# Charles W Bourque

List of Publications by Year
in descending order

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|---|---|---|---|
| 99 papers | 6,632 citations | 44069 48 h-index | 64796 79 g-index |
| 101 all docs | 101 docs citations | 101 times ranked | 4198 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Central mechanisms of osmosensation and systemic osmoregulation. Nature Reviews Neuroscience, 2008, 9, 519-531. | 10.2 | 559 |
| 2 | Mechanosensitive channels transduce osmosensitivity in supraoptic neurons. Nature, 1993, 364, 341-343. | 27.8 | 297 |
| 3 | Osmoreceptors, Osmoreception, and Osmoregulation. Frontiers in Neuroendocrinology, 1994, 15, 231-274. | 5.2 | 286 |
| 4 | An N-terminal variant of Trpv1 channel is required for osmosensory transduction. Nature Neuroscience, 2006, 9, 93-98. | 14.8 | 283 |
| 5 | Transient Receptor Potential Vanilloid 1 Is Required for Intrinsic Osmoreception in Organum Vasculosum Lamina Terminalis Neurons and for Normal Thirst Responses to Systemic Hyperosmolality. Journal of Neuroscience, 2006, 26, 9069-9075. | 3.6 | 233 |
| 6 | OSMORECEPTORS IN THE CENTRAL NERVOUS SYSTEM. Annual Review of Physiology, 1997, 59, 601-619. | 13.1 | 231 |
| 7 | Neurons diversify astrocytes in the adult brain through sonic hedgehog signaling. Science, 2016, 351, 849-854. | 12.6 | 221 |
| 8 | Transient calciumâ€dependent potassium current in magnocellular neurosecretory cells of the rat supraoptic nucleus.. Journal of Physiology, 1988, 397, 331-347. | 2.9 | 137 |
| 9 | Clock-driven vasopressin neurotransmission mediates anticipatory thirst prior to sleep. Nature, 2016, 537, 685-688. | 27.8 | 130 |
| 10 | NMDA receptorâ€mediated rhythmic bursting activity in rat supraoptic nucleus neurones in vitro.. Journal of Physiology, 1992, 458, 667-687. | 2.9 | 129 |
| 11 | Adult NG2-Glia Are Required for Median Eminence-Mediated Leptin Sensing and Body Weight Control. Cell Metabolism, 2016, 23, 797-810. | 16.2 | 119 |
| 12 | Calcium-dependent potassium conductance in rat supraoptic nucleus neurosecretory neurons. Journal of Neurophysiology, 1985, 54, 1375-1382. | 1.8 | 117 |
| 13 | Intraterminal recordings from the rat neurohypophysis in vitro.. Journal of Physiology, 1990, 421, 247-262. | 2.9 | 110 |
| 14 | Hypertonicity Sensing in Organum Vasculosum Lamina Terminalis Neurons: A Mechanical Process InvolvingTRPV1But NotTRPV4. Journal of Neuroscience, 2011, 31, 14669-14676. | 3.6 | 110 |
| 15 | High Salt Intake Increases Blood Pressure via BDNF-Mediated Downregulation of KCC2 and Impaired Baroreflex Inhibition of Vasopressin Neurons. Neuron, 2015, 85, 549-560. | 8.1 | 107 |
| 16 | The neural basis of homeostatic and anticipatory thirst. Nature Reviews Nephrology, 2018, 14, 11-25. | 9.6 | 106 |
| 17 | Calcium-dependent spike after-current induces burst firing in magnocellular neurosecretory cells. Neuroscience Letters, 1986, 70, 204-209. | 2.1 | 105 |
| 18 | Apamin and d-tubocurarine block the after-hyperpolarization of rat supraoptic neurosecretory neurons. Neuroscience Letters, 1987, 82, 185-190. | 2.1 | 105 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Properties of supraoptic magnocellular neurones isolated from the adult rat.. Journal of Physiology, 1992, 455, 291-306. | 2.9 | 102 |
| 20 | Integration of sodium and osmosensory signals in vasopressin neurons. Trends in Neurosciences, 2002, 25, 199-205. | 8.6 | 98 |
