

Advisory Board Publications

2021-2022

1. Andrew R D, Farkas E, Hartings J A, Brennan K C, Herreras O, Müller M, Kirov S A, Ayata C, Ollen-Bittle N, Reiffurth C, Revah O, Robertson R M, Dawson-Scully K D, **Ullah G**, Shuttleworth C W, Dreier J P. Questioning glutamate excitotoxicity in acute brain damage: the importance of spreading depolarization, *Neurocritical Care*, doi.org/10.1007/s12028-021-01429-4.
2. Andrew R D, Hartings J A, Ayata C, Brennan K C, Dawson-Scully K D, Farkas E, Herreras O, Kirov S A, Müller M, Ollen-Bittle N, Reiffurth C, Revah O, Robertson R M, Shuttleworth C W, **Ullah G**, Dreier J P. The critical role of spreading depolarizations in early brain injury: consensus and contention, *Neurocritical Care*, <https://doi.org/10.1007/s12028-021-01431-w>.
3. B. Regensburger, S. Sinha, A. Kumar, S. Maji and **K.K. Afridi**, "High-Performance Multi-MHz Capacitive Wireless Power Transfer System for EV Charging Utilizing Interleaved-Foil Coupled Inductors," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 10, no. 1, pp. 35-51, February 2022.
4. Chidipi B, Mariana B A, Shah S I, Rieser M, **Ullah G**, McDonald T V, and Noujaim S F. The mitochondrial network is altered in friedreich's ataxia cardiomyopathy, *The International Journal of Biochemistry and Cell Biology* (2022) 143, 106137 .
5. Chidipi B, Shah S I, Reiser M, Kanithi M, Garces A, Cha B J, **Ullah G**, and Noujaim S F. All-trans retinoic acid increases DRP1 levels and promotes mitochondrial fission, *Cells* (2021) 10(5) 1202.
6. D. Shahzad, S. Pervaiz, N. Zaffar and **K.K. Afridi**, "GaN-Based High-Power-Density AC-DC-AC Converter for Single-Phase Transformer-Less Online Uninterruptible Power Supply," *IEEE Transactions on Power Electronics*, vol. 36, no. 12, pp. 13968-13984, December 2021.
7. Hamid, M.; Khalid, M.F.; Chaudhary, S.U.; **Khan, S**. The Solvation of the E. coli CheY Phosphorylation Site Mapped by XFMS. *Int. J. Mol. Sci.* 2022, 23, 12771.
8. Heinrich, L., Zafar, F., Torres, C. A. M., Singh, J., **Khan, A.**, Chen, M. Y., ... & Schüle, B. (2022). Multiplex imaging of human induced pluripotent stem cell-derived neurons with CO-Detection by indEXing (CODEX) technology. *Journal of Neuroscience Methods*, 378, 109653.
9. **Hussain, S.**, Aponte-Rivera, R., Barghout, R.M., Trapani, J.G., Kindt, K.S. (2022). In Vivo Analysis of Hair Cell Sensory Organs in Zebrafish: From Morphology to Function. In: Groves, A.K. (eds) Developmental, Physiological, and Functional Neurobiology of the Inner Ear. *Neuromethods*, vol 176. Humana, New York, NY. https://doi.org/10.1007/978-1-0716-2022-9_9

10. Jacob, H., Geng, H., Shetty, D. Halow, N., **Kenney, L.J.** and Nakano, M. Distinct Interaction Mechanism of RNAP and ResD at Proximal and Distal Subsites for Transcription Activation of Nitrite Reductase in *Bacillus subtilis*. *J. Bacteriol.* 204:(2):e0043221 2022.
11. Jansen N A, Perez C, Schenke N, Van Beurden A W, Dehghani A, Voskuyl R A, Thijs R D, **Ullah G**, Van Den Maagdenberg A M J M, Tolner E A. Impaired theta-gamma coupling indicates inhibitory dysfunction and seizure risk in a Dravet syndrome mouse model, *Journal of Neuroscience* (2021) 41(3) 524-537.
12. **K.K. Afridi**, "The Future of Electric Vehicle Charging Infrastructure," *Nature Electronics*, vol. 5, no. 2, pp. 62-64, February 2022.
13. Kanithi M, Junapudi S, Shah S I, Alavala M R, **Ullah G**, Chidipi B. Alterations of mitochondrial network by cigarette and e-cigarette vaping, *Cells* (2022) 11(10) 1688.
14. **Kenney, L.J.** How Can a Histidine Kinase Respond to Mechanical Stress? Solicited Perspective for Flagellar Motors and Force Sensing in Bacteria and Archaea. *Frontiers Microbiol.* 12: 655942. 2021. doi: 10.3389/fmicb.2021.655942. PMID: 34335491
15. **Khan, S.** 2022. Conformational spread drives the evolution of the calcium-calmodulin protein kinase II. *Sci Rep.* 12:8499
16. M. Daryaei, S.A. Khajehoddin, J. Mashreghi and **K.K. Afridi**, "A New Approach to Steady-State Modeling, Analysis and Design of Power Converters," *IEEE Transactions on Power Electronics*, vol. 36, no. 11, pp. 12746-12768, November 2021.
17. M. Khatua, A. Kumar, S. Pervaiz, S. Chakraborty and **K.K. Afridi**, "A Single-Stage Isolated AC-DC Converter Based on the Impedance Control Network Architecture," *IEEE Transactions on Power Electronics*, vol. 37, no. 7, pp. 8217-8231, July 2022.
18. Mascibroda, L., Shboul, M., Elrod, N., Colleaux, L., Hamamy, H., Huang, K-L., Peart, N., Singh, M.K., Lee, H., Merriman, B., Jodoin, J., Lee, L., Fathalla, R., Al-Rawashdeh, B., Ababneh, O., El-Khateeb, M., Escande-Beillard, N., Nelson, S., Wu, Y., Tong, **L., Kenney, L.J.**, Russell, W., Amiel, J., Reversade, B., and Wagner, E.J. INTS13 Mutations Causing a Developmental Ciliopathy Disrupt Integrator Complex Assembly. *Nat. Commun.* 13(1):6054. doi: 10.1038/s41467-022-33547-8. 2022. PMID: 36229431
19. Mon, K.K.Z., Si, Z., Chan-Park, M.B, and **L.J. Kenney.** Polyimidazolium protects against an invasive clinical isolate of *Salmonella* Typhimurium. *Antimicrob. Agents Chemother.* 66(10):e0059722. doi: 10.1128/aac.00597-22. Epub 2022 Sep 12. PMID: 36094258

