Rafael Yuste

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/9195271/publications.pdf

Version: 2024-02-01

149 papers	27,800 citations	6613 79 h-index	7518 151 g-index
177 all docs	177 docs citations	177 times ranked	22589 citing authors

#	Article	IF	Citations
1	Voltage compartmentalization in dendritic spines in vivo. Science, 2022, 375, 82-86.	12.6	61
2	An increase in spontaneous activity mediates visual habituation. Cell Reports, 2022, 39, 110751.	6.4	5
3	Intrinsic excitability mechanisms of neuronal ensemble formation. ELife, 2022, 11, .	6.0	19
4	Structural Analysis of Human and Mouse Dendritic Spines Reveals a Morphological Continuum and Differences across Ages and Species. ENeuro, 2022, 9, ENEURO.0039-22.2022.	1.9	12
5	Towards a Governance Framework for Brain Data. Neuroethics, 2022, 15, .	2.8	21
6	An in vitro model of neuronal ensembles. Nature Communications, 2022, 13, .	12.8	10
7	Recommendations for Responsible Development and Application of Neurotechnologies. Neuroethics, 2021, 14, 365-386.	2.8	67
8	Cortical ensembles selective for context. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	29
9	Ultrastructural analysis of dendritic spine necks reveals a continuum of spine morphologies. Developmental Neurobiology, 2021, 81, 746-757.	3.0	34
10	Long-term stability of cortical ensembles. ELife, 2021, 10, .	6.0	40
11	Identification of Pattern Completion Neurons in Neuronal Ensembles Using Probabilistic Graphical Models. Journal of Neuroscience, 2021, 41, 8577-8588.	3.6	11
12	Ensemble synchronization in the reassembly of Hydraâ€™s nervous system. Current Biology, 2021, 31, 3784-3796.e3.	3.9	10
13	Holographic Imaging and Stimulation of Neural Circuits. Advances in Experimental Medicine and Biology, 2021, 1293, 613-639.	1.6	2
14	Tracking calcium dynamics from individual neurons in behaving animals. PLoS Computational Biology, 2021, 17, e1009432.	3.2	17
15	Time for NanoNeuro. Nature Methods, 2021, 18, 1287-1293.	19.0	17
16	Simultaneous two-photon imaging of action potentials and subthreshold inputs in vivo. Nature Communications, 2021, 12, 7229.	12.8	15
17	A community-based transcriptomics classification and nomenclature of neocortical cell types. Nature Neuroscience, 2020, 23, 1456-1468.	14.8	183
18	International Brain Initiative: An Innovative Framework for Coordinated Global Brain Research Efforts. Neuron, 2020, 105, 212-216.	8.1	50

#	Article	IF	Citations
19	Playing the piano with the cortex: role of neuronal ensembles and pattern completion in perception and behavior. Current Opinion in Neurobiology, 2020, 64, 89-95.	4.2	56
20	Whole-Body Imaging of Neural and Muscle Activity during Behavior inHydra vulgaris: Effect of Osmolarity on Contraction Bursts. ENeuro, 2020, 7, ENEURO.0539-19.2020.	1.9	18
21	A miniaturized multi-clamp CMOS amplifier for intracellular neural recording. Nature Electronics, 2019, 2, 343-350.	26.0	10
22	Controlling Visually Guided Behavior by Holographic Recalling of Cortical Ensembles. Cell, 2019, 178, 447-457.e5.	28.9	254
23	Electrodiffusion models of synaptic potentials in dendritic spines. Journal of Computational Neuroscience, 2019, 47, 77-89.	1.0	20
24	Conserved cell types with divergent features in human versus mouse cortex. Nature, 2019, 573, 61-68.	27.8	1,198
25	Acute Focal Seizures Start As Local Synchronizations of Neuronal Ensembles. Journal of Neuroscience, 2019, 39, 8562-8575.	3.6	63
26	Genetic voltage indicators. BMC Biology, 2019, 17, 71.	3.8	87
27	Mapping the Whole-Body Muscle Activity of Hydra vulgaris. Current Biology, 2019, 29, 1807-1817.e3.	3.9	50
28	Reduced Repertoire of Cortical Microstates and Neuronal Ensembles in Medically Induced Loss of Consciousness. Cell Systems, 2019, 8, 467-474.e4.	6.2	47
29	Comparative Evaluation of Genetically Encoded Voltage Indicators. Cell Reports, 2019, 26, 802-813.e4.	6.4	137
30	Flexible Nanopipettes for Minimally Invasive Intracellular Electrophysiology InÂVivo. Cell Reports, 2019, 26, 266-278.e5.	6.4	52
31	Holographic imaging and photostimulation of neural activity. Current Opinion in Neurobiology, 2018, 50, 211-221.	4.2	37
32	Statistically Reconstructed Multiplexing for Very Dense, High-Channel-Count Acquisition Systems. IEEE Transactions on Biomedical Circuits and Systems, 2018, 12, 13-23.	4.0	23
33	Parvalbumin-Positive Interneurons Regulate Neuronal Ensembles in Visual Cortex. Cerebral Cortex, 2018, 28, 1831-1845.	2.9	65
34	Addendum: A very large-scale microelectrode array for cellular-resolution electrophysiology. Nature Communications, 2018, 9, 4497.	12.8	1
35	Neuronal photoactivation through second-harmonic near-infrared absorption by gold nanoparticles. Light: Science and Applications, 2018, 7, 100.	16.6	22
36	Two-Photon Optogenetic Mapping of Excitatory Synaptic Connectivity and Strength. IScience, 2018, 8, 15-28.	4.1	16