| 21 | Unique Interweaved Microtubule Scaffold Mediates Osmosensory Transduction via Physical Interaction with TRPV1. Neuron, 2014, 83, 866-878. | 8.1 | 94 |
| 22 | Ionic basis for the intrinsic activation of rat supraoptic neurones by hyperosmotic stimuli.. Journal of Physiology, 1989, 417, 263-277. | 2.9 | 91 |
| 23 | Central clock excites vasopressin neurons by waking osmosensory afferents during late sleep. Nature Neuroscience, 2010, 13, 467-474. | 14.8 | 89 |
| 24 | Osmometry in osmosensory neurons. Nature Neuroscience, 2003, 6, 1021-1022. | 14.8 | 87 |
| 25 | Chapter 2.1.1 Osmoregulation of vasopressin neurons: A synergy of intrinsic and synaptic processes. Progress in Brain Research, 1999, 119, 59-76. | 1.4 | 84 |
| 26 | Excitatory peptides and osmotic pressure modulate mechanosensitive cation channels in concert. Nature Neuroscience, 2000, 3, 572-579. | 14.8 | 81 |
| 27 | Evidence for NG2-glia Derived, Adult-Born Functional Neurons in the Hypothalamus. PLoS ONE, 2013, 8, e78236. | 2.5 | 79 |
| 28 | Gadolinium Uncouples Mechanical Detection and Osmoreceptor Potential in Supraoptic Neurons. Neuron, 1996, 16, 175-181. | 8.1 | 77 |
| 29 | TRPV1 Gene Required for Thermosensory Transduction and Anticipatory Secretion from Vasopressin Neurons during Hyperthermia. Neuron, 2008, 58, 179-185. | 8.1 | 76 |
| 30 | Autocrine feedback inhibition of plateau potentials terminates phasic bursts in magnocellular neurosecretory cells of the rat supraoptic nucleus. Journal of Physiology, 2004, 557, 949-960. | 2.9 | 74 |
| 31 | The function of Ca2+ channel subtypes in exocytotic secretion: new perspectives from synaptic and non-synaptic release. Progress in Biophysics and Molecular Biology, 2001, 77, 269-303. | 2.9 | 72 |
| 32 | Taurine Release by Astrocytes Modulates Osmosensitive Glycine Receptor Tone and Excitability in the Adult Supraoptic Nucleus. Journal of Neuroscience, 2012, 32, 12518-12527. | 3.6 | 70 |
| 33 | Activity-dependent modulation of nerve terminal excitation in a mammalian peptidergic system. Trends in Neurosciences, 1991, 14, 28-30. | 8.6 | 67 |
| 34 | Flufenamic acid blocks depolarizing afterpotentials and phasic firing in rat supraoptic neurones. Journal of Physiology, 2002, 545, 537-542. | 2.9 | 67 |
| 35 | Functional N-Methyl-D-Aspartate and Non-N-Methyl-D-Aspartate Receptors are Expressed by Rat Supraoptic Neurosecretory Cells in vitro. Journal of Neuroendocrinology, 1991, 3, 509-514. | 2.6 | 66 |
| 36 | Î”N-TRPV1: A Molecular Co-detector of Body Temperature and Osmotic Stress. Cell Reports, 2015, 13, 23-30. | 6.4 | 66 |

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| 37 | Mechanisms of rhythmogenesis: insights from hypothalamic vasopressin neurons. Trends in Neurosciences, 2006, 29, 108-115. | 8.6 | 65 |
| 38 | Actin Filaments Mediate Mechanical Gating during Osmosensory Transduction in Rat Supraoptic Nucleus Neurons. Journal of Neuroscience, 2007, 27, 4008-4013. | 3.6 | 64 |
| 39 | Galanin Inhibits Continuous and Phasic Firing in Rat Hypothalamic Magnocellular Neurosecretory Cells. Journal of Neuroscience, 1997, 17, 6048-6056. | 3.6 | 62 |
| 40 | Excitatory Role of the Hyperpolarization-Activated Inward Current in Phasic and Tonic Firing of Rat Supraoptic Neurons. Journal of Neuroscience, 2000, 20, 4855-4863. | 3.6 | 62 |
