

Ian D Forsythe

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91
papers

5,367
citations

38
h-index

72
g-index

104
ext. papers

5,947
ext. citations

5.6
avg, IF

5.52
L-index

#	Paper	IF	Citations
91	Presynaptic mitochondrial calcium sequestration influences transmission at mammalian central synapses. <i>Journal of Neuroscience</i> , 2002 , 22, 5840-7	6.6	307
90	Nitric oxide signaling in brain function, dysfunction, and dementia. <i>Neuroscientist</i> , 2010 , 16, 435-52	7.6	302
89	Inactivation of presynaptic calcium current contributes to synaptic depression at a fast central synapse. <i>Neuron</i> , 1998 , 20, 797-807	13.9	300
88	Contribution of the Kv3.1 potassium channel to high-frequency firing in mouse auditory neurones. <i>Journal of Physiology</i> , 1998 , 509 (Pt 1), 183-94	3.9	285
87	Going native: voltage-gated potassium channels controlling neuronal excitability. <i>Journal of Physiology</i> , 2010 , 588, 3187-200	3.9	188
86	The calyx of Held. <i>Cell and Tissue Research</i> , 2006 , 326, 311-37	4.2	183
85	Two heteromeric Kv1 potassium channels differentially regulate action potential firing. <i>Journal of Neuroscience</i> , 2002 , 22, 6953-61	6.6	171
84	Facilitation of the presynaptic calcium current at an auditory synapse in rat brainstem. <i>Journal of Physiology</i> , 1998 , 512 (Pt 3), 723-9	3.9	154
83	microRNA-34a regulates neurite outgrowth, spinal morphology, and function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 21099-104	11.5	152
82	Presynaptic K ⁺ channels: electrifying regulators of synaptic terminal excitability. <i>Trends in Neurosciences</i> , 2004 , 27, 210-7	13.3	152
81	Characterisation of inhibitory and excitatory postsynaptic currents of the rat medial superior olive. <i>Journal of Physiology</i> , 2000 , 529 Pt 3, 681-98	3.9	138
80	Nitric oxide is a volume transmitter regulating postsynaptic excitability at a glutamatergic synapse. <i>Neuron</i> , 2008 , 60, 642-56	13.9	131
79	Presynaptic rat Kv1.2 channels suppress synaptic terminal hyperexcitability following action potential invasion. <i>Journal of Physiology</i> , 2003 , 550, 27-33	3.9	127
78	Distinguishing between presynaptic and postsynaptic mechanisms of short-term depression during action potential trains. <i>Journal of Neuroscience</i> , 2003 , 23, 4868-77	6.6	123
77	Functional compensation of P/Q by N-type channels blocks short-term plasticity at the calyx of Held presynaptic terminal. <i>Journal of Neuroscience</i> , 2004 , 24, 10379-83	6.6	121
76	Targeting of the Arpc3 actin nucleation factor by miR-29a/b regulates dendritic spine morphology. <i>Journal of Cell Biology</i> , 2011 , 194, 889-904	7.3	110
75	Acoustic environment determines phosphorylation state of the Kv3.1 potassium channel in auditory neurons. <i>Nature Neuroscience</i> , 2005 , 8, 1335-42	25.5	108

