Nicholas P Franks

List of Publications by Year
in descending order

125 papers	18,936 citations	16411 64 h-index	17546 121 g-index
131 all docs	131 docs citations	131 times ranked	11252 citing authors

#	Article	IF	Citations
1	NMDA Receptors in the Lateral Preoptic Hypothalamus Are Essential for Sustaining NREM and REM Sleep. Journal of Neuroscience, 2022, 42, 5389-5409.	1.7	12
2	A specific circuit in the midbrain detects stress and induces restorative sleep. Science, 2022, 377, 63-72.	6.0	36
3	Dysfunction of ventral tegmental area GABA neurons causes mania-like behavior. Molecular Psychiatry, 2021, 26, 5213-5228.	4.1	31
4	Nitric Oxide Synthase Neurons in the Preoptic Hypothalamus Are NREM and REM Sleep-Active and Lower Body Temperature. Frontiers in Neuroscience, 2021, 15, 709825.	1.4	5
5	The inescapable drive to sleep: Overlapping mechanisms of sleep and sedation. Science, 2021, 374, 556-559.	6.0	34
6	Brain Clocks, Sleep, and Mood. Advances in Experimental Medicine and Biology, 2021, 1344, 71-86.	0.8	4
7	Sleep and thermoregulation. Current Opinion in Physiology, 2020, 15, 7-13.	0.9	54
8	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.	2.5	16
9	Sleep deprivation and stress: a reciprocal relationship. Interface Focus, 2020, 10, 20190092.	1.5	118
10	The stillness of sleep. Science, 2020, 367, 366-367.	6.0	3
11	Noble gas neuroprotection: xenon and argon protect against hypoxicâ€“ischaemic injury in rat hippocampus inÂvitro via distinct mechanisms. British Journal of Anaesthesia, 2019, 123, 601-609.	1.5	35
12	Xenon prevents early neuronal loss and neuroinflammation in a rat model of traumatic brain injury. British Journal of Anaesthesia, 2019, 123, e508-e509.	1.5	0
13	Galanin Neurons Unite Sleep Homeostasis and Î±2-Adrenergic Sedation. Current Biology, 2019, 29, 3315-3322.e3.	1.8	66
14	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.	1.5	52
15	The Temperature Dependence of Sleep. Frontiers in Neuroscience, 2019, 13, 336.	1.4	119
16	Genetic lesioning of histamine neurons increases sleepâ€“wake fragmentation and reveals their contribution to modafinil-induced wakefulness. Sleep, 2019, 42, .	0.6	17
17	A Miniature Neural Recording Device to Investigate Sleep and Temperature Regulation in Mice. , 2019, , .		0
18	Histamine: neural circuits and new medications. Sleep, 2019, 42, .	0.6	71