| 41 | Muscarinic Receptor Modulation of Slow Afterhyperpolarization and Phasic Firing in Rat Supraoptic Nucleus Neurons. Journal of Neuroscience, 2004, 24, 7718-7726. | 3.6 | 56 |
| 42 | Synaptic Activation of Rat Supraoptic Neurons by Osmotic Stimulation of the Organum vasculosum lamina terminalis. Neuroendocrinology, 1992, 55, 609-611. | 2.5 | 55 |
| 43 | Coincident Detection of CSF Na+ and Osmotic Pressure in Osmoregulatory Neurons of the Supraoptic Nucleus. Neuron, 1999, 24, 453-460. | 8.1 | 55 |
| 44 | Osmotic and thermal control of magnocellular neurosecretory neurons â€“ role of an Nâ€terminal variant of trpv1. European Journal of Neuroscience, 2010, 32, 2022-2030. | 2.6 | 54 |
| 45 | Calcium-channel subtypes in the somata and axon terminals of magnocellular neurosecretory cells. Trends in Neurosciences, 1996, 19, 440-444. | 8.6 | 51 |
| 46 | Ionic Basis of <scp>on</scp> and <scp>off</scp> Persistent Activity in Layer III Lateral Entorhinal Cortical Principal Neurons. Journal of Neurophysiology, 2008, 99, 2006-2011. | 1.8 | 51 |
| 47 | Mechanical Basis of Osmosensory Transduction in Magnocellular Neurosecretory Neurones of the Rat Supraoptic Nucleus. Journal of Neuroendocrinology, 2015, 27, 507-515. | 2.6 | 49 |
| 48 | Chapter 7 Stretch-inactivated cation channels: cellular targets for modulation of osmosensitivity in supraoptic neurons. Progress in Brain Research, 2002, 139, 85-94. | 1.4 | 48 |
| 49 | Phasic bursts in rat magnocellular neurosecretory cells are not intrinsically regenerative in vivo. European Journal of Neuroscience, 2004, 19, 2977-2983. | 2.6 | 48 |
| 50 | Neurophysiological characterization of mammalian osmosensitive neurones. Experimental Physiology, 2007, 92, 499-505. | 2.0 | 48 |
| 51 | Endogenous Activation of Supraoptic Nucleus Î¼-Opioid Receptors Terminates Spontaneous Phasic Bursts in Rat Magnocellular Neurosecretory Cells. Journal of Neurophysiology, 2006, 95, 3235-3244. | 1.8 | 44 |
| 52 | Caesium blocks depolarizing after-potentials and phasic firing in rat supraoptic neurones. Journal of Physiology, 1998, 510, 165-175. | 2.9 | 43 |
| 53 | Osmosensation in vasopressin neurons: changing actin density to optimize function. Trends in Neurosciences, 2010, 33, 76-83. | 8.6 | 43 |
| 54 | Amplification of Transducer Gain by Angiotensin II-Mediated Enhancement of Cortical Actin Density in Osmosensory Neurons. Journal of Neuroscience, 2008, 28, 9536-9544. | 3.6 | 41 |

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| 55 | Anatomical organization of the rat organum vasculosum laminae terminalis. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2015, 309, R324-R337. | 1.8 | 40 |
| 56 | Activity-dependent synaptic plasticity in the supraoptic nucleus of the rat hypothalamus. Journal of Physiology, 2006, 573, 711-721. | 2.9 | 39 |
| 57 | Density of transient K+current influences excitability in acutely isolated vasopressin and oxytocin neurones of rat hypothalamus. Journal of Physiology, 1998, 511, 423-432. | 2.9 | 38 |
| 58 | eIF2Î± phosphorylation controls thermal nociception. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 11949-11954. | 7.1 | 37 |
| 59 | Sodium regulates clock time and output via an excitatory GABAergic pathway. Nature, 2020, 583, 421-424. | 27.8 | 37 |