74	Kv1 currents mediate a gradient of principal neuron excitability across the tonotopic axis in the rat lateral superior olive. <i>European Journal of Neuroscience</i> , 2004 , 19, 325-33	3.5	99
73	Initial segment Kv2.2 channels mediate a slow delayed rectifier and maintain high frequency action potential firing in medial nucleus of the trapezoid body neurons. <i>Journal of Physiology</i> , 2008 , 586, 3493-309	3.9	95
72	Modulation of a presynaptic hyperpolarization-activated cationic current (I(h)) at an excitatory synaptic terminal in the rat auditory brainstem. <i>Journal of Physiology</i> , 2001 , 534, 733-44	3.9	93
71	The sound of silence: ionic mechanisms encoding sound termination. <i>Neuron</i> , 2011 , 71, 911-25	13.9	82
70	Nitric oxide is an activity-dependent regulator of target neuron intrinsic excitability. <i>Neuron</i> , 2011 , 71, 291-305	13.9	81
69	Analysis of the factors influencing information transmission at the calyx of Held. <i>BMC Neuroscience</i> , 2007 , 8, P160	3.2	78
68	Acoustic over-exposure triggers burst firing in dorsal cochlear nucleus fusiform cells. <i>Hearing Research</i> , 2012 , 283, 98-106	3.9	62
67	N-methyl-D-aspartate receptors influence neuronal survival in developing spinal cord cultures. <i>Developmental Brain Research</i> , 1990 , 51, 63-8		60
66	Reduced low-voltage activated K ⁺ conductances and enhanced central excitability in a congenitally deaf (dn/dn) mouse. <i>Journal of Physiology</i> , 2004 , 559, 25-33	3.9	59
65	Acceleration of AMPA receptor kinetics underlies temperature-dependent changes in synaptic strength at the rat calyx of Held. <i>Journal of Physiology</i> , 2007 , 579, 69-84	3.9	58
64	Unmasking group III metabotropic glutamate autoreceptor function at excitatory synapses in the rat CNS. <i>Journal of Physiology</i> , 2005 , 565, 885-96	3.9	58
63	Rab11 rescues synaptic dysfunction and behavioural deficits in a Drosophila model of Huntington's disease. <i>Human Molecular Genetics</i> , 2012 , 21, 2912-22	5.6	55
62	Changes in synaptic transmission properties due to the expression of N-type calcium channels at the calyx of Held synapse of mice lacking P/Q-type calcium channels. <i>Journal of Physiology</i> , 2007 , 584, 835-51	3.9	51
61	Systematic variation of potassium current amplitudes across the tonotopic axis of the rat medial nucleus of the trapezoid body. <i>Hearing Research</i> , 2005 , 206, 116-32	3.9	51
60	NMDAR-mediated EPSCs are maintained and accelerate in time course during maturation of mouse and rat auditory brainstem in vitro. <i>Journal of Physiology</i> , 2010 , 588, 447-63	3.9	47
59	Contrasting Ca ²⁺ channel subtypes at cell bodies and synaptic terminals of rat anterioventral cochlear bushy neurones. <i>Journal of Physiology</i> , 1998 , 512 (Pt 2), 365-76	3.9	46
58	Kv1.3 is the exclusive voltage-gated K ⁺ channel of platelets and megakaryocytes: roles in membrane potential, Ca ²⁺ signalling and platelet count. <i>Journal of Physiology</i> , 2010 , 588, 1399-406	3.9	45
57	Lateral olivocochlear (LOC) neurons of the mouse LSO receive excitatory and inhibitory synaptic inputs with slower kinetics than LSO principal neurons. <i>Hearing Research</i> , 2010 , 270, 119-26	3.9	42

56	Ether- E go-related gene K ⁺ channels contribute to threshold excitability of mouse auditory brainstem neurons. <i>Journal of Physiology</i> , 2009 , 587, 2487-97	3.9	40
55	Non-calyceal excitatory inputs mediate low fidelity synaptic transmission in rat auditory brainstem slices. <i>European Journal of Neuroscience</i> , 2003 , 18, 2899-902	3.5	40
54	Mechanisms contributing to central excitability changes during hearing loss. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 8292-7	11.5	38
53	Evidence for P2Y1, P2Y2, P2Y6 and atypical UTP-sensitive receptors coupled to rises in intracellular calcium in mouse cultured superior cervical ganglion neurons and glia. <i>British Journal of Pharmacology</i> , 2004 , 143, 525-32	8.6	38
52	Synaptic gain-of-function effects of mutant Cav2.1 channels in a mouse model of familial hemiplegic migraine are due to increased basal [Ca ²⁺] _i . <i>Journal of Neuroscience</i> , 2014 , 34, 7047-58	6.6	37
51	P2X receptor subtype-specific modulation of excitatory and inhibitory synaptic inputs in the rat brainstem. <i>Journal of Physiology</i> , 2004 , 558, 745-57	3.9	36
50	An investigation of the dorsal root reflex using an in vitro preparation of the hamster spinal cord. <i>Brain Research</i> , 1985 , 331, 315-25	3.7	36
49	Neurite degeneration induced by heme deficiency mediated via inhibition of NMDA receptor-dependent extracellular signal-regulated kinase 1/2 activation. <i>Journal of Neuroscience</i> , 2007 , 27, 8475-85	6.6	35
48	Sound localization ability and glycinergic innervation of the superior olivary complex persist after genetic deletion of the medial nucleus of the trapezoid body. <i>Journal of Neuroscience</i> , 2013 , 33, 15044-9	6.6	34
47	Acute hyperbilirubinaemia induces presynaptic neurodegeneration at a central glutamatergic synapse. <i>Journal of Physiology</i> , 2010 , 588, 4683-93	3.9	33
46	Gain of function in FHM-1 Cav2.1 knock-in mice is related to the shape of the action potential. <i>Journal of Neurophysiology</i> , 2010 , 104, 291-9	3.2	30
45	Membrane currents influencing action potential latency in granule neurons of the rat cochlear nucleus. <i>European Journal of Neuroscience</i> , 1997 , 9, 2348-58	3.5	28
44	Protection from noise-induced hearing loss by Kv2.2 potassium currents in the central medial olivocochlear system. <i>Journal of Neuroscience</i> , 2013 , 33, 9113-21	6.6	27
43	Endogenous activation of adenosine A1 receptors, but not P2X receptors, during high-frequency synaptic transmission at the calyx of Held. <i>Journal of Neurophysiology</i> , 2006 , 95, 3336-42	3.2	27
42	Elevation of cytosolic calcium by cholinceptor agonists in SH-SY5Y human neuroblastoma cells: estimation of the contribution of voltage-dependent currents. <i>British Journal of Pharmacology</i> , 1992 , 107, 207-14	8.6	27
41	Regulation of Kv channel expression and neuronal excitability in rat medial nucleus of the trapezoid body maintained in organotypic culture. <i>Journal of Physiology</i> , 2010 , 588, 1451-68	3.9	25
40	Nitric oxide signaling modulates synaptic inhibition in the superior paraolivary nucleus (SPN) via cGMP-dependent suppression of KCC2. <i>Frontiers in Neural Circuits</i> , 2014 , 8, 65	3.5	24
39	Synaptic transmission: well-placed modulators. <i>Current Biology</i> , 1997 , 7, R362-5	6.3	24

