# Gregory D Funk

List of Publications by Year
in descending order



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|---|---|---|---|
| 89 papers | 4,369 citations | 109321 35 h-index | 114465 63 g-index |
| 96 all docs | 96 docs citations | 96 times ranked | 2935 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Synaptic Control of Motoneuronal Excitability. Physiological Reviews, 2000, 80, 767-852. | 28.8 | 527 |
| 2 | Breathing matters. Nature Reviews Neuroscience, 2018, 19, 351-367. | 10.2 | 446 |
| 3 | Functional Oxygen Sensitivity of Astrocytes. Journal of Neuroscience, 2015, 35, 10460-10473. | 3.6 | 219 |
| 4 | Pacemaker behavior of respiratory neurons in medullary slices from neonatal rat. Journal of Neurophysiology, 1994, 72, 2598-2608. | 1.8 | 176 |
| 5 | High Sensitivity to Neuromodulator-Activated Signaling Pathways at Physiological [K+] of Confocally Imaged Respiratory Center Neurons in On-Line-Calibrated Newborn Rat Brainstem Slices. Journal of Neuroscience, 2006, 26, 11870-11880. | 3.6 | 140 |
| 6 | Generation of Eupnea and Sighs by a Spatiochemically Organized Inspiratory Network. Journal of Neuroscience, 2008, 28, 2447-2458. | 3.6 | 107 |
| 7 | Development of thyrotropin-releasing hormone and norepinephrine potentiation of inspiratory-related hypoglossal motoneuron discharge in neonatal and juvenile mice in vitro. Journal of Neurophysiology, 1994, 72, 2538-2541. | 1.8 | 104 |
| 8 | Ampakine CX717 Protects against Fentanyl-induced Respiratory Depression and Lethal Apnea in Rats. Anesthesiology, 2009, 110, 1364-1370. | 2.5 | 102 |
| 9 | Ampakines Alleviate Respiratory Depression in Rats. American Journal of Respiratory and Critical Care Medicine, 2006, 174, 1384-1391. | 5.6 | 97 |
| 10 | Glia Contribute to the Purinergic Modulation of Inspiratory Rhythm-Generating Networks. Journal of Neuroscience, 2010, 30, 3947-3958. | 3.6 | 92 |
| 11 | Preparing for the first breath: prenatal maturation of respiratory neural control. Journal of Physiology, 2006, 570, 437-444. | 2.9 | 85 |
| 12 | Release of ATP by preâ€BÃ¶tzinger complex astrocytes contributes to the hypoxic ventilatory response via a Ca<sup>2+</sup>â€dependent P2Y<sub>1</sub> receptor mechanism. Journal of Physiology, 2018, 596, 3245-3269. | 2.9 | 82 |
| 13 | Laser ablation of Dbx1 neurons in the pre-BÃ¶tzinger complex stops inspiratory rhythm and impairs output in neonatal mice. ELife, 2014, 3, e03427. | 6.0 | 82 |
| 14 | Generation of respiratory rhythm and pattern in mammals: insights from developmental studies. Current Opinion in Neurobiology, 1995, 5, 778-785. | 4.2 | 78 |
| 15 | Functional Respiratory Rhythm Generating Networks in Neonatal Mice Lacking NMDAR1 Gene. Journal of Neurophysiology, 1997, 78, 1414-1420. | 1.8 | 78 |
| 16 | On the existence of a central respiratory oxygen sensor. Journal of Applied Physiology, 2017, 123, 1344-1349. | 2.5 | 78 |
| 17 | Prenatal nicotine exposure increases apnoea and reduces nicotinic potentiation of hypoglossal inspiratory output in mice. Journal of Physiology, 2002, 538, 957-973. | 2.9 | 77 |
| 18 | Rhythmical Oral-Motor Activity Recorded in an In Vitro Brainstem Preparation. Somatosensory & Motor Research, 1996, 13, 39-48. | 0.9 | 74 |

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|---|---|---|---|
| 19 | State-Dependent Modulation of Breathing in Urethane-Anesthetized Rats. Journal of Neuroscience, 2012, 32, 11259-11270. | 3.6 | 74 |
| 20 | P2Y1 Receptor Modulation of the Pre-Botzinger Complex Inspiratory Rhythm Generating Network In Vitro. Journal of Neuroscience, 2007, 27, 993-1005. | 3.6 | 72 |
| 21 | P2 Receptor Excitation of Rodent Hypoglossal Motoneuron ActivityIn VitroandIn Vivo: A Molecular Physiological Analysis. Journal of Neuroscience, 1997, 17, 6325-6337. | 3.6 | 60 |
| 22 | The rhythmic, transverse medullary slice preparation in respiratory neurobiology: Contributions and caveats. Respiratory Physiology and Neurobiology, 2013, 186, 236-253. | 1.6 | 58 |