| 60 | Dynamic and Permissive Roles of TRPV1 and TRPV4 Channels for Thermosensation in Mouse Supraoptic Magnocellular Neurosecretory Neurons. Journal of Neuroscience, 2013, 33, 17160-17165. | 3.6 | 36 |
| 61 | Muscarinic Receptors Control Frequency Tuning Through the Downregulation of an A-Type Potassium Current. Journal of Neurophysiology, 2007, 98, 1526-1537. | 1.8 | 35 |
| 62 | Osmoreception in magnocellular neurosecretory cells: from single channels to secretion. Trends in Neurosciences, 1994, 17, 340-344. | 8.6 | 34 |
| 63 | Atrial Natriuretic Peptide Modulates Synaptic Transmission from Osmoreceptor Afferents to the Supraoptic Nucleus. Journal of Neuroscience, 1996, 16, 7526-7532. | 3.6 | 34 |
| 64 | Extrinsic modulation of spike afterpotentials in rat hypothalamoneurohypophysial neurons. Cellular and Molecular Neurobiology, 1998, 18, 3-12. | 3.3 | 29 |
| 65 | Membrane Properties Related to the Firing Behavior of Zebrafish Motoneurons. Journal of Neurophysiology, 2003, 89, 657-664. | 1.8 | 28 |
| 66 | Calcium permeability and flux through osmosensory transduction channels of isolated rat supraoptic nucleus neurons. European Journal of Neuroscience, 2006, 23, 1491-1500. | 2.6 | 27 |
| 67 | Dual role for calcium in the control of spike duration in rat supraoptic neuroendocrine cells. Neuroscience Letters, 1991, 133, 271-274. | 2.1 | 26 |
| 68 | Circumventricular Organs: Gateways to the Brain Axonal Projections From The Organum Vasculosum Lamina Terminalis To The Supraoptic Nucleus: Functional Analysis And Presynaptic Modulation. Clinical and Experimental Pharmacology and Physiology, 2001, 28, 570-574. | 1.9 | 25 |
| 69 | Central and peripheral roles of vasopressin in the circadian defense of body hydration. Best Practice and Research in Clinical Endocrinology and Metabolism, 2017, 31, 535-546. | 4.7 | 25 |
| 70 | Cell-Specific Retrograde Signals Mediate Antiparallel Effects of Angiotensin II on Osmoreceptor Afferents to Vasopressin and Oxytocin Neurons. Cell Reports, 2014, 8, 355-362. | 6.4 | 22 |
| 71 | Dystroglycan and Mitochondrial Ribosomal Protein L34 Regulate Differentiation in the Drosophila Eye. PLoS ONE, 2010, 5, e10488. | 2.5 | 22 |
| 72 | Peptidergic Excitation of Supraoptic Nucleus Neurons: Involvement of Stretch-Inactivated Cation Channels. Experimental Neurology, 2001, 171, 210-218. | 4.1 | 20 |

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|---|---|---|---|
| 73 | A rat brain slice preserving synaptic connections between neurons of the suprachiasmatic nucleus, organum vasculosum lamina terminalis and supraoptic nucleus. Journal of Neuroscience Methods, 2003, 128, 67-77. | 2.5 | 20 |
| 74 | Ca<sup>2+</sup>â€dependent K<sup>+</sup> currents and spikeâ€frequency adaptation in medial entorhinal cortex layer II stellate cells. Hippocampus, 2007, 17, 1143-1148. | 1.9 | 20 |
| 75 | Effects of Peritoneal Sepsis on Rat Central Osmoregulatory Neurons Mediating Thirst and Vasopressin Release. Journal of Neuroscience, 2015, 35, 12188-12197. | 3.6 | 20 |
| 76 | Trpv4 Mediates Hypotonic Inhibition of Central Osmosensory Neurons via Taurine Gliotransmission. Cell Reports, 2018, 23, 2245-2253. | 6.4 | 20 |
| 77 | Depolarizing GABA Transmission Restrains Activity-Dependent Glutamatergic Synapse Formation in the Developing Hippocampal Circuit. Frontiers in Cellular Neuroscience, 2020, 14, 36. | 3.7 | 20 |
