuroscience, 2021, 24, 1441-1451.	7.1	31
5	Spaced training enhances memory and prefrontal ensemble stability in mice. Current Biology, 2021, 31, 4052-4061.e6.	1.8	6
6	Disparity Sensitivity and Binocular Integration in Mouse Visual Cortex Areas. Journal of Neuroscience, 2020, 40, 8883-8899.	1.7	21
7	Area-Specific Mapping of Binocular Disparity across Mouse Visual Cortex. Current Biology, 2019, 29, 2954-2960.e5.	1.8	58
8	Benchmarking miniaturized microscopy against two-photon calcium imaging using single-cell orientation tuning in mouse visual cortex. PLoS ONE, 2019, 14, e0214954.	1.1	20
9	Food and water restriction lead to differential learning behaviors in a head-fixed two-choice visual discrimination task for mice. PLoS ONE, 2018, 13, e0204066.	1.1	42
10	High-yield in vitro recordings from neurons functionally characterized in vivo. Nature Protocols, 2018, 13, 1275-1293.	5.5	24
11	Experience-dependent plasticity in the lateral geniculate nucleus. Current Opinion in Neurobiology, 2018, 53, 22-28.	2.0	23
12	Interactions between synaptic homeostatic mechanisms: an attempt to reconcile BCM theory, synaptic scaling, and changing excitation/inhibition balance. Current Opinion in Neurobiology, 2017, 43, 87-93.	2.0	75
13	Variance and invariance of neuronal long-term representations. Philosophical Transactions of the Royal Society B: Biological Sciences, 2017, 372, 20160161.	1.8	108
14	Lateral geniculate neurons projecting to primary visual cortex show ocular dominance plasticity in adult mice. Nature Neuroscience, 2017, 20, 1708-1714.	7.1	87
15	Selective Persistence of Sensorimotor Mismatch Signals in Visual Cortex of Behaving Alzheimerâ€™s Disease Mice. Current Biology, 2016, 26, 956-964.	1.8	49
16	What is memory? The present state of the engram. BMC Biology, 2016, 14, 40.	1.7	277
17	Transplanted embryonic neurons integrate into adult neocortical circuits. Nature, 2016, 539, 248-253.	13.7	130
18	Cell-specific restoration of stimulus preference after monocular deprivation in the visual cortex. Science, 2016, 352, 1319-1322.	6.0	173

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19	Intrinsic Optical Imaging of Functional Map Development in Mammalian Visual Cortex. Cold Spring Harbor Protocols, 2016, 2016, pdb.top089383.	0.2	2
20	Clusters of synaptic inputs on dendrites of layer 5 pyramidal cells in mouse visual cortex. ELife, 2016, 5, .	2.8	41
21	Two-photon Calcium Imaging in Mice Navigating a Virtual Reality Environment. Journal of Visualized Experiments, 2014, , e50885.	0.2	48
22	Balance and Stability of Synaptic Structures during Synaptic Plasticity. Neuron, 2014, 82, 430-443.	3.8	349
23	Neuronal Plasticity: Beyond the Critical Period. Cell, 2014, 159, 727-737.	13.5	186
24	Function of Dendritic Spines on Hippocampal Inhibitory Neurons. Cerebral Cortex, 2014, 24, 3142-3153.	1.6	31
25	Grid cells and cortical representation. Nature Reviews Neuroscience, 2014, 15, 466-481.	4.9	249
26	Synaptic Scaling and Homeostatic Plasticity in the Mouse Visual Cortex InÂVivo. Neuron, 2013, 80, 327-334.	3.8	301
27	A Molecular Correlate of Ocular Dominance Columns in the Developing Mammalian Visual Cortex. Cerebral Cortex, 2013, 23, 2531-2541.	1.6	13
28	Structural plasticity of GABAergic axons is regulated by network activity and GABAA receptor activation. Frontiers in Neural Circuits, 2013, 7, 113.	1.4	29
29	Sensorimotor Mismatch Signals in Primary Visual Cortex of the Behaving Mouse. Neuron, 2012, 74, 809-815.	3.8	572
30	Sibling neurons bond to share sensations. Nature, 2012, 486, 41-42.	13.7	7
31	Altered Visual Experience Induces Instructive Changes of Orientation Preference in Mouse Visual Cortex. Journal of Neuroscience, 2011, 31, 13911-13920.	1.7	69
32	Loss of Sensory Input Causes Rapid Structural Changes of Inhibitory Neurons in Adult Mouse Visual Cortex. Neuron, 2011, 71, 869-882.	3.8	210
