

Rafael Yuste

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

160
papers

21,098
citations

77
h-index

145
g-index

177
ext. papers

25,227
ext. citations

12.4
avg, IF

7.29
L-index

#	Paper	IF	Citations
160	A Technocratic Oath. <i>Wissenschaftsethik Und Technikfolgenbeurteilung</i> , 2022 , 163-174	0.2	0
159	An increase in spontaneous activity mediates visual habituation.. <i>Cell Reports</i> , 2022 , 39, 110751	10.6	0
158	Simultaneous two-photon imaging of action potentials and subthreshold inputs in vivo. <i>Nature Communications</i> , 2021 , 12, 7229	17.4	3
157	Voltage compartmentalization in dendritic spines in vivo. <i>Science</i> , 2021 , 375, eabg0501	33.3	5
156	Tracking calcium dynamics from individual neurons in behaving animals. <i>PLoS Computational Biology</i> , 2021 , 17, e1009432	5	1
155	Time for NanoNeuro. <i>Nature Methods</i> , 2021 , 18, 1287-1293	21.6	4
154	Recommendations for Responsible Development and Application of Neurotechnologies. <i>Neuroethics</i> , 2021 , 1-22	1.2	16
153	Cortical ensembles selective for context. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	3
152	Ultrastructural analysis of dendritic spine necks reveals a continuum of spine morphologies. <i>Developmental Neurobiology</i> , 2021 , 81, 746-757	3.2	7
151	Long-term stability of cortical ensembles. <i>ELife</i> , 2021 , 10,	8.9	7
150	Identification of Pattern Completion Neurons in Neuronal Ensembles Using Probabilistic Graphical Models. <i>Journal of Neuroscience</i> , 2021 , 41, 8577-8588	6.6	2
149	Ensemble synchronization in the reassembly of Hydra's nervous system. <i>Current Biology</i> , 2021 , 31, 3784-3796.e3	8.7	2
148	Holographic Imaging and Stimulation of Neural Circuits. <i>Advances in Experimental Medicine and Biology</i> , 2021 , 1293, 613-639	3.6	2
147	International Brain Initiative: An Innovative Framework for Coordinated Global Brain Research Efforts. <i>Neuron</i> , 2020 , 105, 212-216	13.9	23
146	Playing the piano with the cortex: role of neuronal ensembles and pattern completion in perception and behavior. <i>Current Opinion in Neurobiology</i> , 2020 , 64, 89-95	7.6	22
145	Whole-Body Imaging of Neural and Muscle Activity during Behavior in : Effect of Osmolarity on Contraction Bursts. <i>ENeuro</i> , 2020 , 7,	3.9	4
144	A community-based transcriptomics classification and nomenclature of neocortical cell types. <i>Nature Neuroscience</i> , 2020 , 23, 1456-1468	25.5	76