38	A chamber for electrophysiological recording from cultured neurones allowing perfusion and temperature control. <i>Journal of Neuroscience Methods</i> , 1988 , 25, 19-27	3	24
37	Modulation and control of synaptic transmission across the MNTB. <i>Hearing Research</i> , 2011 , 279, 22-31	3.9	23
36	Acoustic trauma slows AMPA receptor-mediated EPSCs in the auditory brainstem, reducing GluA4 subunit expression as a mechanism to rescue binaural function. <i>Journal of Physiology</i> , 2016 , 594, 3683-7037	3.9	23
35	Nitric oxide selectively suppresses IH currents mediated by HCN1-containing channels. <i>Journal of Physiology</i> , 2015 , 593, 1685-700	3.9	22
34	Interactions between multiple sources of short-term plasticity during evoked and spontaneous activity at the rat calyx of Held. <i>Journal of Physiology</i> , 2008 , 586, 3129-46	3.9	21
33	Presynaptic and postsynaptic origin of multicomponent extracellular waveforms at the endbulb of Held-spherical bushy cell synapse. <i>European Journal of Neuroscience</i> , 2010 , 31, 1574-81	3.5	20
32	Glucose and lactate as metabolic constraints on presynaptic transmission at an excitatory synapse. <i>Journal of Physiology</i> , 2018 , 596, 1699-1721	3.9	19
31	Nitric oxide signalling augments neuronal voltage-gated L-type (Ca(v)1) and P/Q-type (Ca(v)2.1) channels in the mouse medial nucleus of the trapezoid body. <i>PLoS ONE</i> , 2012 , 7, e32256	3.7	19
30	Neuroinflammation and ER-stress are key mechanisms of acute bilirubin toxicity and hearing loss in a mouse model. <i>PLoS ONE</i> , 2018 , 13, e0201022	3.7	18
29	Kv4 (A-type) potassium currents in the mouse medial nucleus of the trapezoid body. <i>European Journal of Neuroscience</i> , 2008 , 27, 1391-9	3.5	18
28	Detecting synaptic connections in the medial nucleus of the trapezoid body using calcium imaging. <i>Pflugers Archiv European Journal of Physiology</i> , 2002 , 444, 663-9	4.6	18
27	Demonstration of the synaptic origin of primary afferent depolarisation (PAD) in the isolated spinal cord of the hamster. <i>Brain Research</i> , 1985 , 341, 385-9	3.7	18
26	Mevastatin accelerates loss of synaptic proteins and neurite degeneration in aging cortical neurons in a heme-independent manner. <i>Neurobiology of Aging</i> , 2010 , 31, 1543-53	5.6	17
25	Regulation of neuronal plasticity and fear by a dynamic change in PAR1-G protein coupling in the amygdala. <i>Molecular Psychiatry</i> , 2013 , 18, 1136-45	15.1	16
24	Presynaptic CaV2.1 calcium channels carrying familial hemiplegic migraine mutation R192Q allow faster recovery from synaptic depression in mouse calyx of Held. <i>Journal of Neurophysiology</i> , 2012 , 108, 2967-76	3.2	16
23	Physiology and anatomy of neurons in the medial superior olive of the mouse. <i>Journal of Neurophysiology</i> , 2016 , 116, 2676-2688	3.2	16
22	Maintenance of neuronal size gradient in MNTB requires sound-evoked activity. <i>Journal of Neurophysiology</i> , 2017 , 117, 756-766	3.2	15
21	P/Q-type calcium channel ablation in a mice glycinergic synapse mediated by multiple types of Ca ²⁺ channels alters transmitter release and short term plasticity. <i>Neuroscience</i> , 2011 , 192, 219-30	3.9	15

