Nicholas P Franks

List of Publications by Year in Descending Order

121 papers	15,538 citations	60 h-index	124 g-index
131 ext. papers	17,142 ext. citations	11.4 avg, IF	6.67 L-index

#	Paper	IF	Citations
121	Dysfunction of ventral tegmental area GABA neurons causes mania-like behavior. *Molecular Psychiatry*, **2021**, 26, 5213-5228	15.1	7
120	Brain Clocks, Sleep, and Mood. *Advances in Experimental Medicine and Biology*, **2021**, 1344, 71-86	3.6	
119	Nitric Oxide Synthase Neurons in the Preoptic Hypothalamus Are NREM and REM Sleep-Active and Lower Body Temperature. *Frontiers in Neuroscience*, **2021**, 15, 709825	5.1	2
118	The inescapable drive to sleep: Overlapping mechanisms of sleep and sedation. *Science*, **2021**, 374, 556-559	33.3	4
117	Sleep deprivation and stress: a reciprocal relationship. *Interface Focus*, **2020**, 10, 20190092	3.9	34
116	The stillness of sleep. *Science*, **2020**, 367, 366-367	33.3	1
115	Sleep and thermoregulation. *Current Opinion in Physiology*, **2020**, 15, 7-13	2.6	18
114	Xenon treatment after severe traumatic brain injury improves locomotor outcome, reduces acute neuronal loss and enhances early beneficial neuroinflammation: a randomized, blinded, controlled animal study. *Critical Care*, **2020**, 24, 667	10.8	7
113	Noble gas neuroprotection: xenon and argon protect against hypoxic-ischaemic injury in rat hippocampus in vitro via distinct mechanisms. *British Journal of Anaesthesia*, **2019**, 123, 601-609	5.4	25
112	Xenon prevents early neuronal loss and neuroinflammation in a rat model of traumatic brain injury. *British Journal of Anaesthesia*, **2019**, 123, e508-e509	5.4	
111	Galanin Neurons Unite Sleep Homeostasis and α2-Adrenergic Sedation. *Current Biology*, **2019**, 29, 3315-3323.e3	6.3	34
110	Xenon improves long-term cognitive function, reduces neuronal loss and chronic neuroinflammation, and improves survival after traumatic brain injury in mice. *British Journal of Anaesthesia*, **2019**, 123, 60-73	5.4	33
109	The Temperature Dependence of Sleep. *Frontiers in Neuroscience*, **2019**, 13, 336	5.1	53
108	Genetic lesioning of histamine neurons increases sleep-wake fragmentation and reveals their contribution to modafinil-induced wakefulness. *Sleep*, **2019**, 42,	1.1	11
107	Histamine: neural circuits and new medications. *Sleep*, **2019**, 42,	1.1	41
106	GABA and glutamate neurons in the VTA regulate sleep and wakefulness. *Nature Neuroscience*, **2019**, 22, 106-119	25.5	83
105	Excitatory Pathways from the Lateral Habenula Enable Propofol-Induced Sedation. *Current Biology*, **2018**, 28, 580-587.e5	6.3	31