143	Electrodifusion models of synaptic potentials in dendritic spines. <i>Journal of Computational Neuroscience</i> , 2019 , 47, 77-89	1.4	7
142	Conserved cell types with divergent features in human versus mouse cortex. <i>Nature</i> , 2019 , 573, 61-68	50.4	569
141	Acute Focal Seizures Start As Local Synchronizations of Neuronal Ensembles. <i>Journal of Neuroscience</i> , 2019 , 39, 8562-8575	6.6	23
140	Genetic voltage indicators. <i>BMC Biology</i> , 2019 , 17, 71	7.3	57
139	Mapping the Whole-Body Muscle Activity of <i>Hydra vulgaris</i> . <i>Current Biology</i> , 2019 , 29, 1807-1817.e3	6.3	25
138	Reduced Repertoire of Cortical Microstates and Neuronal Ensembles in Medically Induced Loss of Consciousness. <i>Cell Systems</i> , 2019 , 8, 467-474.e4	10.6	25
137	A miniaturized multi-clamp CMOS amplifier for intracellular neural recording. <i>Nature Electronics</i> , 2019 , 2, 343-350	28.4	6
136	Controlling Visually Guided Behavior by Holographic Recalling of Cortical Ensembles. <i>Cell</i> , 2019 , 178, 447-457.e5	56.2	106
135	Comparative Evaluation of Genetically Encoded Voltage Indicators. <i>Cell Reports</i> , 2019 , 26, 802-813.e4	10.6	90
134	Flexible Nanopipettes for Minimally Invasive Intracellular Electrophysiology In Vivo. <i>Cell Reports</i> , 2019 , 26, 266-278.e5	10.6	37
133	Holographic imaging and photostimulation of neural activity. <i>Current Opinion in Neurobiology</i> , 2018 , 50, 211-221	7.6	27
132	Statistically Reconstructed Multiplexing for Very Dense, High-Channel-Count Acquisition Systems. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2018 , 12, 13-23	5.1	16
131	Parvalbumin-Positive Interneurons Regulate Neuronal Ensembles in Visual Cortex. <i>Cerebral Cortex</i> , 2018 , 28, 1831-1845	5.1	30
130	Light sheet theta microscopy for rapid high-resolution imaging of large biological samples. <i>BMC Biology</i> , 2018 , 16, 57	7.3	54
129	Comprehensive machine learning analysis of behavior reveals a stable basal behavioral repertoire. <i>ELife</i> , 2018 , 7,	8.9	36
128	Role of inhibitory control in modulating focal seizure spread. <i>Brain</i> , 2018 , 141, 2083-2097	11.2	43
127	Author response: Simultaneous two-photon imaging and two-photon optogenetics of cortical circuits in three dimensions 2018 ,		2
126	Addendum: A very large-scale microelectrode array for cellular-resolution electrophysiology. <i>Nature Communications</i> , 2018 , 9, 4497	17.4	0

125	Neuronal photoactivation through second-harmonic near-infrared absorption by gold nanoparticles. <i>Light: Science and Applications</i> , 2018 , 7, 100	16.7	17
124	Two-Photon Optogenetic Mapping of Excitatory Synaptic Connectivity and Strength. <i>IScience</i> , 2018 , 8, 15-28	6.1	6
123	Simultaneous two-photon imaging and two-photon optogenetics of cortical circuits in three dimensions. <i>ELife</i> , 2018 , 7,	8.9	104
122	Toward a Global BRAIN Initiative. <i>Cell</i> , 2017 , 168, 956-959	56.2	27
121	Altered Cortical Ensembles in Mouse Models of Schizophrenia. <i>Neuron</i> , 2017 , 94, 153-167.e8	13.9	98
120	Non-overlapping Neural Networks in <i>Hydra vulgaris</i> . <i>Current Biology</i> , 2017 , 27, 1085-1097	6.3	99
119	In vivo imaging of neural activity. <i>Nature Methods</i> , 2017 , 14, 349-359	21.6	230
118	Imaging and Optically Manipulating Neuronal Ensembles. <i>Annual Review of Biophysics</i> , 2017 , 46, 271-293	21.1	48
117	Back to the Basics: Cnidarians Start to Fire. <i>Trends in Neurosciences</i> , 2017 , 40, 92-105	13.3	65
116	Targeted intracellular voltage recordings from dendritic spines using quantum-dot-coated nanopipettes. <i>Nature Nanotechnology</i> , 2017 , 12, 335-342	28.7	75
115	Overproduction of Neurons Is Correlated with Enhanced Cortical Ensembles and Increased Perceptual Discrimination. <i>Cell Reports</i> , 2017 , 21, 381-392	10.6	18
114	Attenuation of Synaptic Potentials in Dendritic Spines. <i>Cell Reports</i> , 2017 , 20, 1100-1110	10.6	38
113	Reliable and Elastic Propagation of Cortical Seizures In Vivo. <i>Cell Reports</i> , 2017 , 19, 2681-2693	10.6	63
112	Four ethical priorities for neurotechnologies and AI. <i>Nature</i> , 2017 , 551, 159-163	50.4	158
111	On the Necessity of Ethical Guidelines for Novel Neurotechnologies. <i>Cell</i> , 2016 , 167, 882-885	56.2	40
110	Opening Holes in the Blanket of Inhibition: Localized Lateral Disinhibition by VIP Interneurons. <i>Journal of Neuroscience</i> , 2016 , 36, 3471-80	6.6	114
109	Simultaneous Multi-plane Imaging of Neural Circuits. <i>Neuron</i> , 2016 , 89, 269-84	13.9	158
108	Simultaneous Denoising, Deconvolution, and Demixing of Calcium Imaging Data. <i>Neuron</i> , 2016 , 89, 285-99	13.9	518