#	ARTICLE	IF	CITATIONS
19	GABA and glutamate neurons in the VTA regulate sleep and wakefulness. Nature Neuroscience, 2019, 22, 106-119.	7.1	188
20	Excitatory Pathways from the Lateral Habenula Enable Propofol-Induced Sedation. Current Biology, 2018, 28, 580-587.e5.	1.8	65
21	Modulation of GABA A receptor function and sleep. Current Opinion in Physiology, 2018, 2, 51-57.	0.9	7
22	Xenon Protects against Blast-Induced Traumatic Brain Injury in an <i>In Vitro</i> Model. Journal of Neurotrauma, 2018, 35, 1037-1044.	1.7	30
23	A Neuronal Hub Binding Sleep Initiation and Body Cooling in Response to a Warm External Stimulus. Current Biology, 2018, 28, 2263-2273.e4.	1.8	99
24	Sleep and Sedative States Induced by Targeting the Histamine and Noradrenergic Systems. Frontiers in Neural Circuits, 2018, 12, 4.	1.4	38
25	nNOS-Expressing Neurons in the Ventral Tegmental Area and Substantia Nigra Pars Compacta. ENeuro, 2018, 5, ENEURO.0381-18.2018.	0.9	14
26	Fast and Slow Inhibition in the Visual Thalamus Is Influenced by Allocating GABAA Receptors with Different Î³ Subunits. Frontiers in Cellular Neuroscience, 2017, 11, 95.	1.8	5
27	Bottom-Up versus Top-Down Induction of Sleep by Zolpidem Acting on Histaminergic and Neocortex Neurons. Journal of Neuroscience, 2016, 36, 11171-11184.	1.7	34
28	Activation and modulation of recombinant glycine and GABA_A receptors by 4â€halogenated analogues of propofol. British Journal of Pharmacology, 2016, 173, 3110-3120.	2.7	19
29	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.	4.9	170
30	Structural Comparisons of Ligand-gated Ion Channels in Open, Closed, and Desensitized States Identify a Novel Propofol-binding Site on Mammalian Î³-Aminobutyric Acid Type A Receptors. Anesthesiology, 2015, 122, 787-794.	1.3	30
31	Neuronal ensembles sufficient for recovery sleep and the sedative actions of Î±2 adrenergic agonists. Nature Neuroscience, 2015, 18, 553-561.	7.1	210
32	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, 989-999.	1.3	22
33	Wakefulness Is Governed by GABA and Histamine Cotransmission. Neuron, 2015, 87, 164-178.	3.8	136
34	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.	0.4	59
35	Mutational Analysis of the Putative High-Affinity Propofol Binding Site in Human <i>Î²</i>3 Homomeric GABA_A Receptors. Molecular Pharmacology, 2015, 88, 736-745.	1.0	20
36	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, 13326-13335.	1.7	115

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37	Staying awake â€" a genetic region that hinders Î±₂ adrenergic receptor agonistâ€induced sleep. European Journal of Neuroscience, 2014, 40, 2311-2319.	1.2	28
38	Circadian Factor BMAL1 in Histaminergic Neurons Regulates Sleep Architecture. Current Biology, 2014, 24, 2838-2844.	1.8	74
39	Molecular Modeling of a Tandem Two Pore Domain Potassium Channel Reveals a Putative Binding Site for General Anesthetics. ACS Chemical Neuroscience, 2014, 5, 1246-1252.	1.7	19
40	The Unfolding Story of How General Anesthetics Act. , 2014, , 597-608.		2
41	A propofol binding site on mammalian GABAA receptors identified by photolabeling. Nature Chemical Biology, 2013, 9, 715-720.	3.9	199
42	Neuroprotection against Traumatic Brain Injury by Xenon, but Not Argon, Is Mediated by Inhibition at the <i>N</i>-Methyl-<scp>d</scp>-Aspartate Receptor Glycine Site. Anesthesiology, 2013, 119, 1137-1148.	1.3	105
43	GABAergic Inhibition of Histaminergic Neurons Regulates Active Waking But Not the Sleepâ€"Wake Switch or Propofol-Induced Loss of Consciousness. Journal of Neuroscience, 2012, 32, 13062-13075.	1.7	89
44	Are Extrasynaptic GABA_AReceptors Important Targets for Sedative/Hypnotic Drugs?. Journal of Neuroscience, 2012, 32, 3887-3897.	1.7	58
45	Xenon Neuroprotection in Experimental Stroke. Anesthesiology, 2012, 117, 1262-1275.	1.3	60
46	Identification of Two Mutations (F758W and F758Y) in the <i>N</i>Â-methyl-D-aspartate Receptor Glycine-binding Site that Selectively Prevent Competitive Inhibition by Xenon without Affecting Glycine Binding. Anesthesiology, 2012, 117, 38-47.	1.3	40
47	Sleep and general anesthesia. Canadian Journal of Anaesthesia, 2011, 58, 139-148.	0.7	82
48	Bench-to-bedside review: Molecular pharmacology and clinical use of inert gases in anesthesia and neuroprotection. Critical Care, 2010, 14, 229.	2.5	87
49	Competitive Inhibition at the Glycine Site of the NÂ-Methyl-d-Aspartate Receptor Mediates Xenon Neuroprotection against Hypoxiaâ€"Ischemia. Anesthesiology, 2010, 112, 614-622.	1.3	86
50	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, 17546-17551.	3.3	80
51	The Involvement of Hypothalamic Sleep Pathways in General Anesthesia: Testing the Hypothesis Using the GABA_AReceptor Î²₃N265M Knock-In Mouse. Journal of Neuroscience, 2009, 29, 2177-2187.	1.7	123
52	General Anesthesia and Ascending Arousal Pathways. Anesthesiology, 2009, 111, 695-696.	1.3	23
53	Role of endogenous sleepâ€wake and analgesic systems in anesthesia. Journal of Comparative Neurology, 2008, 508, 648-662.	0.9	207
54	General anaesthesia: from molecular targets to neuronal pathways of sleep and arousal. Nature Reviews Neuroscience, 2008, 9, 370-386.	4.9	1,065