104	Modulation of GABA A receptor function and sleep. *Current Opinion in Physiology*, **2018**, 2, 51-57	2.6	3
103	Xenon Protects against Blast-Induced Traumatic Brain Injury in an In Vitro Model. *Journal of Neurotrauma*, **2018**, 35, 1037-1044	5.4	18
102	A Neuronal Hub Binding Sleep Initiation and Body Cooling in Response to a Warm External Stimulus. *Current Biology*, **2018**, 28, 2263-2273.e4	6.3	62
101	Sleep and Sedative States Induced by Targeting the Histamine and Noradrenergic Systems. *Frontiers in Neural Circuits*, **2018**, 12, 4	3.5	27
100	nNOS-Expressing Neurons in the Ventral Tegmental Area and Substantia Nigra Pars Compacta. *ENeuro*, **2018**, 5,	3.9	11
99	Fast and Slow Inhibition in the Visual Thalamus Is Influenced by Allocating GABA Receptors with Different □Subunits. *Frontiers in Cellular Neuroscience*, **2017**, 11, 95	6.1	4
98	Bottom-Up versus Top-Down Induction of Sleep by Zolpidem Acting on Histaminergic and Neocortex Neurons. *Journal of Neuroscience*, **2016**, 36, 11171-11184	6.6	22
97	Activation and modulation of recombinant glycine and GABA receptors by 4-halogenated analogues of propofol. *British Journal of Pharmacology*, **2016**, 173, 3110-3120	8.6	14
96	Moderate hypothermia within 6 h of birth plus inhaled xenon versus moderate hypothermia alone after birth asphyxia (TOBY-Xe): a proof-of-concept, open-label, randomised controlled trial. *Lancet Neurology, The*, **2016**, 15, 145-153	24.1	133
95	Neuronal ensembles sufficient for recovery sleep and the sedative actions of □ adrenergic agonists. *Nature Neuroscience*, **2015**, 18, 553-561	25.5	136
94	Two-pore domain potassium channels enable action potential generation in the absence of voltage-gated potassium channels. *Pflugers Archiv European Journal of Physiology*, **2015**, 467, 989-99	4.6	18
93	Wakefulness Is Governed by GABA and Histamine Cotransmission. *Neuron*, **2015**, 87, 164-78	13.9	99
92	Xenon improves neurologic outcome and reduces secondary injury following trauma in an in vivo model of traumatic brain injury. *Critical Care Medicine*, **2015**, 43, 149-158	1.4	41
91	Mutational Analysis of the Putative High-Affinity Propofol Binding Site in Human □ Homomeric GABAA Receptors. *Molecular Pharmacology*, **2015**, 88, 736-45	4.3	19
90	Structural comparisons of ligand-gated ion channels in open, closed, and desensitized states identify a novel propofol-binding site on mammalian □aminobutyric acid type A receptors. *Anesthesiology*, **2015**, 122, 787-94	4.3	28
89	Molecular modeling of a tandem two pore domain potassium channel reveals a putative binding site for general anesthetics. *ACS Chemical Neuroscience*, **2014**, 5, 1246-52	5.7	17
88	Altered activity in the central medial thalamus precedes changes in the neocortex during transitions into both sleep and propofol anesthesia. *Journal of Neuroscience*, **2014**, 34, 13326-35	6.6	83
87	Staying awake--a genetic region that hinders □ adrenergic receptor agonist-induced sleep. *European Journal of Neuroscience*, **2014**, 40, 2311-9	3.5	19

86	Circadian factor BMAL1 in histaminergic neurons regulates sleep architecture. *Current Biology*, **2014**, 24, 2838-44	6.3	60
85	The Unfolding Story of How General Anesthetics Act **2014**, 597-608		2
84	A propofol binding site on mammalian GABAA receptors identified by photolabeling. *Nature Chemical Biology*, **2013**, 9, 715-20	11.7	168
83	Neuroprotection against traumatic brain injury by xenon, but not argon, is mediated by inhibition at the N-methyl-D-aspartate receptor glycine site. *Anesthesiology*, **2013**, 119, 1137-48	4.3	82
82	Xenon neuroprotection in experimental stroke: interactions with hypothermia and intracerebral hemorrhage. *Anesthesiology*, **2012**, 117, 1262-75	4.3	49
81	GABAergic inhibition of histaminergic neurons regulates active waking but not the sleep-wake switch or propofol-induced loss of consciousness. *Journal of Neuroscience*, **2012**, 32, 13062-75	6.6	72
80	Are extrasynaptic GABAA receptors important targets for sedative/hypnotic drugs?. *Journal of Neuroscience*, **2012**, 32, 3887-97	6.6	54
79	Identification of two mutations (F758W and F758Y) in the N-methyl-D-aspartate receptor glycine-binding site that selectively prevent competitive inhibition by xenon without affecting glycine binding. *Anesthesiology*, **2012**, 117, 38-47	4.3	33
78	Sleep and general anesthesia. *Canadian Journal of Anaesthesia*, **2011**, 58, 139-48	3	64
77	Bench-to-bedside review: Molecular pharmacology and clinical use of inert gases in anesthesia and neuroprotection. *Critical Care*, **2010**, 14, 229	10.8	67
76	Competitive inhibition at the glycine site of the N-methyl-D-aspartate receptor mediates xenon neuroprotection against hypoxia-ischemia. *Anesthesiology*, **2010**, 112, 614-22	4.3	68
75	An unexpected role for TASK-3 potassium channels in network oscillations with implications for sleep mechanisms and anesthetic action. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 17546-51	11.5	71
74	The involvement of hypothalamic sleep pathways in general anesthesia: testing the hypothesis using the GABAA receptor beta3N265M knock-in mouse. *Journal of Neuroscience*, **2009**, 29, 2177-87	6.6	100
73	General anesthesia and ascending arousal pathways. *Anesthesiology*, **2009**, 111, 695-6	4.3	21
72	General anaesthesia: from molecular targets to neuronal pathways of sleep and arousal. *Nature Reviews Neuroscience*, **2008**, 9, 370-86	13.5	860
71	The neuroprotective effects of xenon and helium in an in vitro model of traumatic brain injury. *Critical Care Medicine*, **2008**, 36, 588-95	1.4	122
70	Role of endogenous sleep-wake and analgesic systems in anesthesia. *Journal of Comparative Neurology*, **2008**, 508, 648-62	3.4	168
69	Determinants of the anesthetic sensitivity of two-pore domain acid-sensitive potassium channels: molecular cloning of an anesthetic-activated potassium channel from Lymnaea stagnalis. *Journal of Biological Chemistry*, **2007**, 282, 20977-90	5.4	38