107	moco: Fast Motion Correction for Calcium Imaging. <i>Frontiers in Neuroinformatics</i> , 2016 , 10, 6	3.9	88
106	Somatostatin Interneurons Control a Key Component of Mismatch Negativity in Mouse Visual Cortex. <i>Cell Reports</i> , 2016 , 16, 597-604	10.6	79
105	Modulation of nitrogen vacancy charge state and fluorescence in nanodiamonds using electrochemical potential. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 3938-43	11.5	50
104	Imprinting and recalling cortical ensembles. <i>Science</i> , 2016 , 353, 691-4	33.3	152
103	From the neuron doctrine to neural networks. <i>Nature Reviews Neuroscience</i> , 2015 , 16, 487-97	13.5	332
102	A National Network of Neurotechnology Centers for the BRAIN Initiative. <i>Neuron</i> , 2015 , 88, 445-8	13.9	12
101	The new nanophysiology: regulation of ionic flow in neuronal subcompartments. <i>Nature Reviews Neuroscience</i> , 2015 , 16, 685-92	13.5	50
100	The discovery of dendritic spines by Cajal. <i>Frontiers in Neuroanatomy</i> , 2015 , 9, 18	3.6	29
99	Endogenous sequential cortical activity evoked by visual stimuli. <i>Journal of Neuroscience</i> , 2015 , 35, 8813-28	6.8	65
98	The new century of the brain. <i>Scientific American</i> , 2014 , 310, 38-45	0.5	23
97	A blanket of inhibition: functional inferences from dense inhibitory connectivity. <i>Current Opinion in Neurobiology</i> , 2014 , 26, 96-102	7.6	109
96	Random positions of dendritic spines in human cerebral cortex. <i>Journal of Neuroscience</i> , 2014 , 34, 10078-84	6.4	10
95	Activity-dependent dendritic spine neck changes are correlated with synaptic strength. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, E2895-904	11.5	113
94	Simultaneous imaging of neural activity in three dimensions. <i>Frontiers in Neural Circuits</i> , 2014 , 8, 29	3.5	69
93	Visual stimuli recruit intrinsically generated cortical ensembles. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, E4053-61	11.5	162
92	Age-based comparison of human dendritic spine structure using complete three-dimensional reconstructions. <i>Cerebral Cortex</i> , 2013 , 23, 1798-810	5.1	77
91	New insights into the classification and nomenclature of cortical GABAergic interneurons. <i>Nature Reviews Neuroscience</i> , 2013 , 14, 202-16	13.5	532
90	Dense and overlapping innervation of pyramidal neurons by chandelier cells. <i>Journal of Neuroscience</i> , 2013 , 33, 1907-14	6.6	62