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55	The neuroprotective effects of xenon and helium in an in vitro model of traumatic brain injury*. Critical Care Medicine, 2008, 36, 588-595.	0.4	150
56	Determinants of the Anesthetic Sensitivity of Two-pore Domain Acid-sensitive Potassium Channels. Journal of Biological Chemistry, 2007, 282, 20977-20990.	1.6	45
57	Identification of Anesthetic Binding Sites on Human Serum Albumin Using a Novel Etomidate Photolabel. Journal of Biological Chemistry, 2007, 282, 12038-12047.	1.6	9
58	Asynchronous administration of xenon and hypothermia significantly reduces brain infarction in the neonatal rat. British Journal of Anaesthesia, 2007, 98, 236-240.	1.5	61
59	The Common Chemical Motifs Within Anesthetic Binding Sites. Anesthesia and Analgesia, 2007, 104, 318-324.	1.1	45
60	Xenon Mitigates Isoflurane-induced Neuronal Apoptosis in the Developing Rodent Brain. Anesthesiology, 2007, 106, 746-753.	1.3	258
61	Competitive Inhibition at the Glycine Site of the <i>N</i>Â-Methyl-d-aspartate Receptor by the Anesthetics Xenon and Isoflurane. Anesthesiology, 2007, 107, 756-767.	1.3	222
62	Neuroprotective interaction produced by xenon and dexmedetomidine on in vitro and in vivo neuronal injury models. Neuroscience Letters, 2006, 409, 128-133.	1.0	64
63	Feasibility and Safety of Delivering Xenon to Patients Undergoing Coronary Artery Bypass Graft Surgery While on Cardiopulmonary Bypass. Anesthesiology, 2006, 104, 458-465.	1.3	48
64	Expansion of Gas Bubbles by Nitrous Oxide and Xenon. Anesthesiology, 2006, 104, 299-302.	1.3	30
65	Molecular targets underlying general anaesthesia. British Journal of Pharmacology, 2006, 147, S72-S81.	2.7	314
66	Xenon Preconditioning Reduces Brain Damage from Neonatal Asphyxia in Rats. Journal of Cerebral Blood Flow and Metabolism, 2006, 26, 199-208.	2.4	164
67	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, 1459-1463.	1.1	32
68	The Mechanistic Relationship between NREM Sleep and Anesthesia. , 2006, , 43-52.		0
69	The effects of hypoxia on the modulation of human TREK-1 potassium channels. Journal of Physiology, 2005, 562, 205-212.	1.3	26
70	Xenon and hypothermia combine to provide neuroprotection from neonatal asphyxia. Annals of Neurology, 2005, 58, 182-193.	2.8	243
71	Two-Pore-Domain K+ Channels Are a Novel Target for the Anesthetic Gases Xenon, Nitrous Oxide, and Cyclopropane. Molecular Pharmacology, 2004, 65, 443-452.	1.0	294
72	Dexmedetomidine produces its neuroprotective effect via the Î±2A-adrenoceptor subtype. European Journal of Pharmacology, 2004, 502, 87-97.	1.7	257