| 23 | Opiate-Induced Suppression of Rat Hypoglossal Motoneuron Activity and Its Reversal by Ampakine Therapy. PLoS ONE, 2010, 5, e8766. | 2.5 | 54 |
| 24 | Breathing and brain state: Urethane anesthesia as a model for natural sleep. Respiratory Physiology and Neurobiology, 2013, 188, 324-332. | 1.6 | 53 |
| 25 | Dbx1 precursor cells are a source of inspiratory XII premotoneurons. ELife, 2015, 4, . | 6.0 | 50 |
| 26 | Oscillations in Endogenous Inputs to Neurons Affect Excitability and Signal Processing. Journal of Neuroscience, 2003, 23, 8152-8158. | 3.6 | 47 |
| 27 | Tripartite Purinergic Modulation of Central Respiratory Networks during Perinatal Development: The Influence of ATP, Ectonucleotidases, and ATP Metabolites. Journal of Neuroscience, 2009, 29, 14713-14725. | 3.6 | 47 |
| 28 | Fluorescent Tagging of Rhythmically Active Respiratory Neurons within the Pre-Botzinger Complex of Rat Medullary Slice Preparations. Journal of Neuroscience, 2005, 25, 2591-2596. | 3.6 | 46 |
| 29 | GluR2 AMPA Receptor Subunit Expression in Motoneurons at Low and High Risk for Degeneration in Amyotrophic Lateral Sclerosis. Experimental Neurology, 2001, 169, 461-471. | 4.1 | 45 |
| 30 | Purinergic modulation of preBÃ¶tzinger complex inspiratory rhythm in rodents: the interaction between ATP and adenosine. Journal of Physiology, 2011, 589, 4583-4600. | 2.9 | 42 |
| 31 | Cholinergic Modulation Of Respiratory Brain-Stem Neurons And Its Function In Sleep-Wake State Determination. Clinical and Experimental Pharmacology and Physiology, 2000, 27, 132-137. | 1.9 | 41 |
| 32 | High frequency oscillations in respiratory networks: functionally significant or phenomenological?. Respiratory Physiology and Neurobiology, 2002, 131, 101-120. | 1.6 | 41 |
| 33 | ATP sensitivity of preBÃ¶tzinger complex neurones in neonatal rat in vitro: mechanism underlying a P2 receptorâ€mediated increase in inspiratory frequency. Journal of Physiology, 2008, 586, 1429-1446. | 2.9 | 41 |
| 34 | Anxiety-Related Mechanisms of Respiratory Dysfunction in a Mouse Model of Rett Syndrome. Journal of Neuroscience, 2012, 32, 17230-17240. | 3.6 | 40 |
| 35 | Modulation of hypoglossal motoneuron excitability by NK1 receptor activation in neonatal micein vitro. Journal of Physiology, 2001, 534, 447-464. | 2.9 | 37 |
| 36 | Avian locomotion activated by brainstem infusion of neurotransmitter agonists and antagonists. Experimental Brain Research, 1991, 85, 659-673. | 1.5 | 35 |

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|---|---|---|---|
| 37 | Perinatal development of respiratory motoneurons. Respiratory Physiology and Neurobiology, 2005, 149, 43-61. | 1.6 | 35 |
| 38 | Developmental modulation of mouse hypoglossal nerve inspiratory output in vitro by noradrenergic receptor agonists. Brain Research, 1998, 805, 104-115. | 2.2 | 34 |
| 39 | Calcium binding proteins in motoneurons at low and high risk for degeneration in ALS. NeuroReport, 2000, 11, 3305-3308. | 1.2 | 34 |
| 40 | Neuroglia and their roles in central respiratory control; an overview. Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology, 2015, 186, 83-95. | 1.8 | 34 |
| 41 | Muscarinic acetylcholine receptors enhance neonatal mouse hypoglossal motoneuron excitability in vitro. Journal of Applied Physiology, 2012, 113, 1024-1039. | 2.5 | 32 |
| 42 | Changes in ventilation and breathing pattern produced by changing body temperature and inspired CO2 concentration in turtles. Respiration Physiology, 1987, 67, 37-51. | 2.7 | 31 |
| 43 | Development of the ventilatory response to hypoxia in Swiss CD-1 mice. Journal of Applied Physiology, 2000, 88, 1907-1914. | 2.5 | 31 |
| 44 | Differential expression of Group I metabotropic glutamate receptors in motoneurons at low and high risk for degeneration in ALS. NeuroReport, 2001, 12, 1903-1908. | 1.2 | 31 |
| 45 | Receptor subtype-specific modulation by dopamine of glutamatergic responses in striatal medium spiny neurons. Brain Research, 2003, 959, 251-262. | 2.2 | 31 |
