

# Pablo E Castillo

## List of Publications by Year in descending order

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100  
papers

14,232  
citations

34016

52  
h-index

37111

96  
g-index

126  
all docs

126  
docs citations

126  
times ranked

13331  
citing authors

#	ARTICLE	IF	CITATIONS
1	Mice Lacking $\hat{\pm}$ -Synuclein Display Functional Deficits in the Nigrostriatal Dopamine System. <i>Neuron</i> , 2000, 25, 239-252.	3.8	1,573
2	Endocannabinoid Signaling and Synaptic Function. <i>Neuron</i> , 2012, 76, 70-81.	3.8	824
3	ENDOCANNABINOID-MEDIATED SYNAPTIC PLASTICITY IN THE CNS. <i>Annual Review of Neuroscience</i> , 2006, 29, 37-76.	5.0	691
4	Heterosynaptic LTD of Hippocampal GABAergic Synapses. <i>Neuron</i> , 2003, 38, 461-472.	3.8	581
5	RIM1 $\hat{\pm}$ forms a protein scaffold for regulating neurotransmitter release at the active zone. <i>Nature</i> , 2002, 415, 321-326.	13.7	552
6	Kainate receptors mediate a slow postsynaptic current in hippocampal CA3 neurons. <i>Nature</i> , 1997, 388, 182-186.	13.7	504
7	Altered synaptic physiology and reduced susceptibility to kainate-induced seizures in GluR6-deficient mice. <i>Nature</i> , 1998, 392, 601-605.	13.7	450
8	Endocannabinoid Signaling and Long-Term Synaptic Plasticity. <i>Annual Review of Physiology</i> , 2009, 71, 283-306.	5.6	400
9	Double-knockout mice for $\hat{\pm}$ - and $\hat{\pm}$ -synucleins: Effect on synaptic functions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 14966-14971.	3.3	392
10	RIM1 $\hat{\pm}$ is required for presynaptic long-term potentiation. <i>Nature</i> , 2002, 415, 327-330.	13.7	377
11	Rab3A is essential for mossy fibre long-term potentiation in the hippocampus. <i>Nature</i> , 1997, 388, 590-593.	13.7	336
12	The role of Ca <sup>2+</sup> channels in hippocampal mossy fiber synaptic transmission and long-term potentiation. <i>Neuron</i> , 1994, 12, 261-269.	3.8	317
13	Age-Dependent Impairment of Cognitive and Synaptic Function in the htau Mouse Model of Tau Pathology. <i>Journal of Neuroscience</i> , 2009, 29, 10741-10749.	1.7	306
14	TRPV1 activation by endogenous anandamide triggers postsynaptic long-term depression in dentate gyrus. <i>Nature Neuroscience</i> , 2010, 13, 1511-1518.	7.1	291
15	Protein kinase A regulates calcium permeability of NMDA receptors. <i>Nature Neuroscience</i> , 2006, 9, 501-510.	7.1	275
16	Endocannabinoid-Mediated Metaplasticity in the Hippocampus. <i>Neuron</i> , 2004, 43, 871-881.	3.8	274
17	Synaptic plasticity of NMDA receptors: mechanisms and functional implications. <i>Current Opinion in Neurobiology</i> , 2012, 22, 496-508.	2.0	270
18	$\hat{\pm}$ $\hat{\pm}$ $\hat{\pm}$ -Synuclein triple knockout mice reveal age-dependent neuronal dysfunction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 19573-19578.	3.3	261