| 78 | Properties of the Transient K+ Current in Acutely Isolated Supraoptic Neurons from Adult Rat. Advances in Experimental Medicine and Biology, 1998, 449, 97-106. | 1.6 | 20 |
| 79 | Role of Vasopressin in Rat Models of Salt-Dependent Hypertension. Current Hypertension Reports, 2017, 19, 42. | 3.5 | 19 |
| 80 | Ionic basis of the caesiumâ€induced depolarisation in rat supraoptic nucleus neurones. Journal of Physiology, 2001, 536, 797-808. | 2.9 | 18 |
| 81 | Neurons that drive and quench thirst. Science, 2017, 357, 1092-1093. | 12.6 | 18 |
| 82 | Rat supraoptic neurons are resistant to glutamate neurotoxicity. NeuroReport, 1992, 3, 87-90. | 1.2 | 17 |
| 83 | Effects of Salt Loading on the Regulation of Rat Hypothalamic Magnocellular Neurosecretory Cells by Ionotropic GABA and Glycine Receptors. Journal of Neuroendocrinology, 2016, 28, . | 2.6 | 14 |
| 84 | Effects of Activin-A on Neurons Acutely Isolated from the Rat Supraoptic Nucleus. Journal of Neuroendocrinology, 1995, 7, 661-663. | 2.6 | 13 |
| 85 | Activation of organum vasculosum neurones and water intake in mice by vasopressin neurones in the suprachiasmatic nucleus. Journal of Neuroendocrinology, 2018, 30, e12577. | 2.6 | 12 |
| 86 | IL-1Î² directly excites isolated rat supraoptic neurons via upregulation of the osmosensory cation current. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2006, 290, R1183-R1190. | 1.8 | 11 |
| 87 | Neurophysiology of supraoptic neurons in C57/BL mice studied in three acute in vitro preparations. Progress in Brain Research, 2008, 170, 229-242. | 1.4 | 10 |
| 88 | Activity maintains structural plasticity of mossy fiber terminals in the hippocampus. Molecular and Cellular Neurosciences, 2012, 50, 260-271. | 2.2 | 9 |
| 89 | Does a stretch-inactivated cation channel integrate osmotic and peptidergic signals?. Nature Neuroscience, 2000, 3, 847-848. | 14.8 | 8 |
| 90 | High dietary salt amplifies osmoresponsiveness in vasopressin-releasing neurons. Cell Reports, 2021, 34, 108866. | 6.4 | 8 |

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| 91 | Detection of activity-dependent vasopressin release from neuronal dendrites and axon terminals using sniffer cells. Journal of Neurophysiology, 2018, 120, 1386-1396. | 1.8 | 7 |
| 92 | Effects of Salt Loading on the Morphology of Astrocytes in the Ventral Glia Limitans of the Rat Supraoptic Nucleus. Journal of Neuroendocrinology, 2016, 28, . | 2.6 | 6 |
| 93 | Visually guided whole cell patch clamp of mouse supraoptic nucleus neurons in cultured and acute conditions. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2006, 291, R68-R76. | 1.8 | 5 |
| 94 | Modulation of spike clustering by NMDA receptors and neurotensin in rat supraoptic nucleus neurons. Journal of Physiology, 2014, 592, 4177-4186. | 2.9 | 4 |
| 95 | Osmoregulatory Circuits in Slices and En Bloc Preparations of Rodent Hypothalamus. Neuromethods, 2012, , 211-231. | 0.3 | 4 |
| 96 | Hypothalamic neurons controlling water homeostasis: itâ€™s about time. Current Opinion in Physiology, 2018, 5, 45-50. | 1.8 | 3 |
| 97 | AUTOREGULATION OF BURSTING OF AVP NEURONS OF THE RAT HYPOTHALMUS. , 2005, , 49-88. | | 1 |
| 98 | A TRP that makes us feel hyper. Journal of Physiology, 2012, 590, 1779-1780. | 2.9 | 1 |
| 99 | Mechanism and function of phasic firing in vasopressinâ€releasing magnocellular neurosecretory cells. Journal of Neuroendocrinology, 2021, 33, e13048. | 2.6 | 1 |