| 46 | P2 receptors modulate respiratory rhythm but do not contribute to central CO2 sensitivity in vitro. Respiratory Physiology and Neurobiology, 2004, 142, 27-42. | 1.6 | 31 |
| 47 | A brainstem peptide system activated at birth protects postnatal breathing. Nature, 2021, 589, 426-430. | 27.8 | 31 |
| 48 | Developmental modulation of glutamatergic inspiratory drive to hypoglossal motoneurons. Respiration Physiology, 1997, 110, 125-137. | 2.7 | 30 |
| 49 | ATP in central respiratory control: A three-part signaling system. Respiratory Physiology and Neurobiology, 2008, 164, 131-142. | 1.6 | 30 |
| 50 | Modulation of phrenic motoneuron excitability by ATP: consequences for respiratory-related output in vitro. Journal of Applied Physiology, 2002, 92, 1899-1910. | 2.5 | 29 |
| 51 | Noradrenergic modulation of hypoglossal motoneuron excitability: developmental and putative state-dependent mechanisms. Archives Italiennes De Biologie, 2011, 149, 426-53. | 0.4 | 28 |
| 52 | Effects of muscarinic acetylcholine receptor activation on membrane currents and intracellular messengers in medium spiny neurones of the rat striatum. European Journal of Neuroscience, 2004, 20, 1219-1230. | 2.6 | 25 |
| 53 | Neuromodulation: Purinergic Signaling in Respiratory Control. , 2013, 3, 331-363. | | 23 |
| 54 | The â€˜connexinâ€™ between astrocytes, ATP and central respiratory chemoreception. Journal of Physiology, 2010, 588, 4335-4337. | 2.9 | 21 |

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|---|---|---|---|
| 55 | Developmental downregulation of P2X3receptors in motoneurons of the compact formation of the nucleus ambiguus. European Journal of Neuroscience, 2005, 22, 809-824. | 2.6 | 19 |
| 56 | Noradrenergic modulation of XII motoneuron inspiratory activity does not involve Î±2-receptor inhibition of the Ih current or presynaptic glutamate release. Journal of Applied Physiology, 2005, 98, 1297-1308. | 2.5 | 19 |
| 57 | Mapping of the excitatory, inhibitory, and modulatory afferent projections to the anatomically defined active expiratory oscillator in adult male rats. Journal of Comparative Neurology, 2021, 529, 853-884. | 1.6 | 19 |
| 58 | Differential expression of voltage-activated calcium channels in III and XII motoneurones during development in the rat. European Journal of Neuroscience, 2004, 20, 903-913. | 2.6 | 17 |
| 59 | Locomotor activities in the decerebrate bird without phasic afferent input. Neuroscience, 1991, 40, 257-266. | 2.3 | 16 |
| 60 | CrossTalk proposal: a central hypoxia sensor contributes to the excitatory hypoxic ventilatory response. Journal of Physiology, 2018, 596, 2935-2938. | 2.9 | 16 |
| 61 | Are All Motoneurons Created Equal in the Eyes of REM Sleep and the Mechanisms of Muscle Atonia?. Sleep, 2008, 31, 1479-1482. | 1.1 | 15 |
| 62 | P2Y<sub>1</sub> receptorâ€mediated potentiation of inspiratory motor output in neonatal rat in vitro. Journal of Physiology, 2014, 592, 3089-3111. | 2.9 | 15 |
| 63 | The parafacial respiratory group (pFRG)/pre-Botzinger complex (preBotC) is the primary site of respiratory rhythm generation in the mammal. Journal of Applied Physiology, 2006, 100, 2103-2108. | 2.5 | 14 |
| 64 | Role of the Telencephalon in the Synchronization of Locomotor and Respiratory Frequencies During Walking in Canada Geese. Journal of Experimental Biology, 1989, 145, 283-301. | 1.7 | 13 |
| 65 | Glial TLR4 signaling does not contribute to opioid-induced depression of respiration. Journal of Applied Physiology, 2014, 117, 857-868. | 2.5 | 12 |
| 66 | Excitatory Modulation of the preBÃ¶tzinger Complex Inspiratory Rhythm Generating Network by Endogenous Hydrogen Sulfide. Frontiers in Physiology, 2017, 8, 452. | 2.8 | 12 |
| 67 | Postnatal development of persistent inward currents in rat XII motoneurons and their modulation by serotonin, muscarine and noradrenaline. Journal of Physiology, 2019, 597, 3183-3201. | 2.9 | 12 |
| 68 | Distinct receptors underlie glutamatergic signalling in inspiratory rhythmâ€generating networks and motor output pathways in neonatal rat. Journal of Physiology, 2008, 586, 2357-2370. | 2.9 | 11 |