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19	Endocannabinoid-Mediated Long-Term Plasticity Requires cAMP/PKA Signaling and RIM1 $\beta$ . <i>Neuron</i> , 2007, 54, 801-812.	3.8	238
20	Synucleins Regulate the Kinetics of Synaptic Vesicle Endocytosis. <i>Journal of Neuroscience</i> , 2014, 34, 9364-9376.	1.7	237
21	Blockade of calcium-permeable AMPA receptors protects hippocampal neurons against global ischemia-induced death. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 12230-12235.	3.3	220
22	A single in-vivo exposure to $\Delta^9$ THC blocks endocannabinoid-mediated synaptic plasticity. <i>Nature Neuroscience</i> , 2004, 7, 585-586.	7.1	196
23	Long-term plasticity at inhibitory synapses. <i>Current Opinion in Neurobiology</i> , 2011, 21, 328-338.	2.0	191
24	Synaptic functions of endocannabinoid signaling in health and disease. <i>Neuropharmacology</i> , 2017, 124, 13-24.	2.0	180
25	Assessing the role of Ih channels in synaptic transmission and mossy fiber LTP. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002, 99, 9538-9543.	3.3	177
26	REST-dependent epigenetic remodeling promotes the developmental switch in synaptic NMDA receptors. <i>Nature Neuroscience</i> , 2012, 15, 1382-1390.	7.1	176
27	Piccolo and bassoon maintain synaptic vesicle clustering without directly participating in vesicle exocytosis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 6504-6509.	3.3	168
28	De novo synaptogenesis induced by GABA in the developing mouse cortex. <i>Science</i> , 2016, 353, 1037-1040.	6.0	164
29	Presynaptic Protein Synthesis Is Required for Long-Term Plasticity of GABA Release. <i>Neuron</i> , 2016, 92, 479-492.	3.8	162
30	Multiple and Opposing Roles of Cholinergic Transmission in the Main Olfactory Bulb. <i>Journal of Neuroscience</i> , 1999, 19, 9180-9191.	1.7	144
31	Oxytocin improves behavioral and electrophysiological deficits in a novel Shank3-deficient rat. <i>ELife</i> , 2017, 6, .	2.8	136
32	Long-Term Potentiation Selectively Expressed by NMDA Receptors at Hippocampal Mossy Fiber Synapses. <i>Neuron</i> , 2008, 57, 108-120.	3.8	134
33	The CB1 cannabinoid receptor mediates glutamatergic synaptic suppression in the hippocampus. <i>Neuroscience</i> , 2006, 139, 795-802.	1.1	129
34	Dopaminergic Modulation of Endocannabinoid-Mediated Plasticity at GABAergic Synapses in the Prefrontal Cortex. <i>Journal of Neuroscience</i> , 2010, 30, 7236-7248.	1.7	129
35	Presynaptic LTP and LTD of Excitatory and Inhibitory Synapses. <i>Cold Spring Harbor Perspectives in Biology</i> , 2012, 4, a005728-a005728.	2.3	129
36	Redundant functions of RIM1 $\beta$ and RIM2 $\beta$ in Ca <sup>2+</sup> -triggered neurotransmitter release. <i>EMBO Journal</i> , 2006, 25, 5852-5863.	3.5	120

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37	Long-Term Plasticity of Neurotransmitter Release: Emerging Mechanisms and Contributions to Brain Function and Disease. <i>Annual Review of Neuroscience</i> , 2018, 41, 299-322.	5.0	120
38	Distinct functions of kainate receptors in the brain are determined by the auxiliary subunit Neto1. <i>Nature Neuroscience</i> , 2011, 14, 866-873.	7.1	111
39	Interneuron activity controls endocannabinoid-mediated presynaptic plasticity through calcineurin. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 10250-10255.	3.3	102
40	CaMKII Phosphorylation of TARP $\beta$ -8 Is a Mediator of LTP and Learning and Memory. <i>Neuron</i> , 2016, 92, 75-83.	3.8	101
41	Unconventional NMDA Receptor Signaling. <i>Journal of Neuroscience</i> , 2017, 37, 10800-10807.	1.7	99
42	Pharmacology of metabotropic glutamate receptors at the mossy fiber synapses of the guinea pig hippocampus. <i>Neuropharmacology</i> , 1995, 34, 965-971.	2.0	98
43	ELKS2 $\Delta$ /CAST Deletion Selectively Increases Neurotransmitter Release at Inhibitory Synapses. <i>Neuron</i> , 2009, 64, 227-239.	3.8	96
44	The extent and strength of electrical coupling between inferior olivary neurons is heterogeneous. <i>Journal of Neurophysiology</i> , 2011, 105, 1089-1101.	0.9	86
45	RIM1 $\Delta$ and RIM1 $\Delta$ Are Synthesized from Distinct Promoters of the <i>RIM1</i> Gene to Mediate Differential But Overlapping Synaptic Functions. <i>Journal of Neuroscience</i> , 2008, 28, 13435-13447.	1.7	84
46	APP and APLP2 interact with the synaptic release machinery and facilitate transmitter release at hippocampal synapses. <i>ELife</i> , 2015, 4, e09743.	2.8	73
47	LTP at Hilar Mossy Cell-Dentate Granule Cell Synapses Modulates Dentate Gyrus Output by Increasing Excitation/Inhibition Balance. <i>Neuron</i> , 2017, 95, 928-943.e3.	3.8	71
48	RIM1 $\Delta$ phosphorylation at serine-413 by protein kinase A is not required for presynaptic long-term plasticity or learning. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008, 105, 14680-14685.	3.3	69
49	Role of Glutamate Autoreceptors at Hippocampal Mossy Fiber Synapses. <i>Neuron</i> , 2008, 60, 1082-1094.	3.8	68
50	Npas4 is a Critical Regulator of Learning-Induced Plasticity at Mossy Fiber-CA3 Synapses during Contextual Memory Formation. <i>Neuron</i> , 2018, 97, 1137-1152.e5.	3.8	68
51	Rab3B protein is required for long-term depression of hippocampal inhibitory synapses and for normal reversal learning. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011, 108, 14300-14305.	3.3	62
52	Selective Dysregulation of Hippocampal Inhibition in the Mouse Lacking Autism Candidate Gene <i>CNTNAP2</i> . <i>Journal of Neuroscience</i> , 2015, 35, 14681-14687.	1.7	61
53	The control of jaw-opener motoneurons during active sleep. <i>Brain Research</i> , 1994, 653, 31-38.	1.1	58
54	Neto1 and Neto2: auxiliary subunits that determine key properties of native kainate receptors. <i>Journal of Physiology</i> , 2012, 590, 2217-2223.	1.3	57