#	Article	IF	Citations
37	Simultaneous two-photon imaging and two-photon optogenetics of cortical circuits in three dimensions. ELife, 2018, 7, .	6.0	167
38	Light sheet theta microscopy for rapid high-resolution imaging of large biological samples. BMC Biology, 2018, 16, 57.	3.8	86
39	Comprehensive machine learning analysis of Hydra behavior reveals a stable basal behavioral repertoire. ELife, 2018, 7, .	6.0	56
40	Role of inhibitory control in modulating focal seizure spread. Brain, 2018, 141, 2083-2097.	7.6	75
41	Toward a Global BRAIN Initiative. Cell, 2017, 168, 956-959.	28.9	44
42	Altered Cortical Ensembles in Mouse Models of Schizophrenia. Neuron, 2017, 94, 153-167.e8.	8.1	152
43	Non-overlapping Neural Networks in Hydra vulgaris. Current Biology, 2017, 27, 1085-1097.	3.9	162
44	In vivo imaging of neural activity. Nature Methods, 2017, 14, 349-359.	19.0	364
45	Imaging and Optically Manipulating Neuronal Ensembles. Annual Review of Biophysics, 2017, 46, 271-293.	10.0	90
46	Back to the Basics: Cnidarians Start to Fire. Trends in Neurosciences, 2017, 40, 92-105.	8.6	102
47	Targeted intracellular voltage recordings from dendritic spines using quantum-dot-coated nanopipettes. Nature Nanotechnology, 2017, 12, 335-342.	31.5	107
48	Overproduction of Neurons Is Correlated with Enhanced Cortical Ensembles and Increased Perceptual Discrimination. Cell Reports, 2017, 21, 381-392.	6.4	26
49	Attenuation of Synaptic Potentials in Dendritic Spines. Cell Reports, 2017, 20, 1100-1110.	6.4	66
50	Reliable and Elastic Propagation of Cortical Seizures InÂVivo. Cell Reports, 2017, 19, 2681-2693.	6.4	100
51	Four ethical priorities for neurotechnologies and AI. Nature, 2017, 551, 159-163.	27.8	267
52	moco: Fast Motion Correction for Calcium Imaging. Frontiers in Neuroinformatics, 2016, 10, 6.	2.5	156
53	Somatostatin Interneurons Control a Key Component of Mismatch Negativity in Mouse Visual Cortex. Cell Reports, 2016, 16, 597-604.	6.4	124
54	Modulation of nitrogen vacancy charge state and fluorescence in nanodiamonds using electrochemical potential. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3938-3943.	7.1	77

