Ian D Forsythe

List of Publications by Year in Descending Order

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	Nitric Oxide Signaling in the Auditory Pathway. *Frontiers in Neural Circuits*, **2021**, 15, 759342	3.5	0
90	Kv3.1 and Kv3.3 subunits differentially contribute to Kv3 channels and action potential repolarization in principal neurons of the auditory brainstem. *Journal of Physiology*, **2020**, 598, 2199-2222	3.9	9
89	Glucose and lactate as metabolic constraints on presynaptic transmission at an excitatory synapse. *Journal of Physiology*, **2018**, 596, 1699-1721	3.9	19
88	Integration of Synaptic and Intrinsic Conductances Shapes Microcircuits in the Superior Olivary Complex. *Springer Handbook of Auditory Research*, **2018**, 101-126	1.2	3
87	Neuroinflammation and ER-stress are key mechanisms of acute bilirubin toxicity and hearing loss in a mouse model. *PLoS ONE*, **2018**, 13, e0201022	3.7	18
86	Maintenance of neuronal size gradient in MNTB requires sound-evoked activity. *Journal of Neurophysiology*, **2017**, 117, 756-766	3.2	15
85	Strain-specific differences in the development of neuronal excitability in the mouse ventral nucleus of the trapezoid body. *Hearing Research*, **2017**, 354, 28-37	3.9	8
84	Acoustic trauma slows AMPA receptor-mediated EPSCs in the auditory brainstem, reducing GluA4 subunit expression as a mechanism to rescue binaural function. *Journal of Physiology*, **2016**, 594, 3683-703	3.9	23
83	Physiology and anatomy of neurons in the medial superior olive of the mouse. *Journal of Neurophysiology*, **2016**, 116, 2676-2688	3.2	16
82	Nitric oxide selectively suppresses IH currents mediated by HCN1-containing channels. *Journal of Physiology*, **2015**, 593, 1685-700	3.9	22
81	Familial hemiplegic migraine type-1 mutated cav2.1 calcium channels alter inhibitory and excitatory synaptic transmission in the lateral superior olive of mice. *Hearing Research*, **2015**, 319, 56-68	3.9	6
80	Nitric oxide signaling modulates synaptic inhibition in the superior paraolivary nucleus (SPN) via cGMP-dependent suppression of KCC2. *Frontiers in Neural Circuits*, **2014**, 8, 65	3.5	24
79	Synaptic gain-of-function effects of mutant Cav2.1 channels in a mouse model of familial hemiplegic migraine are due to increased basal [Ca2+]i. *Journal of Neuroscience*, **2014**, 34, 7047-58	6.6	37
78	Regulation of neuronal plasticity and fear by a dynamic change in PAR1-G protein coupling in the amygdala. *Molecular Psychiatry*, **2013**, 18, 1136-45	15.1	16
77	Sound localization ability and glycinergic innervation of the superior olivary complex persist after genetic deletion of the medial nucleus of the trapezoid body. *Journal of Neuroscience*, **2013**, 33, 15044-9	6.6	34
76	Protection from noise-induced hearing loss by Kv2.2 potassium currents in the central medial olivocochlear system. *Journal of Neuroscience*, **2013**, 33, 9113-21	6.6	27
75	Acoustic over-exposure triggers burst firing in dorsal cochlear nucleus fusiform cells. *Hearing Research*, **2012**, 283, 98-106	3.9	62