68	Identification of anesthetic binding sites on human serum albumin using a novel etomidate photolabel. *Journal of Biological Chemistry*, **2007**, 282, 12038-47	5.4	9
67	Asynchronous administration of xenon and hypothermia significantly reduces brain infarction in the neonatal rat. *British Journal of Anaesthesia*, **2007**, 98, 236-40	5.4	50
66	The common chemical motifs within anesthetic binding sites. *Anesthesia and Analgesia*, **2007**, 104, 318-24	3.9	42
65	Xenon mitigates isoflurane-induced neuronal apoptosis in the developing rodent brain. *Anesthesiology*, **2007**, 106, 746-53	4.3	216
64	Competitive inhibition at the glycine site of the N-methyl-D-aspartate receptor by the anesthetics xenon and isoflurane: evidence from molecular modeling and electrophysiology. *Anesthesiology*, **2007**, 107, 756-67	4.3	185
63	The differential effects of nitrous oxide and xenon on extracellular dopamine levels in the rat nucleus accumbens: a microdialysis study. *Anesthesia and Analgesia*, **2006**, 103, 1459-63	3.9	29
62	Neuroprotective interaction produced by xenon and dexmedetomidine on in vitro and in vivo neuronal injury models. *Neuroscience Letters*, **2006**, 409, 128-33	3.3	57
61	Feasibility and safety of delivering xenon to patients undergoing coronary artery bypass graft surgery while on cardiopulmonary bypass: phase I study. *Anesthesiology*, **2006**, 104, 458-65	4.3	35
60	Expansion of gas bubbles by nitrous oxide and xenon. *Anesthesiology*, **2006**, 104, 299-302	4.3	21
59	Molecular targets underlying general anaesthesia. *British Journal of Pharmacology*, **2006**, 147 Suppl 1, S72-81	8.6	258
58	Xenon preconditioning reduces brain damage from neonatal asphyxia in rats. *Journal of Cerebral Blood Flow and Metabolism*, **2006**, 26, 199-208	7.3	143
57	The Mechanistic Relationship between NREM Sleep and Anesthesia **2006**, 43-52		
56	The effects of hypoxia on the modulation of human TREK-1 potassium channels. *Journal of Physiology*, **2005**, 562, 205-12	3.9	24
55	Xenon and hypothermia combine to provide neuroprotection from neonatal asphyxia. *Annals of Neurology*, **2005**, 58, 182-93	9.4	208
54	Two-pore-domain K+ channels are a novel target for the anesthetic gases xenon, nitrous oxide, and cyclopropane. *Molecular Pharmacology*, **2004**, 65, 443-52	4.3	249
53	Dexmedetomidine produces its neuroprotective effect via the alpha 2A-adrenoceptor subtype. *European Journal of Pharmacology*, **2004**, 502, 87-97	5.3	209
52	The TREK K2P channels and their role in general anaesthesia and neuroprotection. *Trends in Pharmacological Sciences*, **2004**, 25, 601-8	13.2	175
51	Xenon exerts age-independent antinociception in Fischer rats. *Anesthesiology*, **2004**, 100, 1313-8	4.3	20