33	Activity-Dependent Clustering of Functional Synaptic Inputs on Developing Hippocampal Dendrites. Neuron, 2011, 72, 1012-1024.	3.8	216
34	Dendritic Spines: The Stuff That Memories Are Made Of?. Current Biology, 2010, 20, R157-R159.	1.8	50
35	Molecular and Electrophysiological Characterization of GFP-Expressing CA1 Interneurons in GAD65-GFP Mice. PLoS ONE, 2010, 5, e15915.	1.1	48
36	Searching for Engrams. Neuron, 2010, 67, 363-371.	3.8	87

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37	Imaging Living Synapses at the Nanoscale by STED Microscopy. Journal of Neuroscience, 2010, 30, 9341-9346.	1.7	47
38	Experience leaves a lasting structural trace in cortical circuits. Nature, 2009, 457, 313-317.	13.7	462
39	Doxycycline-dependent photoactivated gene expression in eukaryotic systems. Nature Methods, 2009, 6, 527-531.	9.0	81
40	Long-term, high-resolution imaging in the mouse neocortex through a chronic cranial window. Nature Protocols, 2009, 4, 1128-1144.	5.5	894
41	A genetically encoded calcium indicator for chronic in vivo two-photon imaging. Nature Methods, 2008, 5, 805-811.	9.0	458
42	GABAergic synapses are formed without the involvement of dendritic protrusions. Nature Neuroscience, 2008, 11, 1044-1052.	7.1	84
43	Massive restructuring of neuronal circuits during functional reorganization of adult visual cortex. Nature Neuroscience, 2008, 11, 1162-1167.	7.1	275
44	A Role for Local Calcium Signaling in Rapid Synaptic Partner Selection by Dendritic Filopodia. Neuron, 2008, 59, 253-260.	3.8	141
45	LTD Induction Causes Morphological Changes of Presynaptic Boutons and Reduces Their Contacts with Spines. Neuron, 2008, 60, 590-597.	3.8	131
46	Live-cell imaging of dendritic spines by STED microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 18982-18987.	3.3	364
47	Endogenous Brain-Derived Neurotrophic Factor Triggers Fast Calcium Transients at Synapses in Developing Dendrites. Journal of Neuroscience, 2007, 27, 1097-1105.	1.7	69
48	Homeostatic Regulation of Eye-Specific Responses in Visual Cortex during Ocular Dominance Plasticity. Neuron, 2007, 54, 961-972.	3.8	298
49	Multiscale imaging of neurons grown in culture: From light microscopy to cryo-electron tomography. Journal of Structural Biology, 2007, 160, 146-156.	1.3	106
50	Protracted Synaptogenesis after Activity-Dependent Spinogenesis in Hippocampal Neurons. Journal of Neuroscience, 2007, 27, 8149-8156.	1.7	153
51	Hippocampal Long-Term Potentiation Is Supported by Presynaptic and Postsynaptic Tyrosine Receptor Kinase B-Mediated Phospholipase CÂ Signaling. Journal of Neuroscience, 2006, 26, 3496-3504.	1.7	112
52	A Balance of Protein Synthesis and Proteasome-Dependent Degradation Determines the Maintenance of LTP. Neuron, 2006, 52, 239-245.	3.8	272
53	Prior experience enhances plasticity in adult visual cortex. Nature Neuroscience, 2006, 9, 127-132.	7.1	189
54	Neuronal activity determines the protein synthesis dependence of long-term potentiation. Nature Neuroscience, 2006, 9, 478-480.	7.1	135

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55	Simultaneous imaging of morphological plasticity and calcium dynamics in dendrites. Nature Protocols, 2006, 1, 1859-1864.	5.5	17
56	Highly ordered arrangement of single neurons in orientation pinwheels. Nature, 2006, 442, 925-928.	13.7	293
57	Lifelong learning: ocular dominance plasticity in mouse visual cortex. Current Opinion in Neurobiology, 2006, 16, 451-459.	2.0	116
58	Homeostatic shutdown of long-term potentiation in the adult hippocampus. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 11039-11044.	3.3	42
59	Local calcium transients regulate the spontaneous motility of dendritic filopodia. Nature Neuroscience, 2005, 8, 305-312.	7.1	123
60	Visual Cortex: Two-Photon Excitement. Current Biology, 2005, 15, R205-R208.	1.8	7
61	Live imaging of effector cell trafficking and autoantigen recognition within the unfolding autoimmune encephalomyelitis lesion. Journal of Experimental Medicine, 2005, 201, 1805-1814.	4.2	249