89	Nanotools for neuroscience and brain activity mapping. <i>ACS Nano</i> , 2013 , 7, 1850-66	16.7	248
88	Neuroscience. The brain activity map. <i>Science</i> , 2013 , 339, 1284-5	33.3	147
87	Electrical compartmentalization in dendritic spines. <i>Annual Review of Neuroscience</i> , 2013 , 36, 429-49	17	118
86	Decorrelating action of inhibition in neocortical networks. <i>Journal of Neuroscience</i> , 2013 , 33, 9813-30	6.6	45
85	Classification of neocortical interneurons using affinity propagation. <i>Frontiers in Neural Circuits</i> , 2013 , 7, 185	3.5	22
84	Two-photon optogenetics of dendritic spines and neural circuits. <i>Nature Methods</i> , 2012 , 9, 1202-5	21.6	201
83	Two-photon optogenetic toolbox for fast inhibition, excitation and bistable modulation. <i>Nature Methods</i> , 2012 , 9, 1171-9	21.6	246
82	The brain activity map project and the challenge of functional connectomics. <i>Neuron</i> , 2012 , 74, 970-4	13.9	383
81	Three-dimensional analysis of spiny dendrites using straightening and unrolling transforms. <i>Neuroinformatics</i> , 2012 , 10, 391-407	3.2	4
80	Evidence of an inhibitory restraint of seizure activity in humans. <i>Nature Communications</i> , 2012 , 3, 1060	17.4	263
79	Dense inhibitory connectivity in neocortex. <i>Neuron</i> , 2011 , 69, 1188-203	13.9	385
78	Dendritic spines and distributed circuits. <i>Neuron</i> , 2011 , 71, 772-81	13.9	207
77	Comparison between supervised and unsupervised classifications of neuronal cell types: a case study. <i>Developmental Neurobiology</i> , 2011 , 71, 71-82	3.2	63
76	State-dependent function of neocortical chandelier cells. <i>Journal of Neuroscience</i> , 2011 , 31, 17872-86	6.6	98
75	Dense, unspecific connectivity of neocortical parvalbumin-positive interneurons: a canonical microcircuit for inhibition?. <i>Journal of Neuroscience</i> , 2011 , 31, 13260-71	6.6	326
74	Quantitative classification of somatostatin-positive neocortical interneurons identifies three interneuron subtypes. <i>Frontiers in Neural Circuits</i> , 2010 , 4, 12	3.5	113
73	A portable laser photostimulation and imaging microscope. <i>Journal of Neural Engineering</i> , 2010 , 7, 045001	9	13
72	Dendritic Spines 2010 ,		112

71	RuBi-Glutamate: Two-Photon and Visible-Light Photoactivation of Neurons and Dendritic spines. <i>Frontiers in Neural Circuits</i> , 2009 , 3, 2	3.5	149
70	Two-photon imaging with diffractive optical elements. <i>Frontiers in Neural Circuits</i> , 2009 , 3, 6	3.5	25
69	Petilla terminology: nomenclature of features of GABAergic interneurons of the cerebral cortex. <i>Nature Reviews Neuroscience</i> , 2008 , 9, 557-68	13.5	1092
68	Of mice and men, and chandeliers. <i>PLoS Biology</i> , 2008 , 6, e243	9.7	18
67	Role of Rho GTPases in the morphogenesis and motility of dendritic spines. <i>Methods in Enzymology</i> , 2008 , 439, 285-302	1.7	40
66	SLM Microscopy: Scanless Two-Photon Imaging and Photostimulation with Spatial Light Modulators. <i>Frontiers in Neural Circuits</i> , 2008 , 2, 5	3.5	245
65	Ultrastructure of dendritic spines: correlation between synaptic and spine morphologies. <i>Frontiers in Neuroscience</i> , 2007 , 1, 131-43	5.1	337
64	Two-photon photostimulation and imaging of neural circuits. <i>Nature Methods</i> , 2007 , 4, 943-50	21.6	205
63	Feedforward inhibition contributes to the control of epileptiform propagation speed. <i>Journal of Neuroscience</i> , 2007 , 27, 3383-7	6.6	194
62	Correlation between axonal morphologies and synaptic input kinetics of interneurons from mouse visual cortex. <i>Cerebral Cortex</i> , 2007 , 17, 81-91	5.1	89
61	Sodium channels amplify spine potentials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 12347-52	11.5	62
60	Persistently active, pacemaker-like neurons in neocortex. <i>Frontiers in Neuroscience</i> , 2007 , 1, 123-9	5.1	83
59	The spine neck filters membrane potentials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 17961-6	11.5	191
58	Dendritic spines linearize the summation of excitatory potentials. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 18799-804	11.5	109
57	Dendritic size of pyramidal neurons differs among mouse cortical regions. <i>Cerebral Cortex</i> , 2006 , 16, 990-1001	5.1	85
56	Modular propagation of epileptiform activity: evidence for an inhibitory veto in neocortex. <i>Journal of Neuroscience</i> , 2006 , 26, 12447-55	6.6	245
55	Imaging membrane potential in dendritic spines. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006 , 103, 786-90	11.5	141
54	Internal dynamics determine the cortical response to thalamic stimulation. <i>Neuron</i> , 2005 , 48, 811-23	13.9	298