#	Article	IF	Citations
55	Imprinting and recalling cortical ensembles. Science, 2016, 353, 691-694.	12.6	263
56	On the Necessity of Ethical Guidelines for Novel Neurotechnologies. Cell, 2016, 167, 882-885.	28.9	61
57	Opening Holes in the Blanket of Inhibition: Localized Lateral Disinhibition by VIP Interneurons. Journal of Neuroscience, 2016, 36, 3471-3480.	3.6	199
58	Simultaneous Multi-plane Imaging of Neural Circuits. Neuron, 2016, 89, 269-284.	8.1	209
59	Simultaneous Denoising, Deconvolution, and Demixing of Calcium Imaging Data. Neuron, 2016, 89, 285-299.	8.1	843
60	The discovery of dendritic spines by Cajal. Frontiers in Neuroanatomy, 2015, 9, 18.	1.7	46
61	Endogenous Sequential Cortical Activity Evoked by Visual Stimuli. Journal of Neuroscience, 2015, 35, 8813-8828.	3.6	110
62	From the neuron doctrine to neural networks. Nature Reviews Neuroscience, 2015, 16, 487-497.	10.2	547
63	A National Network of Neurotechnology Centers for the BRAIN Initiative. Neuron, 2015, 88, 445-448.	8.1	15
64	The new nanophysiology: regulation of ionic flow in neuronal subcompartments. Nature Reviews Neuroscience, 2015, 16, 685-692.	10.2	65
65	Simultaneous imaging of neural activity in three dimensions. Frontiers in Neural Circuits, 2014, 8, 29.	2.8	79
66	Visual stimuli recruit intrinsically generated cortical ensembles. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E4053-61.	7.1	263
67	The New Century of the Brain. Scientific American, 2014, 310, 38-45.	1.0	29
68	A blanket of inhibition: functional inferences from dense inhibitory connectivity. Current Opinion in Neurobiology, 2014, 26, 96-102.	4.2	148
69	Random Positions of Dendritic Spines in Human Cerebral Cortex. Journal of Neuroscience, 2014, 34, 10078-10084.	3.6	15
70	Activity-dependent dendritic spine neck changes are correlated with synaptic strength. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E2895-904.	7.1	174
71	Age-Based Comparison of Human Dendritic Spine Structure Using Complete Three-Dimensional Reconstructions. Cerebral Cortex, 2013, 23, 1798-1810.	2.9	123
72	New insights into the classification and nomenclature of cortical GABAergic interneurons. Nature Reviews Neuroscience, 2013, 14, 202-216.	10.2	707

#	Article	IF	Citations
73	Dense and Overlapping Innervation of Pyramidal Neurons by Chandelier Cells. Journal of Neuroscience, 2013, 33, 1907-1914.	3.6	78
74	Nanotools for Neuroscience and Brain Activity Mapping. ACS Nano, 2013, 7, 1850-1866.	14.6	323
75	The Brain Activity Map. Science, 2013, 339, 1284-1285.	12.6	181
76	Electrical Compartmentalization in Dendritic Spines. Annual Review of Neuroscience, 2013, 36, 429-449.	10.7	157
77	Decorrelating Action of Inhibition in Neocortical Networks. Journal of Neuroscience, 2013, 33, 9813-9830.	3.6	66
78	Classification of neocortical interneurons using affinity propagation. Frontiers in Neural Circuits, 2013, 7, 185.	2.8	28
79	Evidence of an inhibitory restraint of seizure activity in humans. Nature Communications, 2012, 3, 1060.	12.8	365
80	Two-photon optogenetics of dendritic spines and neural circuits. Nature Methods, 2012, 9, 1202-1205.	19.0	255
81	Two-photon optogenetic toolbox for fast inhibition, excitation and bistable modulation. Nature Methods, 2012, 9, 1171-1179.	19.0	299
82	The Brain Activity Map Project and the Challenge of Functional Connectomics. Neuron, 2012, 74, 970-974.	8.1	512
83	Three-Dimensional Analysis of Spiny Dendrites Using Straightening and Unrolling Transforms. Neuroinformatics, 2012, 10, 391-407.	2.8	5
84	Dense Inhibitory Connectivity in Neocortex. Neuron, 2011, 69, 1188-1203.	8.1	491
85	Dendritic Spines and Distributed Circuits. Neuron, 2011, 71, 772-781.	8.1	251
86	Comparison between supervised and unsupervised classifications of neuronal cell types: A case study. Developmental Neurobiology, 2011, 71, 71-82.	3.0	78
87	State-Dependent Function of Neocortical Chandelier Cells. Journal of Neuroscience, 2011, 31, 17872-17886.	3.6	112
88	Dense, Unspecific Connectivity of Neocortical Parvalbumin-Positive Interneurons: A Canonical Microcircuit for Inhibition?. Journal of Neuroscience, 2011, 31, 13260-13271.	3.6	445
89	Quantitative classification of somatostatin-positive neocortical interneurons identifies three interneuron subtypes. Frontiers in Neural Circuits, 2010, 4, 12.	2.8	133
90	A portable laser photostimulation and imaging microscope. Journal of Neural Engineering, 2010, 7, 045001.	3.5	17