62	The neurotrophin receptor p75NTR modulates long-term depression and regulates the expression of AMPA receptor subunits in the hippocampus. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7362-7367.	3.3	158
63	Altered Map of Visual Space in the Superior Colliculus of Mice Lacking Early Retinal Waves. Journal of Neuroscience, 2005, 25, 6921-6928.	1.7	110
64	The p75 Neurotrophin Receptor Negatively Modulates Dendrite Complexity and Spine Density in Hippocampal Neurons. Journal of Neuroscience, 2005, 25, 9989-9999.	1.7	251
65	Hippocampal plasticity requires postsynaptic ephrinBs. Nature Neuroscience, 2004, 7, 33-40.	7.1	246
66	Genesis of dendritic spines: insights from ultrastructural and imaging studies. Nature Reviews Neuroscience, 2004, 5, 24-34.	4.9	545
67	Competing for Memory. Neuron, 2004, 44, 1011-1020.	3.8	92
68	Bidirectional Activity-Dependent Morphological Plasticity in Hippocampal Neurons. Neuron, 2004, 44, 759-767.	3.8	517
69	High-resolution functional optical imaging: from the neocortex to the eye. Ophthalmology Clinics of North America, 2004, 17, 53-67.	1.8	52
70	Brain Mapping: New Wave Optical Imaging. Current Biology, 2003, 13, R778-R780.	1.8	21
71	Synaptopodin-deficient mice lack a spine apparatus and show deficits in synaptic plasticity. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 10494-10499.	3.3	265
72	Reply to Carreira-PerpiÃ±Ã¡n and Goodhill. Neural Computation, 2002, 14, 2053-2056.	1.3	1

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73	Spine Motility. Neuron, 2002, 35, 1019-1027.	3.8	317
74	Mechanism of TrkB-Mediated Hippocampal Long-Term Potentiation. Neuron, 2002, 36, 121-137.	3.8	434
75	Optical Imaging of Functional Architecture in Cat Primary Visual Cortex. , 2002, , 131-iii.		3
76	Mapping Retinotopic Structure in Mouse Visual Cortex with Optical Imaging. Journal of Neuroscience, 2002, 22, 6549-6559.	1.7	210
77	Orientation specificity of contrast adaptation in visual cortical pinwheel centres and iso-orientation domains. European Journal of Neuroscience, 2002, 15, 876-886.	1.2	21
78	Correlated binocular activity guides recovery from monocular deprivation. Nature, 2002, 416, 430-433.	13.7	77
79	Morphological Changes in Dendritic Spines Associated with Long-Term Synaptic Plasticity. Annual Review of Neuroscience, 2001, 24, 1071-1089.	5.0	1,095
80	Pairing-Induced Changes of Orientation Maps in Cat Visual Cortex. Neuron, 2001, 32, 325-337.	3.8	129
81	Kinase-Independent Requirement of EphB2 Receptors in Hippocampal Synaptic Plasticity. Neuron, 2001, 32, 1027-1040.	3.8	285
82	Tuning and Topography in an Odor Map on the Rat Olfactory Bulb. Journal of Neuroscience, 2001, 21, 1351-1360.	1.7	365
83	In vivo optical mapping of epileptic foci and surround inhibition in ferret cerebral cortex. Nature Medicine, 2001, 7, 1063-1067.	15.2	178
84	Visual cortex maps are optimized for uniform coverage. Nature Neuroscience, 2000, 3, 822-826.	7.1	149
85	Verschwommene Erinnerungen - Synaptische VerstÃrkung und ihre lokalen Effekte. E-Neuroforum, 2000, 6, 157-164.	0.2	1
86	Shc-binding site in the TrkB receptor is not required for hippocampal long-term potentiation. Neuropharmacology, 2000, 39, 717-724.	2.0	36
87	Relative Contribution of Endogenous Neurotrophins in Hippocampal Long-Term Potentiation. Journal of Neuroscience, 1999, 19, 7983-7990.	1.7	221
88	Orientation topography of layer 4 lateral networks revealed by optical imaging in cat visual cortex (area 18). European Journal of Neuroscience, 1999, 11, 4291-4308.	1.2	49
89	Influence of experience on orientation maps in cat visual cortex. Nature Neuroscience, 1999, 2, 727-732.	7.1	199
90	Dendritic spine changes associated with hippocampal long-term synaptic plasticity. Nature, 1999, 399, 66-70.	13.7	1,556