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55	Input-specific plasticity at excitatory synapses mediated by endocannabinoids in the dentate gyrus. <i>Neuropharmacology</i> , 2008, 54, 68-78.	2.0	55
56	Bidirectional NMDA receptor plasticity controls CA3 output and heterosynaptic metaplasticity. <i>Nature Neuroscience</i> , 2013, 16, 1049-1059.	7.1	55
57	RNA-binding protein Sam68 controls synapse number and local $\hat{F}$ -actin mRNA metabolism in dendrites. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013, 110, 3125-3130.	3.3	55
58	Compartment-Specific Modulation of GABAergic Synaptic Transmission by TRPV1 Channels in the Dentate Gyrus. <i>Journal of Neuroscience</i> , 2014, 34, 16621-16629.	1.7	50
59	Closing the gap: long-term presynaptic plasticity in brain function and disease. <i>Current Opinion in Neurobiology</i> , 2017, 45, 106-112.	2.0	46
60	Evidence against a role for metabotropic glutamate receptors in mossy fiber LTP: the use of mutant mice and pharmacological antagonists. <i>Neuropharmacology</i> , 1995, 34, 1567-1572.	2.0	43
61	Characterizing the Site and Mode of Action of Dynorphin at Hippocampal Mossy Fiber Synapses in the Guinea Pig. <i>Journal of Neuroscience</i> , 1996, 16, 5942-5950.	1.7	41
62	CA1 Pyramidal Cell Theta-Burst Firing Triggers Endocannabinoid-Mediated Long-Term Depression at Both Somatic and Dendritic Inhibitory Synapses. <i>Journal of Neuroscience</i> , 2013, 33, 13743-13757.	1.7	41
63	Endogenous cannabinoid signaling at inhibitory interneurons. <i>Current Opinion in Neurobiology</i> , 2014, 26, 42-50.	2.0	41
64	Actinin-4 Governs Dendritic Spine Dynamics and Promotes Their Remodeling by Metabotropic Glutamate Receptors. <i>Journal of Biological Chemistry</i> , 2015, 290, 15909-15920.	1.6	41
65	Coordination between Translation and Degradation Regulates Inducibility of mGluR-LTD. <i>Cell Reports</i> , 2015, 10, 1459-1466.	2.9	39
66	Synaptotagmin-12 Phosphorylation by cAMP-Dependent Protein Kinase Is Essential for Hippocampal Mossy Fiber LTP. <i>Journal of Neuroscience</i> , 2013, 33, 9769-9780.	1.7	36
67	ANKS1B Gene Product AIDA-1 Controls Hippocampal Synaptic Transmission by Regulating GluN2B Subunit Localization. <i>Journal of Neuroscience</i> , 2015, 35, 8986-8996.	1.7	36
68	Altered synaptic connectivity and brain function in mice lacking microglial adapter protein Iba1. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	3.3	35
69	Targeted deletion of AKAP7 in dentate granule cells impairs spatial discrimination. <i>ELife</i> , 2016, 5, .	2.8	33
70	A Combined Optogenetic-Knockdown Strategy Reveals a Major Role of Tomosyn in Mossy Fiber Synaptic Plasticity. <i>Cell Reports</i> , 2015, 12, 396-404.	2.9	32
71	Presynaptic FMRP and local protein synthesis support structural and functional plasticity of glutamatergic axon terminals. <i>Neuron</i> , 2022, 110, 2588-2606.e6.	3.8	29
72	Modulation of NMDA Receptors by G-protein-coupled receptors: Role in Synaptic Transmission, Plasticity and Beyond. <i>Neuroscience</i> , 2021, 456, 27-42.	1.1	27