20. S. Sinha, A. Kumar, B. Regensburger and **K.K. Afridi**, "Design of High-Efficiency Matching Networks for Capacitive Wireless Power Transfer Systems," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 10, no. 1, pp. 104-127, February 2022.
21. Singh, M.K. and **L.J. Kenney**. Super-resolution imaging of bacterial pathogens and visualization of their secreted effectors. *FEMS Microbiol. Rev.* 45:fuaa050. 2021. <https://doi.org/10.1093/femsre/fuaa050> PMID: 32970796
22. Singh, M.K., Zangoui, P., Yamanaka, Y., and **L.J. Kenney**. Genetic code expansion enables visualization of *Salmonella* type three secretion system components and secreted effectors. *eLife*. 10:e67789 2021. DOI: 10.7554/eLife.67789 PMID: 34061032

2019-2020

1. Jansen N A, Perez C, Schenke N, Van Beurden A W, Dehghani A, Voskuyl R A, Thijs R D, **Ullah G**, Van Den Maagdenberg A M J M, Tolner E A. Impaired theta-gamma coupling indicates inhibitory dysfunction and seizure risk in a Dravet syndrome mouse model. *Journal of Neuroscience* (2020) <https://doi.org/10.1523/JNEUROSCI.2132-20.2020>.
2. Johnson CR, Steingesser MG, Weems AD, **Khan A**, Gladfelter A, Bertin A, McMurray MA. Guanidine hydrochloride reactivates an ancient septin hetero-oligomer assembly pathway in budding yeast. *Elife*. 2020 Jan 28;9:e54355. doi: 10.7554/eLife.54355. PMID: 31990274; PMCID: PMC7056273.
3. **Khan S**, Downing KH, Molloy JE. Architectural Dynamics of CaMKII-Actin Networks. *Biophys J*. 2019 Jan 8;116(1):104-119. doi: 10.1016/j.bpj.2018.11.006. Epub 2018 Nov 10. PMID: 30527447; PMCID: PMC6341221.
4. **Khan S**. The Architectural Dynamics of the Bacterial Flagellar Motor Switch. *Biomolecules*. 2020 May 29;10(6):833. doi: 10.3390/biom10060833. PMID: 32486003; PMCID: PMC7355467.
5. Pandini A, Schulman H, **Khan S**. Conformational coupling by trans-phosphorylation in calcium calmodulin dependent kinase II. *PLoS Comput Biol*. 2019 May 31;15(5):e1006796. doi: 10.1371/journal.pcbi.1006796. PMID: 31150387; PMCID: PMC6576796.
6. Perez C, Felix L, Rose C R, and **Ullah G**. On the Origin of Ultraslow Spontaneous Na⁺ Fluctuations in Neurons of the Neonatal Forebrain. *Journal of Neurophysiology* (2020) <https://doi.org/10.1152/jn.00373.2020>.

7. Perez C, Miti T, Hasecke F, Meisl G, Hoyer W, Muschol M, and **Ullah G**. Mechanism of fibril and soluble oligomer formation in amyloid beta and hen egg white lysozyme proteins. Journal of Physical Chemistry B (2019) 123(27)5678-5689.
8. Shafiq-ul-Hassan M, Zhang G G, Latifi K, **Ullah G**, Gillies R J, and Moros E G. Computed Tomography Texture Phantom Dataset for evaluating the impact of CT imaging parameters on Radiomics Features. The Cancer Imaging Archive (2019) (DOI: <http://doi.org/10.7937/TCIA.2019.4l24tz5g>).
9. Shah S I and **Ullah G**. The Function of Mitochondrial Calcium Uniporter at the Whole-Cell and Single Mitochondrion Levels in WT, MICU1 KO, and MICU2 KO Cells, Cells (2020) 9, 1520.
10. Shah S I, Ong H L, Demuro A, and **Ullah G**. PunctaSpecks: A Tool for Automated Detection, Tracking, and Analysis of Multiple Types of Fluorescently Labeled Biomolecules, Cell Calcium (2020) 102224.
11. Shah S I, Paine J, Perez C, and **Ullah G**. Mitochondrial fragmentation and network architecture in degenerative diseases, PLoS One (2019) 14(9) e0223014.
12. Toglia P and **Ullah G**. Mitochondrial dysfunction and role in spreading depolarization and seizure, Journal of Computational Neuroscience (2019) 47(2-3) 91-108.
13. Wheatley P, Gupta S, Pandini A, Chen Y, Petzold CJ, Ralston CY, Blair DF, **Khan S**. Allosteric Priming of E. coli CheY by the Flagellar Motor Protein FlhM. Biophys J. 2020 Sep 15;119(6):1108-1122. doi: 10.1016/j.bpj.2020.08.009. Epub 2020 Aug 15. PMID: 32891187; PMCID: PMC7499101.