#	Article	IF	Citations
91	Dendritic Spines. , 2010, , .		152
92	RuBi-Glutamate: Two-photon and visible-light photoactivation of neurons and dendritic spines. Frontiers in Neural Circuits, 2009, 3, 2.	2.8	172
93	Two-photon imaging with diffractive optical elements. Frontiers in Neural Circuits, 2009, 3, 6.	2.8	30
94	Petilla terminology: nomenclature of features of GABAergic interneurons of the cerebral cortex. Nature Reviews Neuroscience, 2008, 9, 557-568.	10.2	1,314
95	Of Mice and Men, and Chandeliers. PLoS Biology, 2008, 6, e243.	5.6	20
96	Role of Rho GTPases in the Morphogenesis and Motility of Dendritic Spines. Methods in Enzymology, 2008, 439, 285-302.	1.0	42
97	SLM microscopy: scanless two-photon imaging and photostimulation using spatial light modulators. Frontiers in Neural Circuits, 2008, 2, 5.	2.8	297
98	Feedforward Inhibition Contributes to the Control of Epileptiform Propagation Speed. Journal of Neuroscience, 2007, 27, 3383-3387.	3.6	244
99	Correlation Between Axonal Morphologies and Synaptic Input Kinetics of Interneurons from Mouse Visual Cortex. Cerebral Cortex, 2007, 17, 81-91.	2.9	97
100	Sodium channels amplify spine potentials. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 12347-12352.	7.1	71
101	Persistently active, pacemaker-like neurons in neocortex. Frontiers in Neuroscience, 2007, 1, 123-129.	2.8	104
102	Ultrastructure of dendritic spines: correlation between synaptic and spine morphologies. Frontiers in Neuroscience, 2007, 1, 131-143.	2.8	444
103	Two-photon photostimulation and imaging of neural circuits. Nature Methods, 2007, 4, 943-950.	19.0	240
104	Modular Propagation of Epileptiform Activity: Evidence for an Inhibitory Veto in Neocortex. Journal of Neuroscience, 2006, 26, 12447-12455.	3.6	309
105	Imaging membrane potential in dendritic spines. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 786-790.	7.1	171
106	The spine neck filters membrane potentials. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 17961-17966.	7.1	229
107	Dendritic spines linearize the summation of excitatory potentials. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 18799-18804.	7.1	135
108	Dendritic Size of Pyramidal Neurons Differs among Mouse Cortical Regions. Cerebral Cortex, 2006, 16, 990-1001.	2.9	102

#	Article	IF	Citations
109	The cortex as a central pattern generator. Nature Reviews Neuroscience, 2005, 6, 477-483.	10.2	306
110	Fluorescence microscopy today. Nature Methods, 2005, 2, 902-904.	19.0	257
111	Internal Dynamics Determine the Cortical Response to Thalamic Stimulation. Neuron, 2005, 48, 811-823.	8.1	341
112	Origin and Classification of Neocortical Interneurons. Neuron, 2005, 48, 524-527.	8.1	67
113	Second harmonic imaging of membrane potential of neurons with retinal. Journal of Biomedical Optics, 2004, 9, 873.	2.6	53
114	Genesis of dendritic spines: insights from ultrastructural and imaging studies. Nature Reviews Neuroscience, 2004, 5, 24-34.	10.2	545
115	Single-shock LTD by local dendritic spikes in pyramidal neurons of mouse visual cortex. Journal of Physiology, 2004, 560, 27-36.	2.9	82
116	Dendritic spines and linear networks. Journal of Physiology (Paris), 2004, 98, 479-486.	2.1	23
117	Developmental regulation of spine and filopodial motility in primary visual cortex: Reduced effects of activity and sensory deprivation. Journal of Neurobiology, 2004, 59, 236-246.	3.6	58
118	Regulation of dendritic spine motility and stability by Rac1 and Rho kinase: evidence for two forms of spine motility*1. Molecular and Cellular Neurosciences, 2004, 26, 429-429.	2.2	0
119	Synfire Chains and Cortical Songs: Temporal Modules of Cortical Activity. Science, 2004, 304, 559-564.	12.6	755
120	On the electrical function of dendritic spines. Trends in Neurosciences, 2004, 27, 77-83.	8.6	91
121	Regulation of dendritic spine motility and stability by Rac1 and Rho kinase: evidence for two forms of spine motility. Molecular and Cellular Neurosciences, 2004, 26, 429-440.	2.2	225
122	Imaging the motility of dendritic protrusions and axon terminals: roles in axon sampling and synaptic competition. Molecular and Cellular Neurosciences, 2004, 27, 427-440.	2.2	61
123	Quantitative morphologic classification of layer 5 neurons from mouse primary visual cortex. Journal of Comparative Neurology, 2003, 461, 415-428.	1.6	84
124	Systematic regulation of spine sizes and densities in pyramidal neurons. Journal of Neurobiology, 2003, 56, 95-112.	3.6	121
125	Attractor dynamics of network UP states in the neocortex. Nature, 2003, 423, 283-288.	27.8	581
126	Bidirectional Regulation of Hippocampal Mossy Fiber Filopodial Motility by Kainate Receptors. Neuron, 2003, 38, 773-784.	8.1	152