74	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. *PLoS ONE*, **2012**, 7, e32256	3.7	19
73	Presynaptic CaV2.1 calcium channels carrying familial hemiplegic migraine mutation R192Q allow faster recovery from synaptic depression in mouse calyx of Held. *Journal of Neurophysiology*, **2012**, 108, 2967-76	3.2	16
72	Mechanisms contributing to central excitability changes during hearing loss. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 8292-7	11.5	38
71	Rab11 rescues synaptic dysfunction and behavioural deficits in a Drosophila model of Huntingtons disease. *Human Molecular Genetics*, **2012**, 21, 2912-22	5.6	55
70	Modulation and control of synaptic transmission across the MNTB. *Hearing Research*, **2011**, 279, 22-31	3.9	23
69	Nitric oxide is an activity-dependent regulator of target neuron intrinsic excitability. *Neuron*, **2011**, 71, 291-305	13.9	81
68	The sound of silence: ionic mechanisms encoding sound termination. *Neuron*, **2011**, 71, 911-25	13.9	82
67	P/Q-type calcium channel ablation in a mice glycinergic synapse mediated by multiple types of Ca□+ channels alters transmitter release and short term plasticity. *Neuroscience*, **2011**, 192, 219-30	3.9	15
66	Multisensory integration for orientation and movement. *Journal of Physiology*, **2011**, 589, 805	3.9	
65	Deficiency of regulatory heme causes an early synaptic failure in cultured neurons. *Toxicology*, **2011** , 290, 108-109	4.4	
64	microRNA-34a regulates neurite outgrowth, spinal morphology, and function. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 21099-104	11.5	152
63	Early failure of N-methyl-D-aspartate receptors and deficient spine formation induced by reduction of regulatory heme in neurons. *Molecular Pharmacology*, **2011**, 79, 844-54	4.3	9
62	Targeting of the Arpc3 actin nucleation factor by miR-29a/b regulates dendritic spine morphology. *Journal of Cell Biology*, **2011**, 194, 889-904	7.3	110
61	NMDAR-mediated EPSCs are maintained and accelerate in time course during maturation of mouse and rat auditory brainstem in vitro. *Journal of Physiology*, **2010**, 588, 447-63	3.9	47
60	Regulation of Kv channel expression and neuronal excitability in rat medial nucleus of the trapezoid body maintained in organotypic culture. *Journal of Physiology*, **2010**, 588, 1451-68	3.9	25
59	Kv1.3 is the exclusive voltage-gated K+ channel of platelets and megakaryocytes: roles in membrane potential, Ca2+ signalling and platelet count. *Journal of Physiology*, **2010**, 588, 1399-406	3.9	45
58	Going native: voltage-gated potassium channels controlling neuronal excitability. *Journal of Physiology*, **2010**, 588, 3187-200	3.9	188
57	Acute hyperbilirubinaemia induces presynaptic neurodegeneration at a central glutamatergic synapse. *Journal of Physiology*, **2010**, 588, 4683-93	3.9	33

56	Presynaptic and postsynaptic origin of multicomponent extracellular waveforms at the endbulb of Held-spherical bushy cell synapse. *European Journal of Neuroscience*, **2010**, 31, 1574-81	3.5	20
55	Gain of function in FHM-1 Cav2.1 knock-in mice is related to the shape of the action potential. *Journal of Neurophysiology*, **2010**, 104, 291-9	3.2	30
54	Lateral olivocochlear (LOC) neurons of the mouse LSO receive excitatory and inhibitory synaptic inputs with slower kinetics than LSO principal neurons. *Hearing Research*, **2010**, 270, 119-26	3.9	42
53	Mevastatin accelerates loss of synaptic proteins and neurite degeneration in aging cortical neurons in a heme-independent manner. *Neurobiology of Aging*, **2010**, 31, 1543-53	5.6	17
52	Nitric oxide signaling in brain function, dysfunction, and dementia. *Neuroscientist*, **2010**, 16, 435-52	7.6	302
51	Wide-band information transmission at the calyx of Held. *Neural Computation*, **2009**, 21, 991-1017	2.9	8
50	Ether-□go-go-related gene K+ channels contribute to threshold excitability of mouse auditory brainstem neurons. *Journal of Physiology*, **2009**, 587, 2487-97	3.9	40
49	The impact of synaptic conductance on action potential waveform: evoking realistic action potentials with a simulated synaptic conductance. *Journal of Neuroscience Methods*, **2009**, 183, 158-64	3	12
48	Interactions between multiple sources of short-term plasticity during evoked and spontaneous activity at the rat calyx of Held. *Journal of Physiology*, **2008**, 586, 3129-46	3.9	21
47	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. *Journal of Physiology*, **2008**, 586, 3493-509	3.9	95
46	Kv4 (A-type) potassium currents in the mouse medial nucleus of the trapezoid body. *European Journal of Neuroscience*, **2008**, 27, 1391-9	3.5	18
45	Contribution of P2Y(1) receptors to ADP signalling in mouse spinal cord cultures. *Neuroscience Letters*, **2008**, 435, 190-3	3.3	1
44	Nitric oxide is a volume transmitter regulating postsynaptic excitability at a glutamatergic synapse. *Neuron*, **2008**, 60, 642-56	13.9	131
43	Acceleration of AMPA receptor kinetics underlies temperature-dependent changes in synaptic strength at the rat calyx of Held. *Journal of Physiology*, **2007**, 579, 69-84	3.9	58
42	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. *Journal of Physiology*, **2007**, 584, 835-51	3.9	51
41	Analysis of the factors influencing information transmission at the calyx of Held. *BMC Neuroscience*, **2007**, 8, P160	3.2	78
40	A biophysical model of short-term plasticity at the calyx of Held. *Neurocomputing*, **2007**, 70, 1626-1629	5.4	8
39	Neurite degeneration induced by heme deficiency mediated via inhibition of NMDA receptor-dependent extracellular signal-regulated kinase 1/2 activation. *Journal of Neuroscience*, **2007**, 27, 8475-85	6.6	35