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91	Eyes wide shut. Nature Neuroscience, 1999, 2, 1043-1045.	7.1	9
92	Development of orientation preference in the mammalian visual cortex. , 1999, 41, 18-24.		50
93	Essential Role for TrkB Receptors in Hippocampus-Mediated Learning. Neuron, 1999, 24, 401-414.	3.8	731
94	The layout of orientation and ocular dominance domains in area 17 of strabismic cats. European Journal of Neuroscience, 1998, 10, 2629-2643.	1.2	54
95	Intrinsic and environmental factors in the development of functional maps in cat visual cortex. Neuropharmacology, 1998, 37, 607-621.	2.0	40
96	A role for BDNF in the late-phase of hippocampal long-term potentiation. Neuropharmacology, 1998, 37, 553-559.	2.0	241
97	Orientation Selectivity in Pinwheel Centers in Cat Striate Cortex. Science, 1997, 276, 1551-1555.	6.0	186
98	Rapid gene transfer into cultured hippocampal neurons and acute hippocampal slices using adenoviral vectors. Molecular Brain Research, 1997, 44, 171-177.	2.5	15
99	Functional Specificity of Long-Range Intrinsic and Interhemispheric Connections in the Visual Cortex of Strabismic Cats. Journal of Neuroscience, 1997, 17, 5480-5492.	1.7	116
100	Development of Orientation Preference Maps in Area 18 of Kitten Visual Cortex. European Journal of Neuroscience, 1997, 9, 1754-1762.	1.2	70
101	Spatioâ€“temporal frequency domains and their relation to cytochrome oxidase staining in cat visual cortex. Nature, 1997, 385, 529-533.	13.7	142
102	Synapse specificity of long-term potentiation breaks down at short distances. Nature, 1997, 388, 279-284.	13.7	225
103	Spatial Relationships among Three Columnar Systems in Cat Area 17. Journal of Neuroscience, 1997, 17, 9270-9284.	1.7	309
104	Neurotrophins and activity-dependent development of the neocortex. Current Opinion in Neurobiology, 1996, 6, 119-126.	2.0	298
105	Development of Orientation Preference Maps in Ferret Primary Visual Cortex. Journal of Neuroscience, 1996, 16, 6443-6453.	1.7	307
106	Virus-mediated gene transfer into hippocampal CA1 region restores long-term potentiation in brain-derived neurotrophic factor mutant mice.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 12547-12552.	3.3	353
107	A low-cost UV laser for flash photolysis of caged compounds. Journal of Neuroscience Methods, 1996, 66, 47-54.	1.3	15
108	Development of identical orientation maps for two eyes without common visual experience. Nature, 1996, 379, 251-254.	13.7	149

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109	Organization of the visual cortex. Nature, 1996, 382, 306-307.	13.7	19
110	Hippocampal long-term potentiation is impaired in mice lacking brain-derived neurotrophic factor.. Proceedings of the National Academy of Sciences of the United States of America, 1995, 92, 8856-8860.	3.3	1,322
111	Optical Imaging of the Layout of Functional Domains in Area 17 and Across the Area 17/18 Border in Cat Visual Cortex. European Journal of Neuroscience, 1995, 7, 1973-1988.	1.2	161
112	Reverse occlusion leads to a precise restoration of orientation preference maps in visual cortex. Nature, 1994, 370, 370-372.	13.7	95
113	Relationship Between Lateral Inhibitory Connections and the Topography of the Orientation Map in Cat Visual Cortex. European Journal of Neuroscience, 1994, 6, 1619-1632.	1.2	117
114	Iso-orientation domains in cat visual cortex are arranged in pinwheel-like patterns. Nature, 1991, 353, 429-431.	13.7	798
115	Non-Hebbian synapses in rat visual cortex. NeuroReport, 1990, 1, 115-118.	0.6	55
116	Formation of target-specific neuronal projections in organotypic slice cultures from rat visual cortex. Nature, 1990, 346, 359-362.	13.7	205
117	Optical recording with single cell resolution from monolayered slice cultures of rat hippocampus. Neuroscience Letters, 1988, 92, 259-264.	1.0	22
118	Parallel processing for associative and neuronal networks. Biological Cybernetics, 1984, 51, 201-204.	0.6	22