# Baljit S Khakh

List of Publications by Year
in descending order



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|---|---|---|---|
| 96 papers | 17,399 citations | 23567 58 h-index | 39675 94 g-index |
| 101 all docs | 101 docs citations | 101 times ranked | 16318 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | SnapShot: Astrocyte interactions. Cell, 2022, 185, 220-220.e1. | 28.9 | 7 |
| 2 | Cell-specific RNA purification to study translatomes of mouse central nervous system. STAR Protocols, 2022, 3, 101397. | 1.2 | 4 |
| 3 | A Basomedial Amygdala to Intercalated Cells Microcircuit Expressing PACAP and Its Receptor PAC1 Regulates Contextual Fear. Journal of Neuroscience, 2021, 41, 3446-3461. | 3.6 | 16 |
| 4 | Reactive astrocyte nomenclature, definitions, and future directions. Nature Neuroscience, 2021, 24, 312-325. | 14.8 | 1,098 |
| 5 | Behaviorally consequential astrocytic regulation of neural circuits. Neuron, 2021, 109, 576-596. | 8.1 | 150 |
| 6 | <scp>Laminaâ€specific</scp> properties of spinal astrocytes. Glia, 2021, 69, 1749-1766. | 4.9 | 12 |
| 7 | Local and CNS-Wide Astrocyte Intracellular Calcium Signaling AttenuationIn Vivowith CalEx<sup>flox</sup>Mice. Journal of Neuroscience, 2021, 41, 4556-4574. | 3.6 | 18 |
| 8 | Specific and behaviorally consequential astrocyte Gq GPCR signaling attenuation inÂvivo with iÎ²ARK. Neuron, 2021, 109, 2256-2274.e9. | 8.1 | 47 |
| 9 | Coordination of escape and spatial navigation circuits orchestrates versatile flight from threats. Neuron, 2021, 109, 1848-1860.e8. | 8.1 | 47 |
| 10 | Molecular and functional properties of cortical astrocytes during peripherally induced neuroinflammation. Cell Reports, 2021, 36, 109508. | 6.4 | 54 |
| 11 | Breakdown of spatial coding and interneuron synchronization in epileptic mice. Nature Neuroscience, 2020, 23, 229-238. | 14.8 | 126 |
| 12 | Context-Specific Striatal Astrocyte Molecular Responses Are Phenotypically Exploitable. Neuron, 2020, 108, 1146-1162.e10. | 8.1 | 73 |
| 13 | Reflections on the past two decades of neuroscience. Nature Reviews Neuroscience, 2020, 21, 524-534. | 10.2 | 35 |
| 14 | Improved tools to study astrocytes. Nature Reviews Neuroscience, 2020, 21, 121-138. | 10.2 | 178 |
| 15 | Assessing Neuronâ€“Astrocyte Spatial Interactions Using the Neuronâ€“Astrocyte Proximity Assay. Current Protocols in Neuroscience, 2020, 91, e91. | 2.6 | 5 |
| 16 | Stress gates an astrocytic energy reservoir to impair synaptic plasticity. Nature Communications, 2020, 11, 2014. | 12.8 | 89 |
| 17 | The Emerging Nature of Astrocyte Diversity. Annual Review of Neuroscience, 2019, 42, 187-207. | 10.7 | 309 |
| 18 | Astrocyteâ€“Neuron Interactions in the Striatum: Insights on Identity, Form, and Function. Trends in Neurosciences, 2019, 42, 617-630. | 8.6 | 67 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Astrocyte molecular signatures in Huntingtonâ€™s disease. Science Translational Medicine, 2019, 11, . | 12.4 | 152 |
| 20 | CaImAn an open source tool for scalable calcium imaging data analysis. ELife, 2019, 8, . | 6.0 | 551 |
| 21 | Visualizing Astrocyte Morphology Using Lucifer Yellow Iontophoresis. Journal of Visualized Experiments, 2019, , . | 0.3 | 9 |
| 22 | Transient, Consequential Increases in Extracellular Potassium Ions Accompany Channelrhodopsin2 Excitation. Cell Reports, 2019, 27, 2249-2261.e7. | 6.4 | 64 |
| 23 | Hyperactivity with Disrupted Attention by Activation of an Astrocyte Synaptogenic Cue. Cell, 2019, 177, 1280-1292.e20. | 28.9 | 228 |
| 24 | A genetically encoded single-wavelength sensor for imaging cytosolic and cell surface ATP. Nature Communications, 2019, 10, 711. | 12.8 | 185 |
| 25 | All the light that we can see: a new era in miniaturized microscopy. Nature Methods, 2019, 16, 11-13. | 19.0 | 125 |
