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Publications based on the Thesis Works

Journals

1. **Baruah, S. M. B.**, and Roy, S., "Modelling neuron fiber interaction and coupling in non-myelinated bundled fiber ", *Journal name (Biomedical Physics & Engineering Express)*, Vol. 8, no. 3, pp. x-x, 2022, DOI: https://doi.org/10.1088/2057-1976/ac620a. (SCI)

2. **Baruah, S. M. B.**, Nandi, D.,Gogoi, P., and Roy, S., "Primate vision: a single layer perception,", *Journal name (Neural Computing and Applications(2021))*, pp 1 - 11, 2021, DOI: https://doi.org/10.1007/s00521-021-05868-0. (SCI)

Conferences/Workshops

3. Konthoujam, B., **Baruah, S. M. B.**, and Roy, S., "Interference Model for NMDA Receptor,", *In 2020 International Conference on Computational Performance Evaluation (ComPE)*, pp 715 - 718, IEEE, DOI: https://doi.org/10.1109/ComPE49325.2020.9200144

4. **Baruah, S. M. B.**, Gogoi, P., and Roy, S., "From Cable Equation to Active and Passive Nerve Membrane Model,", *In 2019 Second International Conference on Advanced Computational and Communication Paradigms (ICACCP)*, pp 1 - 5, DOI: https://doi.org/10.1109/ICACCP.2019.8883011

5. Das, B., **Baruah, S. M. B.**, and Roy, S., "Velocity profile of Alpha (α) type and Gamma (γ) type Motor neuron and type III and type IV Sensory Neuron,", *In 2019 Second International Conference on Advanced*

Computational and Communication Paradigms (ICACCP), pp 1 - 6, DOI: https://doi.org/10.1109/ICACCP.2019.8882912

6. **Baruah, S. M. B.**, Nandi, D., and Roy, S., "Modelling Signal Transmission in Passive Dendritic Fibre Using Discretized Cable Equation.", *In 2019 2nd International Conference on Innovations in Electronics, Signal Processing and Communication (IESC)*, pp 138 - 141, IEEE, DOI: https://doi.org/10.1109/IESPC.2019.8902444

Book Chapters

6. **Bujar Baruah, S.M.**, Hazarika, U., Roy, S., "Edge Detection and Segmentation Type Responses in Primary Visual Cortex." *In: Basu, S., Kole, D.K., Maji, A.K., Plewczynski, D., Bhattacharjee, D. (eds) Proceedings of International Conference on Frontiers in Computing and Systems. Lecture Notes in Networks and Systems, vol 404. Springer, Singapore.*; pp. 141–148, 2022. https://doi.org/10.1007/978-981-19-0105-8_14

7. **Baruah, S.M.B.**, Hazarika, U., Das, B., Roy, S. (2022). "Primates Visual Cortex Inspired Novel Edge Detection Method." *In: Gandhi, T.K., Konar, D., Sen, B., Sharma, K. (eds) Advanced Computational Paradigms and Hybrid Intelligent Computing . Advances in Intelligent Systems and Computing, vol 1373. Springer, Singapore.*; pp. 357–364, 2021. https://doi.org/10.1007/978-981-16-4369-9_35

8. **Baruah, S. M. B.**, Das, B. and Roy, S., "Extracellular Conductivity and Nerve Signal Propagation: An Analytical Study," *In: Sabut S.K., Ray A.K., Pati B., Acharya U.R. (eds) Proceedings of International Conference on Communication, Circuits, and Systems. Lecture Notes in Electrical Engineering, vol 728. Springer, Singapore.*; pp. 399, 2021.

9. **Baruah, S. M. B.**, Gogoi, P. and Roy, S., "Neuronal Dendritic Fiber Interference Due to Signal Propagation," *In: Deka B., Maji P., Mitra S., Bhattacharyya D., Bora P., Pal S. (eds) Pattern Recognition and Machine Intelligence. PReMI 2019. Lecture Notes in Computer Science, vol 11942. Springer, Cham*; pp. 176-183, 2019. https://doi.org/10.1007/978-3-030-34872-4_20

10. Gogoi, P,**Baruah, S. M. B.**, and Roy, S., "Modeling a Bioinspired Neuron: An Extension to the H-H Model," *In: Bhattacharyya, S., Chaki, N., Konar,*

D., Chakraborty, U., Singh, C. (eds) Advanced Computational and Communication Paradigms. Advances in Intelligent Systems and Computing, vol 706. Springer, Singapore.; pp. 247–254, 2018. https://doi.org/10.1007/978-981-10-8237-5_24

11. **Baruah, S. M. B.**, Adil Zafar Laskar and Roy, S., "Scene Segmentation & Boundary Estimation in Primary Visual Cortex," Accepted and presented in International Conference on Paradigms of Communication, Computing and Data Sciences to be published in Book series: **Algorithms for Intelligent Systems**.