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73	The TREK K2P channels and their role in general anaesthesia and neuroprotection. Trends in Pharmacological Sciences, 2004, 25, 601-608.	4.0	196
74	Xenon Exerts Age-independent Antinociception in Fischer Rats. Anesthesiology, 2004, 100, 1313-1318.	1.3	21
75	Seeing the Light. Anesthesiology, 2004, 101, 235-237.	1.3	41
76	Determinants of the Sensitivity of AMPA Receptors to Xenon. Anesthesiology, 2004, 100, 347-358.	1.3	39
77	Rested and Refreshed after Anesthesia? Overlapping Neurobiologic Mechanisms of Sleep and Anesthesia. Anesthesiology, 2004, 100, 1341-1342.	1.3	32
78	The effects of general anaesthetics on carbachol-evoked gamma oscillations in the rat hippocampus in vitro. Neuropharmacology, 2003, 44, 864-872.	2.0	120
79	Xenon: no stranger to anaesthesia. British Journal of Anaesthesia, 2003, 91, 709-717.	1.5	95
80	Combination of Xenon and Isoflurane Produces a Synergistic Protective Effect against Oxygenâ€“Glucose Deprivation Injury in a Neuronalâ€“Glial Co-culture Model. Anesthesiology, 2003, 99, 748-751.	1.3	32
81	The Neuroprotective Effect of Xenon Administration during Transient Middle Cerebral Artery Occlusion in Mice. Anesthesiology, 2003, 99, 876-881.	1.3	210
82	The Î±2-Adrenoceptor Agonist Dexmedetomidine Converges on an Endogenous Sleep-promoting Pathway to Exert Its Sedative Effects. Anesthesiology, 2003, 98, 428-436.	1.3	738
83	Xenon Attenuates Cardiopulmonary Bypassâ€“induced Neurologic and Neurocognitive Dysfunction in the Rat. Anesthesiology, 2003, 98, 690-698.	1.3	169
84	Determinants of the Anesthetic Sensitivity of Neuronal Nicotinic Acetylcholine Receptors. Journal of Biological Chemistry, 2002, 277, 10367-10373.	1.6	18
85	Selective Synaptic Actions of Thiopental and Its Enantiomers. Anesthesiology, 2002, 96, 884-892.	1.3	20
86	Effects of Xenon on In VitroÂ and In VivoÂ Models of Neuronal Injury. Anesthesiology, 2002, 96, 1485-1491.	1.3	220
87	The sedative component of anesthesia is mediated by GABAA receptors in an endogenous sleep pathway. Nature Neuroscience, 2002, 5, 979-984.	7.1	535
88	Binding of the General Anesthetics Propofol and Halothane to Human Serum Albumin. Journal of Biological Chemistry, 2000, 275, 38731-38738.	1.6	468
89	Background K+ channels: an important target for volatile anesthetics?. Nature Neuroscience, 1999, 2, 395-396.	7.1	39
90	Fatty acid binding to human serum albumin: new insights from crystallographic studies. Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids, 1999, 1441, 131-140.	1.2	429