20	Synaptic and non-synaptic components of the dorsal horn potential in isolated hamster spinal cord. <i>Brain Research</i> , 1982 , 233, 186-94	3.7	14
19	A computational model of synaptic transmission at the calyx of Held. <i>Neurocomputing</i> , 2001 , 38-40, 37-43	3.4	13
18	Possible modulatory role of voltage-activated Ca(2+) currents determining the membrane properties of isolated pyramidal neurones of the rat dorsal cochlear nucleus. <i>Brain Research</i> , 1999 , 839, 109-19	3.7	13
17	The impact of synaptic conductance on action potential waveform: evoking realistic action potentials with a simulated synaptic conductance. <i>Journal of Neuroscience Methods</i> , 2009 , 183, 158-64	3	12
16	Calcium channels triggering transmitter release in the rat medial superior olive. <i>Hearing Research</i> , 2001 , 162, 134-45	3.9	12
15	Ion channels. A physiological function for polyamines?. <i>Current Biology</i> , 1995 , 5, 1248-51	6.3	12
14	Kv3.1 and Kv3.3 subunits differentially contribute to Kv3 channels and action potential repolarization in principal neurons of the auditory brainstem. <i>Journal of Physiology</i> , 2020 , 598, 2199-2222	3.9	9
13	Early failure of N-methyl-D-aspartate receptors and deficient spine formation induced by reduction of regulatory heme in neurons. <i>Molecular Pharmacology</i> , 2011 , 79, 844-54	4.3	9
12	A multi-component model of depression at the calyx of Held. <i>Neurocomputing</i> , 2004 , 58-60, 449-454	5.4	9
11	Strain-specific differences in the development of neuronal excitability in the mouse ventral nucleus of the trapezoid body. <i>Hearing Research</i> , 2017 , 354, 28-37	3.9	8
10	Wide-band information transmission at the calyx of Held. <i>Neural Computation</i> , 2009 , 21, 991-1017	2.9	8
9	A biophysical model of short-term plasticity at the calyx of Held. <i>Neurocomputing</i> , 2007 , 70, 1626-1629	5.4	8
8	Spinocerebellar neurones in the guinea pig--a morphological study. <i>Brain Research</i> , 1988 , 453, 129-35	3.7	7
7	Familial hemiplegic migraine type-1 mutated cav2.1 calcium channels alter inhibitory and excitatory synaptic transmission in the lateral superior olive of mice. <i>Hearing Research</i> , 2015 , 319, 56-68	3.9	6
6	Intracellular recording of identified dorsal spinocerebellar tract neurones from guinea pig spinal cord in vitro. <i>Journal of Neuroscience Methods</i> , 1987 , 19, 225-33	3	5
5	Integration of Synaptic and Intrinsic Conductances Shapes Microcircuits in the Superior Olivary Complex. <i>Springer Handbook of Auditory Research</i> , 2018 , 101-126	1.2	3
4	Contribution of P2Y(1) receptors to ADP signalling in mouse spinal cord cultures. <i>Neuroscience Letters</i> , 2008 , 435, 190-3	3.3	1
3	Nitric Oxide Signaling in the Auditory Pathway. <i>Frontiers in Neural Circuits</i> , 2021 , 15, 759342	3.5	0

2 Multisensory integration for orientation and movement. *Journal of Physiology*, **2011**, 589, 805 3.9

1 Deficiency of regulatory heme causes an early synaptic failure in cultured neurons. *Toxicology*, **2011**, 290, 108-109 4.4