| 69 | The role of P2Y1 receptor signaling in central respiratory control. Respiratory Physiology and Neurobiology, 2016, 226, 3-10. | 1.6 | 11 |
| 70 | Substance P Modulation of Hypoglossal Motoneuron Excitability During Development: Changing Balance Between Conductances. Journal of Neurophysiology, 2010, 104, 854-872. | 1.8 | 10 |
| 71 | Differential expression of group I metabotropic glutamate receptors in human motoneurons at low and high risk of degeneration in amyotrophic lateral sclerosis. Neuroscience, 2006, 143, 95-104. | 2.3 | 9 |
| 72 | The Purinome and the preBÃ¶tzinger Complex â€“ A MÃ©nage of Unexplored Mechanisms That May Modulate/Shape the Hypoxic Ventilatory Response. Frontiers in Cellular Neuroscience, 2019, 13, 365. | 3.7 | 8 |

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|---|---|---|---|
| 73 | KCNQ Current Contributes to Inspiratory Burst Termination in the Pre-BÃ¶tzinger Complex of Neonatal Rats in vitro. Frontiers in Physiology, 2021, 12, 626470. | 2.8 | 8 |
| 74 | A method for activating neurons using endogenous synaptic waveforms. Journal of Neuroscience Methods, 2000, 96, 77-85. | 2.5 | 7 |
| 75 | Losing sleep over the caffeination of prematurity. Journal of Physiology, 2009, 587, 5299-5300. | 2.9 | 6 |
| 76 | I think I<sub>CAN</sub>: modulation of TRPM4 channels may contribute not only to the emergence of rhythm, but robust output and metabolic sensitivity of the preBÃ¶tzinger Complex inspiratory network. Journal of Physiology, 2013, 591, 1593-1594. | 2.9 | 6 |
| 77 | Effects of Changes in Locomotor Intensity, Hypoxia and Hypercapnia on Locomotorrespiratory Synchrony During Walking/Running in Canada Geese. Journal of Experimental Biology, 1989, 147, 343-360. | 1.7 | 6 |
| 78 | Rebuttal from Gregory D. Funk and Alexander V. Gourine. Journal of Physiology, 2018, 596, 2943-2944. | 2.9 | 4 |
| 79 | Respiratory motoneuron properties during the transition from gill to lung breathing in the American bullfrog. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2019, 316, R281-R297. | 1.8 | 4 |
| 80 | Prenatal fluoxetine has long-lasting, differential effects on respiratory control in male and female rats. Journal of Applied Physiology, 2022, 133, 371-389. | 2.5 | 3 |
| 81 | Phylogenetically persistent purinergic modulation of central pattern generators for breathing in lamprey and mammals. Journal of Physiology, 2017, 595, 7011-7012. | 2.9 | 2 |
| 82 | The Sagittally Sectioned Rat Hindbrain Preparation: Improved Access to the Brainstem Respiratory Network. Neuromethods, 2013, , 257-268. | 0.3 | 1 |
| 83 | Microglia attenuate the opioidâ€induced depression of preBÃ¶tzinger Complex (preBÃ¶tC) inspiratory rhythm in vitro via a TLR4â€independent pathway. FASEB Journal, 2012, 26, 1088.8. | 0.5 | 1 |
| 84 | Release your inhibitions: The role of postâ€inhibitory rebound and synaptic inhibition in the generation of expiratory activity. Journal of Physiology, 2021, 599, 5331-5332. | 2.9 | 1 |
| 85 | Commentary: Acute perturbation of Pet1-neuron activity in neonatal mice impairs cardiorespiratory homeostatic recovery. Frontiers in Physiology, 2019, 10, 232. | 2.8 | 0 |
| 86 | Glial contribution to the modulation of preBÃ¶tzinger Complex rhythm generating networks by ATP. FASEB Journal, 2009, 23, . | 0.5 | 0 |
| 87 | Signaling pathways underlying the P2Y 1 receptorâ€mediated excitation of the preBÃ¶tzinger Complex (preBÃ¶tC) inspiratory rhythm generating network in vitro. FASEB Journal, 2012, 26, 1088.7. | 0.5 | 0 |
| 88 | ATP acts via P2Y1 receptors in the preBÃ¶tzinger Complex in vivo to attenuate the secondary hypoxic respiratory depression. FASEB Journal, 2013, 27, 1137.16. | 0.5 | 0 |
| 89 | Developmental Changes in the Role of Adenosine Clearance Mechanisms in Modulating the Activity of the preBÃ¶tzinger Complex Inspiratory Network Under Basal and Hypoxic Conditions. FASEB Journal, 2019, 33, 546.1. | 0.5 | 0 |