50	Seeing the light: protein theories of general anesthesia. 1984. *Anesthesiology*, **2004**, 101, 235-7	4.3	35
49	Determinants of the sensitivity of AMPA receptors to xenon. *Anesthesiology*, **2004**, 100, 347-58	4.3	32
48	Rested and refreshed after anesthesia? Overlapping neurobiologic mechanisms of sleep and anesthesia. *Anesthesiology*, **2004**, 100, 1341-2	4.3	27
47	Xenon: no stranger to anaesthesia. *British Journal of Anaesthesia*, **2003**, 91, 709-17	5.4	74
46	Combination of xenon and isoflurane produces a synergistic protective effect against oxygen-glucose deprivation injury in a neuronal-glial co-culture model. *Anesthesiology*, **2003**, 99, 748-51	4.3	27
45	The neuroprotective effect of xenon administration during transient middle cerebral artery occlusion in mice. *Anesthesiology*, **2003**, 99, 876-81	4.3	182
44	The alpha2-adrenoceptor agonist dexmedetomidine converges on an endogenous sleep-promoting pathway to exert its sedative effects. *Anesthesiology*, **2003**, 98, 428-36	4.3	584
43	Xenon attenuates cardiopulmonary bypass-induced neurologic and neurocognitive dysfunction in the rat. *Anesthesiology*, **2003**, 98, 690-8	4.3	144
42	The effects of general anaesthetics on carbachol-evoked gamma oscillations in the rat hippocampus in vitro. *Neuropharmacology*, **2003**, 44, 864-72	5.5	91
41	The sedative component of anesthesia is mediated by GABA(A) receptors in an endogenous sleep pathway. *Nature Neuroscience*, **2002**, 5, 979-84	25.5	452
40	Determinants of the anesthetic sensitivity of neuronal nicotinic acetylcholine receptors. *Journal of Biological Chemistry*, **2002**, 277, 10367-73	5.4	17
39	Selective synaptic actions of thiopental and its enantiomers. *Anesthesiology*, **2002**, 96, 884-92	4.3	17
38	Effects of xenon on in vitro and in vivo models of neuronal injury. *Anesthesiology*, **2002**, 96, 1485-91	4.3	185
37	Binding of the general anesthetics propofol and halothane to human serum albumin. High resolution crystal structures. *Journal of Biological Chemistry*, **2000**, 275, 38731-8	5.4	423
36	Fatty acid binding to human serum albumin: new insights from crystallographic studies. *Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids*, **1999**, 1441, 131-40	5	387
35	Preparation of barbiturate optical isomers and their effects on GABA(A) receptors. *Anesthesiology*, **1999**, 90, 1714-22	4.3	42
34	Crystal structure of human serum albumin complexed with fatty acid reveals an asymmetric distribution of binding sites. *Nature Structural Biology*, **1998**, 5, 827-35		1080
33	How does xenon produce anaesthesia?. *Nature*, **1998**, 396, 324	50.4	368