| 26 | An Optical Neuron-Astrocyte Proximity Assay at Synaptic Distance Scales. Neuron, 2018, 98, 49-66.e9. | 8.1 | 117 |
| 27 | Reducing Astrocyte Calcium Signaling InÂVivo Alters Striatal Microcircuits and Causes Repetitive Behavior. Neuron, 2018, 99, 1170-1187.e9. | 8.1 | 234 |
| 28 | Making, Testing, and Using Potassium Ion Selective Microelectrodes in Tissue Slices of Adult Brain. Journal of Visualized Experiments, 2018, , . | 0.3 | 11 |
| 29 | Active role of capillary pericytes during stimulation-induced activity and spreading depolarization. Brain, 2018, 141, 2032-2046. | 7.6 | 78 |
| 30 | Unravelling and Exploiting Astrocyte Dysfunction in Huntingtonâ€™s Disease. Trends in Neurosciences, 2017, 40, 422-437. | 8.6 | 155 |
| 31 | Self-Organized Cerebral Organoids with Human-Specific Features Predict Effective Drugs to Combat Zika Virus Infection. Cell Reports, 2017, 21, 517-532. | 6.4 | 305 |
| 32 | Neural Circuit-Specialized Astrocytes: Transcriptomic, Proteomic, Morphological, and Functional Evidence. Neuron, 2017, 95, 531-549.e9. | 8.1 | 556 |
| 33 | Neurovascular and Immuno-Imaging: From Mechanisms to Therapies. Proceedings of the Inaugural Symposium. Frontiers in Neuroscience, 2016, 10, 46. | 2.8 | 3 |
| 34 | New Transgenic Mouse Lines for Selectively Targeting Astrocytes and Studying Calcium Signals in Astrocyte Processes In Situ and InÂVivo. Neuron, 2016, 92, 1181-1195. | 8.1 | 283 |
| 35 | Astrocyte scar formation aids central nervous system axon regeneration. Nature, 2016, 532, 195-200. | 27.8 | 1,390 |
| 36 | P2X4 Receptor Reporter Mice: Sparse Brain Expression and Feeding-Related Presynaptic Facilitation in the Arcuate Nucleus. Journal of Neuroscience, 2016, 36, 8902-8920. | 3.6 | 47 |

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| 37 | Dysfunctional Calcium and Glutamate Signaling in Striatal Astrocytes from Huntington's Disease Model Mice. Journal of Neuroscience, 2016, 36, 3453-3470. | 3.6 | 185 |
| 38 | Probing the Complexities of Astrocyte Calcium Signaling. Trends in Cell Biology, 2016, 26, 300-312. | 7.9 | 215 |
| 39 | Astrocyte Calcium Signaling: From Observations to Functions and the Challenges Therein. Cold Spring Harbor Perspectives in Biology, 2015, 7, a020404. | 5.5 | 183 |
| 40 | Diversity of astrocyte functions and phenotypes in neural circuits. Nature Neuroscience, 2015, 18, 942-952. | 14.8 | 892 |
| 41 | Ca2+ signaling in astrocytes from Ip3r2â^'/â^' mice in brain slices and during startle responses in vivo. Nature Neuroscience, 2015, 18, 708-717. | 14.8 | 411 |
| 42 | New Insights on Astrocyte Ion Channels: Critical for Homeostasis and Neuron-Glia Signaling. Journal of Neuroscience, 2015, 35, 13827-13835. | 3.6 | 161 |
| 43 | ATP-gated P2X receptors in health and disease. Frontiers in Cellular Neuroscience, 2014, 8, 204. | 3.7 | 26 |
| 44 | Inhibitory Interactions between Phosphorylation Sites in the C Terminus of Î±-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic Acid-type Glutamate Receptor GluA1 Subunits. Journal of Biological Chemistry, 2014, 289, 14600-14611. | 3.4 | 11 |
| 45 | Imaging P2X4 receptor subcellular distribution, trafficking, and regulation using P2X4-pHluorin. Journal of General Physiology, 2014, 144, 81-104. | 1.9 | 39 |
| 46 | Imaging Intracellular Ca<sup>2+</sup> Signals in Striatal Astrocytes from Adult Mice Using Genetically-encoded Calcium Indicators. Journal of Visualized Experiments, 2014, , e51972. | 0.3 | 24 |
| 47 | Astrocyte Kir4.1 ion channel deficits contribute to neuronal dysfunction in Huntington's disease model mice. Nature Neuroscience, 2014, 17, 694-703. | 14.8 | 486 |
| 48 | Conditions and Constraints for Astrocyte Calcium Signaling in the Hippocampal Mossy Fiber Pathway. Neuron, 2014, 82, 413-429. | 8.1 | 206 |