#	Article	IF	Citations
127	Calcium Microdomains in Aspiny Dendrites. Neuron, 2003, 40, 807-821.	8.1	193
128	Activity-Regulated Dynamic Behavior of Early Dendritic Protrusions: Evidence for Different Types of Dendritic Filopodia. Journal of Neuroscience, 2003, 23, 7129-7142.	3.6	246
129	Spine Motility. Neuron, 2002, 35, 1019-1027.	8.1	317
130	Calcium oscillations in neocortical astrocytes under epileptiform conditions. Journal of Neurobiology, 2002, 50, 45-55.	3.6	91
131	Multiphoton stimulation of neurons. Journal of Neurobiology, 2002, 51, 237-247.	3.6	154
132	Cortical area and species differences in dendritic spine morphology. Journal of Neurocytology, 2002, 31, 337-346.	1.5	173
133	Morphological Changes in Dendritic Spines Associated with Long-Term Synaptic Plasticity. Annual Review of Neuroscience, 2001, 24, 1071-1089.	10.7	1,095
134	Stereotyped Position of Local Synaptic Targets in Neocortex. Science, 2001, 293, 868-872.	12.6	195
135	Dynamics of Spontaneous Activity in Neocortical Slices. Neuron, 2001, 32, 883-898.	8.1	287
136	Calcium imaging of epileptiform events with single-cell resolution. Journal of Neurobiology, 2001, 48, 215-227.	3.6	54
137	Analysis of spine morphological plasticity in developing hippocampal pyramidal neurons. Hippocampus, 2000, 10, 561-568.	1.9	119
138	From form to function: calcium compartmentalization in dendritic spines. Nature Neuroscience, 2000, 3, 653-659.	14.8	351
139	Regulation of Spine Calcium Dynamics by Rapid Spine Motility. Journal of Neuroscience, 2000, 20, 8262-8268.	3.6	183
140	Mechanisms of Calcium Decay Kinetics in Hippocampal Spines: Role of Spine Calcium Pumps and Calcium Diffusion through the Spine Neck in Biochemical Compartmentalization. Journal of Neuroscience, 2000, 20, 1722-1734.	3.6	223
141	Regulation of Dendritic Spine Morphology by the Rho Family of Small GTPases: Antagonistic Roles of Rac and Rho. Cerebral Cortex, 2000, 10, 927-938.	2.9	383
142	Analysis of spine morphological plasticity in developing hippocampal pyramidal neurons. , 2000, 10, 561.		1
143	Mechanisms of Calcium Influx into Hippocampal Spines: Heterogeneity among Spines, Coincidence Detection by NMDA Receptors, and Optical Quantal Analysis. Journal of Neuroscience, 1999, 19, 1976-1987.	3.6	274
144	Linear Summation of Excitatory Inputs by CA1 Pyramidal Neurons. Neuron, 1999, 22, 383-394.	8.1	279

#	Article	IF	Citations
145	Detecting Action Potentials in Neuronal Populations with Calcium Imaging. Methods, 1999, 18, 215-221.	3.8	271
146	Input Summation by Cultured Pyramidal Neurons Is Linear and Position-Independent. Journal of Neuroscience, 1998, 18, 10-15.	3.6	350
147	Dendritic spines as basic functional units of neuronal integration. Nature, 1995, 375, 682-684.	27.8	873
148	Ca2+ accumulations in dendrites of neocortical pyramidal neurons: An apical band and evidence for two functional compartments. Neuron, 1994, 13, 23-43.	8.1	284
149	Control of postsynaptic Ca2+ influx in developing neocortex by excitatory and inhibitory neurotransmitters. Neuron, 1991, 6, 333-344.	8.1	564