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91	Preparation of Barbiturate Optical Isomers and Their Effects on GABA (A) Receptors. Anesthesiology, 1999, 90, 1714-1722..	1.3	44
92	Crystal structure of human serum albumin complexed with fatty acid reveals an asymmetric distribution of binding sites. Nature Structural Biology, 1998, 5, 827-835.	9.7	1,201
93	How does xenon produce anaesthesia?. Nature, 1998, 396, 324-324.	13.7	455
94	A serious target for laughing gas. Nature Medicine, 1998, 4, 383-384.	15.2	16
95	Structural Basis for the Inhibition of Firefly Luciferase by a General Anesthetic. Biophysical Journal, 1998, 75, 2205-2211.	0.2	205
96	Selectivity of general anesthetics: A new dimension. Nature Medicine, 1997, 3, 377-378.	15.2	13
97	Anaesthetics set their sites on ion channels. Nature, 1997, 389, 334-335.	13.7	81
98	Actions of general anaesthetics on 5â€HT₃ receptors in N1Eâ€115 neuroblastoma cells. British Journal of Pharmacology, 1996, 117, 1507-1515.	2.7	85
99	Effects of inhalational general anaesthetics on native glycine receptors in rat medullary neurones and recombinant glycine receptors in <i>Xenopus</i> oocytes. British Journal of Pharmacology, 1996, 118, 493-502.	2.7	121
100	Crystal structure of firefly luciferase throws light on a superfamily of adenylate-forming enzymes. Structure, 1996, 4, 287-298.	1.6	594
101	Actions of general anaesthetics on a neuronal nicotinic acetylcholine receptor in isolated identified neurones of <i>Lymnaea stagnalis</i>. British Journal of Pharmacology, 1995, 115, 275-282.	2.7	43
102	Molecular and cellular mechanisms of general anaesthesia. Nature, 1994, 367, 607-614.	13.7	1,738
103	Can the stereoselective effects of the anesthetic isoflurane be accounted for by lipid solubility?. Biophysical Journal, 1994, 66, 2019-2023.	0.2	70
104	Stereoselective and nonâ€stereoselective actions of isoflurane on the GABA_A receptor. British Journal of Pharmacology, 1994, 112, 906-910.	2.7	105
105	Molecular Organization of Liquid n-Octanol: An X-ray Diffraction Analysis. Journal of Pharmaceutical Sciences, 1993, 82, 466-470.	1.6	97
106	Thermodynamics of anesthetic/protein interactions. Temperature studies on firefly luciferase. Biophysical Journal, 1993, 64, 1264-1271.	0.2	58
107	SELECTIVE ACTIONS OF VOLATILE GENERAL ANAESTHETICS AT MOLECULAR AND CELLULAR LEVELS. British Journal of Anaesthesia, 1993, 71, 65-76.	1.5	203
108	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, 15-19.	0.2	19

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109	Anesthetic inhibition of firefly luciferase, a protein model for general anesthesia, does not exhibit pressure reversal. Biophysical Journal, 1991, 60, 1309-1314.	0.2	49
110	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, 134-138.	3.3	81
111	Role of Hydrogen Bonding in General Anesthesia. Journal of Pharmaceutical Sciences, 1991, 80, 719-724.	1.6	83
112	Stereospecific effects of inhalational general anesthetic optical isomers on nerve ion channels. Science, 1991, 254, 427-430.	6.0	276
113	Mechanisms of general anesthesia.. Environmental Health Perspectives, 1990, 87, 199-205.	2.8	119
114	Volatile general anaesthetics activate a novel neuronal K+ current. Nature, 1988, 333, 662-664.	13.7	199
115	What is the molecular nature of general anaesthetic target sites?. Trends in Pharmacological Sciences, 1987, 8, 169-174.	4.0	155
116	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, 5116-5120.	3.3	153
117	Mapping of general anaesthetic target sites provides a molecular basis for cutoff effects. Nature, 1985, 316, 349-351.	13.7	237
118	Do general anaesthetics act by competitive binding to specific receptors?. Nature, 1984, 310, 599-601.	13.7	545
119	Molecular mechanisms of general anaesthesia. Nature, 1982, 300, 487-493.	13.7	431
120	Is membrane expansion relevant to anaesthesia?. Nature, 1981, 292, 248-251.	13.7	98
121	The structure of lipid bilayers and the effects of general anaesthetics. Journal of Molecular Biology, 1979, 133, 469-500.	2.0	259
122	Where do general anaesthetics act?. Nature, 1978, 274, 339-342.	13.7	256
123	A direct method for determination of membrane electron density profiles on an absolute scale. Nature, 1978, 276, 530-532.	13.7	38
124	Structural analysis of hydrated egg lecithin and cholesterol bilayers I. X-ray diffraction. Journal of Molecular Biology, 1976, 100, 345-358.	2.0	346
125	Structural analysis of hydrated egg lecithin and cholesterol bilayers II. Neutron diffraction. Journal of Molecular Biology, 1976, 100, 359-378.	2.0	398