| 49 | Astrocytes and Huntingtonâ€™s Disease. ACS Chemical Neuroscience, 2014, 5, 494-496. | 3.5 | 31 |
| 50 | Slow Neuromodulation Mediated by ATP P2X Receptors. Neuron, 2014, 83, 257-259. | 8.1 | 4 |
| 51 | Tunable diblock copolypeptide hydrogel depots for local delivery of hydrophobic molecules in healthy and injured central nervous system. Biomaterials, 2014, 35, 1989-2000. | 11.4 | 45 |
| 52 | Genetically Encoded Calcium Indicators and Astrocyte Calcium Microdomains. Neuroscientist, 2013, 19, 274-291. | 3.5 | 56 |
| 53 | TRPA1 Channels Are Regulators of Astrocyte Basal Calcium Levels and Long-Term Potentiation via Constitutive D-Serine Release. Journal of Neuroscience, 2013, 33, 10143-10153. | 3.6 | 264 |
| 54 | Imaging calcium microdomains within entire astrocyte territories and endfeet with GCaMPs expressed using adeno-associated viruses. Journal of General Physiology, 2013, 141, 633-647. | 1.9 | 312 |

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| 55 | Imaging P2X4 Receptor Lateral Mobility in Microglia. Journal of Biological Chemistry, 2012, 287, 14734-14748. | 3.4 | 45 |
| 56 | Allosteric Modulation of Ca2+ flux in Ligand-gated Cation Channel (P2X4) by Actions on Lateral Portals. Journal of Biological Chemistry, 2012, 287, 7594-7602. | 3.4 | 32 |
| 57 | Inflammatory Mediators Alter the Astrocyte Transcriptome and Calcium Signaling Elicited by Multiple G-Protein-Coupled Receptors. Journal of Neuroscience, 2012, 32, 14489-14510. | 3.6 | 178 |
| 58 | Optimization of a GCaMP Calcium Indicator for Neural Activity Imaging. Journal of Neuroscience, 2012, 32, 13819-13840. | 3.6 | 1,099 |
| 59 | Neuromodulation by Extracellular ATP and P2X Receptors in the CNS. Neuron, 2012, 76, 51-69. | 8.1 | 301 |
| 60 | TRPA1 channels regulate astrocyte resting calcium and inhibitory synapse efficacy through GAT-3. Nature Neuroscience, 2012, 15, 70-80. | 14.8 | 391 |
| 61 | Neuronal P2X2 Receptors Are Mobile ATP Sensors That Explore the Plasma Membrane When Activated. Journal of Neuroscience, 2011, 31, 16716-16730. | 3.6 | 32 |
| 62 | Bulk Loading of Calcium Indicator Dyes to Study Astrocyte Physiology: Key Limitations and Improvements Using Morphological Maps. Journal of Neuroscience, 2011, 31, 9353-9358. | 3.6 | 94 |
| 63 | Preferential use of unobstructed lateral portals as the access route to the pore of human ATP-gated ion channels (P2X receptors). Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 13800-13805. | 7.1 | 70 |
| 64 | A genetically targeted optical sensor to monitor calcium signals in astrocyte processes. Nature Neuroscience, 2010, 13, 759-766. | 14.8 | 214 |
| 65 | Gated Access to the Pore of a P2X Receptor. Journal of Biological Chemistry, 2010, 285, 10110-10121. | 3.4 | 62 |
| 66 | P2X4 receptors in activated C8-B4 cells of cerebellar microglial origin. Journal of General Physiology, 2010, 135, 333-353. | 1.9 | 85 |
| 67 | Monitoring astrocyte calcium microdomains with improved membrane targeted GCaMP reporters. Neuron Glia Biology, 2010, 6, 183-191. | 1.6 | 72 |
| 68 | A genetic approach to optically investigate P2X2 receptor activation in vivo using an activityâ€dependent FRET based reporter tag. FASEB Journal, 2010, 24, lb696. | 0.5 | 0 |
| 69 | Substituted cysteine accessibility mutagenesis of P2X2 receptors suggests the position of the gate with structural implications for closedâ€open transitions. FASEB Journal, 2010, 24, lb584. | 0.5 | 0 |
| 70 | Proteomics to Identify Proteins Interacting with P2X2 Ligand-Gated Cation Channels. Journal of Visualized Experiments, 2009, , . | 0.3 | 10 |
| 71 | The Double Life of ATP. Scientific American, 2009, 301, 84-92. | 1.0 | 189 |
| 72 | ATP-gated P2X receptors on excitatory nerve terminals onto interneurons initiate a form of asynchronous glutamate release. Neuropharmacology, 2009, 56, 216-222. | 4.1 | 23 |