32	Structural basis for the inhibition of firefly luciferase by a general anesthetic. *Biophysical Journal*, **1998**, 75, 2205-11	2.9	188
31	Actions of general anaesthetics on 5-HT3 receptors in N1E-115 neuroblastoma cells. *British Journal of Pharmacology*, **1996**, 117, 1507-15	8.6	69
30	Effects of inhalational general anaesthetics on native glycine receptors in rat medullary neurones and recombinant glycine receptors in Xenopus oocytes. *British Journal of Pharmacology*, **1996**, 118, 493-502	8.6	103
29	Crystal structure of firefly luciferase throws light on a superfamily of adenylate-forming enzymes. *Structure*, **1996**, 4, 287-98	5.2	515
28	Actions of general anaesthetics on a neuronal nicotinic acetylcholine receptor in isolated identified neurones of Lymnaea stagnalis. *British Journal of Pharmacology*, **1995**, 115, 275-82	8.6	38
27	Molecular and cellular mechanisms of general anaesthesia. *Nature*, **1994**, 367, 607-14	50.4	1486
26	Can the stereoselective effects of the anesthetic isoflurane be accounted for by lipid solubility?. *Biophysical Journal*, **1994**, 66, 2019-23	2.9	58
25	Stereoselective and non-stereoselective actions of isoflurane on the GABAA receptor. *British Journal of Pharmacology*, **1994**, 112, 906-10	8.6	81
24	Thermodynamics of anesthetic/protein interactions. Temperature studies on firefly luciferase. *Biophysical Journal*, **1993**, 64, 1264-71	2.9	50
23	Selective actions of volatile general anaesthetics at molecular and cellular levels. *British Journal of Anaesthesia*, **1993**, 71, 65-76	5.4	145
22	Molecular organization of liquid n-octanol: an X-ray diffraction analysis. *Journal of Pharmaceutical Sciences*, **1993**, 82, 466-70	3.9	79
21	Effects of temperature on the anaesthetic potency of halothane, enflurane and ethanol in Daphnia magna (Cladocera: Crustacea). *Comparative Biochemistry and Physiology Part C: Comparative Pharmacology*, **1992**, 101, 15-9		17
20	Modulation of the general anesthetic sensitivity of a protein: a transition between two forms of firefly luciferase. *Proceedings of the National Academy of Sciences of the United States of America*, **1991**, 88, 134-8	11.5	69
19	Role of hydrogen bonding in general anesthesia. *Journal of Pharmaceutical Sciences*, **1991**, 80, 719-24	3.9	67
18	Stereospecific effects of inhalational general anesthetic optical isomers on nerve ion channels. *Science*, **1991**, 254, 427-30	33.3	225
17	Anesthetic inhibition of firefly luciferase, a protein model for general anesthesia, does not exhibit pressure reversal. *Biophysical Journal*, **1991**, 60, 1309-14	2.9	43
16	Mechanisms of general anesthesia. *Environmental Health Perspectives*, **1990**, 87, 199-205	8.4	107
15	Volatile general anaesthetics activate a novel neuronal K+ current. *Nature*, **1988**, 333, 662-4	50.4	177

14	What is the molecular nature of general anaesthetic target sites?. *Trends in Pharmacological Sciences*, **1987**, 8, 169-174	13.2	138
13	Partitioning of long-chain alcohols into lipid bilayers: implications for mechanisms of general anesthesia. *Proceedings of the National Academy of Sciences of the United States of America*, **1986**, 83, 5116-20	11.5	137
12	Mapping of general anaesthetic target sites provides a molecular basis for cutoff effects. *Nature*, **1985**, 316, 349-51	50.4	218
11	Do general anaesthetics act by competitive binding to specific receptors?. *Nature*, **1984**, 310, 599-601	50.4	463
10	Molecular mechanisms of general anaesthesia. *Nature*, **1982**, 300, 487-93	50.4	381
9	Is membrane expansion relevant to anaesthesia?. *Nature*, **1981**, 292, 248-51	50.4	90
8	The structure of lipid bilayers and the effects of general anaesthetics. An x-ray and neutron diffraction study. *Journal of Molecular Biology*, **1979**, 133, 469-500	6.5	235
7	Where do general anaesthetics act?. *Nature*, **1978**, 274, 339-42	50.4	223
6	A direct method for determination of membrane electron density profiles on an absolute scale. *Nature*, **1978**, 276, 530-2	50.4	38
5	Structural analysis of hydrated egg lecithin and cholesterol bilayers. I. X-ray diffraction. *Journal of Molecular Biology*, **1976**, 100, 345-58	6.5	255
4	Structural analysis of hydrated egg lecithin and cholesterol bilayers. II. Neutrol diffraction. *Journal of Molecular Biology*, **1976**, 100, 359-78	6.5	372
3	Sleep deprivation triggers somatostatin neurons in prefrontal cortex to initiate nesting and sleep via the preoptic and lateral hypothalamus		2
2	Hypothalamic NMDA receptors stabilize NREM sleep and are essential for REM sleep		2
1	Galanin neurons in the hypothalamus link sleep homeostasis, body temperature and actions of the 2 adrenergic agonist dexmedetomidine		2