53	Origin and classification of neocortical interneurons. <i>Neuron</i> , 2005 , 48, 524-7	13.9	62
52	The cortex as a central pattern generator. <i>Nature Reviews Neuroscience</i> , 2005 , 6, 477-83	13.5	254
51	Fluorescence microscopy today. <i>Nature Methods</i> , 2005 , 2, 902-4	21.6	214
50	Second harmonic imaging of membrane potential of neurons with retinal. <i>Journal of Biomedical Optics</i> , 2004 , 9, 873-81	3.5	44
49	Genesis of dendritic spines: insights from ultrastructural and imaging studies. <i>Nature Reviews Neuroscience</i> , 2004 , 5, 24-34	13.5	486
48	Single-shock LTD by local dendritic spikes in pyramidal neurons of mouse visual cortex. <i>Journal of Physiology</i> , 2004 , 560, 27-36	3.9	68
47	Dendritic spines and linear networks. <i>Journal of Physiology (Paris)</i> , 2004 , 98, 479-86		20
46	Developmental regulation of spine and filopodial motility in primary visual cortex: reduced effects of activity and sensory deprivation. <i>Journal of Neurobiology</i> , 2004 , 59, 236-46		54
45	Regulation of dendritic spine motility and stability by Rac1 and Rho kinase: evidence for two forms of spine motility. <i>Molecular and Cellular Neurosciences</i> , 2004 , 26, 429-429	4.8	
44	Synfire chains and cortical songs: temporal modules of cortical activity. <i>Science</i> , 2004 , 304, 559-64	33.3	652
43	On the electrical function of dendritic spines. <i>Trends in Neurosciences</i> , 2004 , 27, 77-83	13.3	83
42	Regulation of dendritic spine motility and stability by Rac1 and Rho kinase: evidence for two forms of spine motility. <i>Molecular and Cellular Neurosciences</i> , 2004 , 26, 429-40	4.8	204
41	Imaging the motility of dendritic protrusions and axon terminals: roles in axon sampling and synaptic competition. <i>Molecular and Cellular Neurosciences</i> , 2004 , 27, 427-40	4.8	59
40	Activity-regulated dynamic behavior of early dendritic protrusions: evidence for different types of dendritic filopodia. <i>Journal of Neuroscience</i> , 2003 , 23, 7129-42	6.6	219
39	Quantitative morphologic classification of layer 5 neurons from mouse primary visual cortex. <i>Journal of Comparative Neurology</i> , 2003 , 461, 415-28	3.4	77
38	Systematic regulation of spine sizes and densities in pyramidal neurons. <i>Journal of Neurobiology</i> , 2003 , 56, 95-112		98
37	Attractor dynamics of network UP states in the neocortex. <i>Nature</i> , 2003 , 423, 283-8	50.4	511
36	Bidirectional regulation of hippocampal mossy fiber filopodial motility by kainate receptors: a two-step model of synaptogenesis. <i>Neuron</i> , 2003 , 38, 773-84	13.9	141