38	Endogenous activation of adenosine A1 receptors, but not P2X receptors, during high-frequency synaptic transmission at the calyx of Held. *Journal of Neurophysiology*, **2006**, 95, 3336-42	3.2	27
37	The calyx of Held. *Cell and Tissue Research*, **2006**, 326, 311-37	4.2	183
36	Systematic variation of potassium current amplitudes across the tonotopic axis of the rat medial nucleus of the trapezoid body. *Hearing Research*, **2005**, 206, 116-32	3.9	51
35	Acoustic environment determines phosphorylation state of the Kv3.1 potassium channel in auditory neurons. *Nature Neuroscience*, **2005**, 8, 1335-42	25.5	108
34	Unmasking group III metabotropic glutamate autoreceptor function at excitatory synapses in the rat CNS. *Journal of Physiology*, **2005**, 565, 885-96	3.9	58
33	Functional compensation of P/Q by N-type channels blocks short-term plasticity at the calyx of Held presynaptic terminal. *Journal of Neuroscience*, **2004**, 24, 10379-83	6.6	121
32	Kv1 currents mediate a gradient of principal neuron excitability across the tonotopic axis in the rat lateral superior olive. *European Journal of Neuroscience*, **2004**, 19, 325-33	3.5	99
31	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. *British Journal of Pharmacology*, **2004**, 143, 525-32	8.6	38
30	P2X receptor subtype-specific modulation of excitatory and inhibitory synaptic inputs in the rat brainstem. *Journal of Physiology*, **2004**, 558, 745-57	3.9	36
29	Reduced low-voltage activated K+ conductances and enhanced central excitability in a congenitally deaf (dn/dn) mouse. *Journal of Physiology*, **2004**, 559, 25-33	3.9	59
28	A multi-component model of depression at the calyx of Held. *Neurocomputing*, **2004**, 58-60, 449-454	5.4	9
27	Presynaptic K+ channels: electrifying regulators of synaptic terminal excitability. *Trends in Neurosciences*, **2004**, 27, 210-7	13.3	152
26	Distinguishing between presynaptic and postsynaptic mechanisms of short-term depression during action potential trains. *Journal of Neuroscience*, **2003**, 23, 4868-77	6.6	123
25	Non-calyceal excitatory inputs mediate low fidelity synaptic transmission in rat auditory brainstem slices. *European Journal of Neuroscience*, **2003**, 18, 2899-902	3.5	40
24	Presynaptic rat Kv1.2 channels suppress synaptic terminal hyperexcitability following action potential invasion. *Journal of Physiology*, **2003**, 550, 27-33	3.9	127
23	Presynaptic mitochondrial calcium sequestration influences transmission at mammalian central synapses. *Journal of Neuroscience*, **2002**, 22, 5840-7	6.6	307
22	Detecting synaptic connections in the medial nucleus of the trapezoid body using calcium imaging. *Pflugers Archiv European Journal of Physiology*, **2002**, 444, 663-9	4.6	18
21	Two heteromeric Kv1 potassium channels differentially regulate action potential firing. *Journal of Neuroscience*, **2002**, 22, 6953-61	6.6	171