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73	Neurexin1 Drives Synaptic and Behavioral Maturation through Intracellular Interactions. Journal of Neuroscience, 2013, 33, 9364-9384.	1.7	23
74	The Rac1 Inhibitor NSC23766 Suppresses CREB Signaling by Targeting NMDA Receptor Function. Journal of Neuroscience, 2014, 34, 14006-14012.	1.7	23
75	A medullary inhibitory region for trigeminal motoneurons in the cat. Brain Research, 1991, 549, 346-349.	1.1	20
76	Estradiol Attenuates Ischemia-Induced Death of Hippocampal Neurons and Enhances Synaptic Transmission in Aged, Long-Term Hormone-Deprived Female Rats. PLoS ONE, 2012, 7, e38018.	1.1	20
77	Presynaptic NMDA receptors facilitate short-term plasticity and BDNF release at hippocampal mossy fiber synapses. ELife, 2021, 10, .	2.8	20
78	Multiple cannabinoid signaling cascades powerfully suppress recurrent excitation in the hippocampus. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	19
79	CB1-receptor-mediated inhibitory LTD triggers presynaptic remodeling via protein synthesis and ubiquitination. ELife, 2020, 9, .	2.8	19
80	Strychnine blockade of the non-reciprocal inhibition of trigeminal motoneurons induced by stimulation of the parvocellular reticular formation. Brain Research, 1991, 567, 346-349.	1.1	18
81	Experimental analysis of the method of "peeling" exponentials for measuring passive electrical properties of mammalian motoneurons. Brain Research, 1995, 675, 241-248.	1.1	17
82	The ins and outs of inhibitory synaptic plasticity: Neuron types, molecular mechanisms and functional roles. European Journal of Neuroscience, 2021, 54, 6882-6901.	1.2	16
83	The Ups and Downs of Translation-Dependent Plasticity. Neuron, 2008, 59, 1-3.	3.8	11
84	Presenilin-ryanodine receptor connection. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14825-14826.	3.3	10
85	Non-reciprocal postsynaptic inhibition of digastric motoneurons. Brain Research, 1990, 535, 339-342.	1.1	9
86	Neurotrophin and FGF Signaling Adapter Proteins, FRS2 and FRS3, Regulate Dentate Granule Cell Maturation and Excitatory Synaptogenesis. Neuroscience, 2018, 369, 192-201.	1.1	9
87	Sam68 Enables Metabotropic Glutamate Receptor-Dependent LTD in Distal Dendritic Regions of CA1 Hippocampal Neurons. Cell Reports, 2019, 29, 1789-1799.e6.	2.9	9
88	Activation of Extrasynaptic Kainate Receptors Drives Hilar Mossy Cell Activity. Journal of Neuroscience, 2022, 42, 2872-2884.	1.7	8
89	Donor-derived vasculature is required to support neocortical cell grafts after stroke. Stem Cell Research, 2022, 59, 102642.	0.3	7
90	28 The role of Ca <sup>2+</sup> in transmitter release and long-term potentiation at hippocampal mossy fiber synapses. Advances in Second Messenger and Phosphoprotein Research, 1994, 29, 497-505.	4.5	6

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91	Excitatory and inhibitory receptors utilize distinct post- and trans-synaptic mechanisms in vivo. <i>ELife</i> , 2021, 10, .	2.8	5
92	CPEB3-dependent increase in GluA2 subunits impairs excitatory transmission onto inhibitory interneurons in a mouse model of fragile X. <i>Cell Reports</i> , 2022, 39, 110853.	2.9	5
93	Heterosynaptic LTD of Hippocampal GABAergic Synapses. <i>Neuron</i> , 2003, 38, 997.	3.8	3
94	Biochemical confinements without walls in aspiny neurons. <i>Nature Neuroscience</i> , 2006, 9, 719-720.	7.1	3
95	Endocannabinoid-Mediated Long-Term Plasticity Requires cAMP/PKA Signaling and RIM1 $\alpha$ . <i>Neuron</i> , 2007, 55, 169.	3.8	2
96	Retrograde Suppression of Post-Tetanic Potentiation at the Mossy Fiber-CA3 Pyramidal Cell Synapse. <i>ENeuro</i> , 2021, 8, ENEURO.0450-20.2021.	0.9	2
97	Transsynaptic Dialogue Between Excitatory and Inhibitory Hippocampal Synapses via Endocannabinoids. , 2005, , 221-235.		0
98	The Battle over Inhibitory Synaptic Plasticity in Satiety Brain Circuits. <i>Neuron</i> , 2011, 71, 385-387.	3.8	0
99	Endocannabinoid Mediated Long-Term Depression at Inhibitory Synapses. , 2011, , 149-166.		0
100	Unique transsynaptic complexes enable long-term synaptic plasticity in a synapse-specific manner. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	3.3	0