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| 73 | ATP-gated P2X cation-channels. Neuropharmacology, 2009, 56, 208-215. | 4.1 | 309 |
| 74 | Measuring Near Plasma Membrane and Global Intracellular Calcium Dynamics in Astrocytes. Journal of Visualized Experiments, 2009, , . | 0.3 | 13 |
| 75 | Tracking transmitter-gated P2X cation channel activation in vitro and in vivo. Nature Methods, 2008, 5, 87-93. | 19.0 | 46 |
| 76 | Two Forms of Astrocyte Calcium Excitability Have Distinct Effects on NMDA Receptor-Mediated Slow Inward Currents in Pyramidal Neurons. Journal of Neuroscience, 2008, 28, 6659-6663. | 3.6 | 231 |
| 77 | Molecular Shape, Architecture, and Size of P2X4 Receptors Determined Using Fluorescence Resonance Energy Transfer and Electron Microscopy. Journal of Biological Chemistry, 2008, 283, 26241-26251. | 3.4 | 40 |
| 78 | Regulation of P2X2 Receptors by the Neuronal Calcium Sensor VILIP1. Science Signaling, 2008, 1, ra8. | 3.6 | 55 |
| 79 | Patchâ€“clamp coordinated spectroscopy shows P2X <sub>2</sub> receptor permeability dynamics require cytosolic domain rearrangements but not Panx-1 channels. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 12063-12068. | 7.1 | 96 |
| 80 | Measuring mobility of ATPâ€gated P2X channels in the plasma membrane. FASEB Journal, 2008, 22, 82-82. | 0.5 | 0 |
| 81 | Vesicular ATP Is the Predominant Cause of Intercellular Calcium Waves in Astrocytes. Journal of General Physiology, 2007, 129, 485-491. | 1.9 | 184 |
| 82 | P2X receptors as cell-surface ATP sensors in health and disease. Nature, 2006, 442, 527-532. | 27.8 | 772 |
| 83 | An Angstrom Scale Interaction between Plasma Membrane ATP-Gated P2X2 and Â4Â2 Nicotinic Channels Measured with Fluorescence Resonance Energy Transfer and Total Internal Reflection Fluorescence Microscopy. Journal of Neuroscience, 2005, 25, 6911-6920. | 3.6 | 96 |
| 84 | Contribution of Transmembrane Regions to ATP-gated P2X2 Channel Permeability Dynamics. Journal of Biological Chemistry, 2005, 280, 6118-6129. | 3.4 | 60 |
| 85 | Time-Resolved Measurement of State-Specific P2X2 Ion Channel Cytosolic Gating Motions. Journal of Neuroscience, 2004, 24, 10475-10487. | 3.6 | 54 |
| 86 | Contribution of Calcium Ions to P2X Channel Responses. Journal of Neuroscience, 2004, 24, 3413-3420. | 3.6 | 263 |
| 87 | ATP Excites Interneurons and Astrocytes to Increase Synaptic Inhibition in Neuronal Networks. Journal of Neuroscience, 2004, 24, 8606-8620. | 3.6 | 211 |
| 88 | ATP Modulation of Excitatory Synapses onto Interneurons. Journal of Neuroscience, 2003, 23, 7426-7437. | 3.6 | 135 |
| 89 | Control of P2X2 Channel Permeability by the Cytosolic Domain. Journal of General Physiology, 2002, 120, 119-131. | 1.9 | 58 |
| 90 | Molecular physiology of p2x receptors and atp signalling at synapses. Nature Reviews Neuroscience, 2001, 2, 165-174. | 10.2 | 355 |

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| 91 | State-dependent cross-inhibition between transmitter-gated cation channels. Nature, 2000, 406, 405-410. | 27.8 | 179 |
| 92 | Modulation of fast synaptic transmission by presynaptic ligand-gated cation channels. Journal of the Autonomic Nervous System, 2000, 81, 110-121. | 1.9 | 67 |
| 93 | Neuronal P2X transmitter-gated cation channels change their ion selectivity in seconds. Nature Neuroscience, 1999, 2, 322-330. | 14.8 | 333 |
| 94 | Dynamic Selectivity Filters in Ion Channels. Neuron, 1999, 23, 653-658. | 8.1 | 91 |
| 95 | Allosteric Control of Gating and Kinetics at P2X<sub>4</sub>Receptor Channels. Journal of Neuroscience, 1999, 19, 7289-7299. | 3.6 | 272 |
| 96 | ATP Receptor-Mediated Enhancement of Fast Excitatory Neurotransmitter Release in the Brain. Molecular Pharmacology, 1998, 54, 372-378. | 2.3 | 139 |