20	Modulation of a presynaptic hyperpolarization-activated cationic current (I(h)) at an excitatory synaptic terminal in the rat auditory brainstem. *Journal of Physiology*, **2001**, 534, 733-44	3.9	93
19	A computational model of synaptic transmission at the calyx of Held. *Neurocomputing*, **2001**, 38-40, 37-42	3.4	13
18	Calcium channels triggering transmitter release in the rat medial superior olive. *Hearing Research*, **2001**, 162, 134-45	3.9	12
17	Characterisation of inhibitory and excitatory postsynaptic currents of the rat medial superior olive. *Journal of Physiology*, **2000**, 529 Pt 3, 681-98	3.9	138
16	Possible modulatory role of voltage-activated Ca(2+) currents determining the membrane properties of isolated pyramidal neurones of the rat dorsal cochlear nucleus. *Brain Research*, **1999**, 839, 109-19	3.7	13
15	Contribution of the Kv3.1 potassium channel to high-frequency firing in mouse auditory neurones. *Journal of Physiology*, **1998**, 509 (Pt 1), 183-94	3.9	285
14	Contrasting Ca2+ channel subtypes at cell bodies and synaptic terminals of rat anterioventral cochlear bushy neurones. *Journal of Physiology*, **1998**, 512 (Pt 2), 365-76	3.9	46
13	Facilitation of the presynaptic calcium current at an auditory synapse in rat brainstem. *Journal of Physiology*, **1998**, 512 (Pt 3), 723-9	3.9	154
12	Inactivation of presynaptic calcium current contributes to synaptic depression at a fast central synapse. *Neuron*, **1998**, 20, 797-807	13.9	300
11	Membrane currents influencing action potential latency in granule neurons of the rat cochlear nucleus. *European Journal of Neuroscience*, **1997**, 9, 2348-58	3.5	28
10	Synaptic transmission: well-placed modulators. *Current Biology*, **1997**, 7, R362-5	6.3	24
9	Ion channels. A physiological function for polyamines?. *Current Biology*, **1995**, 5, 1248-51	6.3	12
8	Elevation of cytosolic calcium by cholinoceptor agonists in SH-SY5Y human neuroblastoma cells: estimation of the contribution of voltage-dependent currents. *British Journal of Pharmacology*, **1992**, 107, 207-14	8.6	27
7	N-methyl-D-aspartate receptors influence neuronal survival in developing spinal cord cultures. *Developmental Brain Research*, **1990**, 51, 63-8		60
6	A chamber for electrophysiological recording from cultured neurones allowing perfusion and temperature control. *Journal of Neuroscience Methods*, **1988**, 25, 19-27	3	24
5	Spinocerebellar neurones in the guinea pig--a morphological study. *Brain Research*, **1988**, 453, 129-35	3.7	7
4	Intracellular recording of identified dorsal spinocerebellar tract neurones from guinea pig spinal cord in vitro. *Journal of Neuroscience Methods*, **1987**, 19, 225-33	3	5
3	Demonstration of the synaptic origin of primary afferent depolarisation (PAD) in the isolated spinal cord of the hamster. *Brain Research*, **1985**, 341, 385-9	3.7	18

2	An investigation of the dorsal root reflex using an in vitro preparation of the hamster spinal cord. *Brain Research*, **1985**, 331, 315-25	3.7	36
1	Synaptic and non-synaptic components of the dorsal horn potential in isolated hamster spinal cord. *Brain Research*, **1982**, 233, 186-94	3.7	14