

Pawan Kumar Thapaliya

PhD Candidate — Computational Neuroscientist — Tampa, FL
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Summary

PhD-trained researcher in Applied Physics with expertise in computational neuroscience. Skilled in modeling astrocyte and neuron responses to metabolic stress including ischemic stroke and epilepsy. Experienced in computational-experimental integration, biophysical modeling, and neuroenergetics.

Experience

- **PhD Candidate / Researcher**, University of South Florida, Tampa, FL (2019–Present)
- **Quantitative MRI & Deep Learning Intern**, Moffitt Cancer Center, Tampa, FL (2025–Present)
- **Adjunct Instructor / TA**, University of South Florida (2020–2023)

Education

- Ph.D., Applied Physics – University of South Florida (2019–2026)
- M.S., Physics – University of Texas Rio Grande Valley (2016–2019)
- MSc., Physics – Tribhuvan University (2009–2011)
- BSc., Physics – Trichendra College, Tribhuvan University (2006–2009)

Skills

- **Programming:** Python, R, MATLAB, SQL, Bash, FORTRAN
- **Modeling & Math:** Biophysical modeling, Markov models, neural dynamics
- **Machine Learning:** PyTorch, TensorFlow, Keras, scikit-learn
- **Libraries:** NumPy, SciPy, MNE-Python, OpenCV, Pandas, Matplotlib, Seaborn
- **Signal & Image Processing:** EEG analysis, image segmentation, neural circuit modeling

Selected Publications

- **Thapaliya, P.** et al. (2023). Modeling sodium and calcium homeostasis in astrocytes. *Front. Cell. Neurosci.*
- Everaerts, K., **Thapaliya, P.** et al. (2023). Sodium-bicarbonate cotransporter 1 in astrocytes. *Cells*

Awards & Fellowships

- Trainee Professional Development Award, Society for Neuroscience, Oct 2024
- Signature Doctoral Research Fellowship, University of South Florida, Aug 2024–Jul 2026
- Tharp and Duckwall Summer Research Fellowship, University of South Florida, May 2024–Aug 2024

Certificates

- Advanced Python Programming – Online Certificate (2023)
- Machine Learning Specialization – Coursera (2022)
- Neuroinformatics and Computational Neuroscience – Online Workshop (2021)

Professional Activities

- Grand Award Judge, Regeneron International Science and Engineering Fair, May 2024
- Conference Poster Judge: USF Health Research Day, Mar 2024 & Feb 2025
- Reviewer: Cellular Signaling, Journal of Theoretical Biology