35	Calcium microdomains in aspiny dendrites. <i>Neuron</i> , 2003 , 40, 807-21	13.9	173
34	Calcium oscillations in neocortical astrocytes under epileptiform conditions. <i>Journal of Neurobiology</i> , 2002 , 50, 45-55		81
33	Multiphoton stimulation of neurons. <i>Journal of Neurobiology</i> , 2002 , 51, 237-47		129
32	Cortical area and species differences in dendritic spine morphology. <i>Journal of Neurocytology</i> , 2002 , 31, 337-46		128
31	Spine motility. Phenomenology, mechanisms, and function. <i>Neuron</i> , 2002 , 35, 1019-27	13.9	284
30	Calcium imaging of epileptiform events with single-cell resolution. <i>Journal of Neurobiology</i> , 2001 , 48, 215-27		51
29	On the function of dendritic spines. <i>Neuroscientist</i> , 2001 , 7, 387-95	7.6	49
28	Morphological changes in dendritic spines associated with long-term synaptic plasticity. <i>Annual Review of Neuroscience</i> , 2001 , 24, 1071-89	17	964
27	Stereotyped position of local synaptic targets in neocortex. <i>Science</i> , 2001 , 293, 868-72	33.3	179
26	Dynamics of spontaneous activity in neocortical slices. <i>Neuron</i> , 2001 , 32, 883-98	13.9	234
25	Analysis of spine morphological plasticity in developing hippocampal pyramidal neurons. <i>Hippocampus</i> , 2000 , 10, 561-8	3.5	109
24	From form to function: calcium compartmentalization in dendritic spines. <i>Nature Neuroscience</i> , 2000 , 3, 653-9	25.5	309
23	Regulation of spine calcium dynamics by rapid spine motility. <i>Journal of Neuroscience</i> , 2000 , 20, 8262-8	6.6	172
22	Mechanisms of calcium decay kinetics in hippocampal spines: role of spine calcium pumps and calcium diffusion through the spine neck in biochemical compartmentalization. <i>Journal of Neuroscience</i> , 2000 , 20, 1722-34	6.6	205
21	Regulation of dendritic spine morphology by the rho family of small GTPases: antagonistic roles of Rac and Rho. <i>Cerebral Cortex</i> , 2000 , 10, 927-38	5.1	341
20	Analysis of spine morphological plasticity in developing hippocampal pyramidal neurons 2000 , 10, 561		1
19	Mechanisms of calcium influx into hippocampal spines: heterogeneity among spines, coincidence detection by NMDA receptors, and optical quantal analysis. <i>Journal of Neuroscience</i> , 1999 , 19, 1976-87	6.6	251
18	Linear summation of excitatory inputs by CA1 pyramidal neurons. <i>Neuron</i> , 1999 , 22, 383-94	13.9	248

17	Detecting action potentials in neuronal populations with calcium imaging. <i>Methods</i> , 1999 , 18, 215-21	4.6	228
16	Input summation by cultured pyramidal neurons is linear and position-independent. <i>Journal of Neuroscience</i> , 1998 , 18, 10-5	6.6	309
15	Dendritic spines as basic functional units of neuronal integration. <i>Nature</i> , 1995 , 375, 682-4	50.4	776
14	Ca ²⁺ accumulations in dendrites of neocortical pyramidal neurons: an apical band and evidence for two functional compartments. <i>Neuron</i> , 1994 , 13, 23-43	13.9	244
13	Control of postsynaptic Ca ²⁺ influx in developing neocortex by excitatory and inhibitory neurotransmitters. <i>Neuron</i> , 1991 , 6, 333-44	13.9	508
12	Long-term stability of neuronal ensembles in mouse visual cortex		1
11	Whole-body imaging of neural and muscle activity during behavior in Hydra: bidirectional effects of osmolarity on contraction bursts		2
10	What Is a Neuronal Ensemble?		6
9	PackIO and EphysViewer: software tools for acquisition and analysis of neuroscience data		4
8	Three-dimensional Two-Photon Optogenetics and Imaging of Neural Circuits in vivo		1
7	Human cortical expansion involves diversification and specialization of supragranular intratelencephalic-projecting neurons		19
6	EMC2: A versatile algorithm for robust tracking of calcium dynamics from individual neurons in behaving animals		3
5	Intrinsic excitability mechanisms of neuronal ensemble formation		3
4	From neuron to muscle to movement: a complete biomechanical model of Hydra contractile behaviors		3
3	Electrodiffusion model of synaptic potentials in dendritic spines		1
2	Tracking Activity In a Deformable Nervous System With Motion Correction and Point-Set Registration		2
1	Triggering visually-guided behavior by holographic activation of pattern completion neurons in cortical ensembles		3