

CV

Adarsh Mukesh

Email: a.mukesh1055@gmail.com , a.mukesh1055@iitkgp.ac.in

Mobile: +91-7872834178

Advanced Technology Development Centre,
Indian Institute of Technology, Kharagpur, West Bengal, India

Academic positions and Education:

2018-Present: PhD (Neurophysiology), **Prime Minister's Research Fellow**, IIT Kharagpur

2017-2018 Master of Technology (M.tech, Dual degree), Biotechnology and Biochemical Engineering, IIT Kharagpur.

2013-2017 Bachelor of Technology (B.Tech, Dual degree), Biotechnology and Biochemical Engineering, IIT Kharagpur.

Combined GPA (B.Tech + M.Tech, Dual degree): 8.55/10.0

Doctoral project:

- Spectral feature selectivity and deviant detection in auditory cortical neurons.

Other projects:

- Investigation of long term plastic changes in mouse auditory cortex driven by the exposure to rare stimuli in early ages via computational and theoretical approach.
- Role of inhibitory neurons in long time scale of adaptation in mouse auditory cortex.
- An information theoretic based framework to investigate SSA and deviant selectivity within auditory cortical network.

Undergraduate projects:

- Network model to demonstrate tonotopic maturation and the role of sub-plate neurons in it in a developing auditory cortex. (Masters project in IIT Kharagpur)
- Bio-informatics investigation of interaction between various protein subunits in macro-molecular protein assemblies. (Summer Internship in National Center for Biological Sciences, Bangalore, India)

Skills:

- Fluent in Matlab for statistical data analysis and neural network modelling.
- Theoretical knowledge of information theoretic tools and statistical methods.

Publications:

1. Muneshwar Mehra, **Adarsh Mukesh** and Sharba Bandyopadhyay. Earliest experience of rare but not frequent sounds cause long term changes in the adult auditory cortex (**under review in Nature Communications**)
bioRxiv link: <https://www.biorxiv.org/content/10.1101/2019.12.24.887836v2>

Conference Presentations:

- **Mukesh, A.**, Muneshwar and Bandyopadhyay, S. Model of developing auditory cortex shows low probability stimuli as drivers of cortical organisation, **Association for Research in Otolaryngology, 2018**, San Diego, CA.
- Mukherjee, A., Patel, P., **Mukesh, A.**, Muneshwar and Bandyopadhyay, S. Spectral shape based adaptation unravels mechanisms underlying spectral contrast coding in the mouse auditory cortex (ACX), **Society for Neuroscience, 2018**, San Diego, CA.
- Muneshwar, Parashar, M., Srivastava, H.K., **Mukesh, A.** and Bandyopadhyay, S. Role of inhibitory interneurons in long time scale adaptation based changes in coding of sound sequences in the mouse auditory cortex (ACX), **Society for Neuroscience, 2018**, San Diego, CA.

Reference:

Supervisor:

Dr. Sharba Bandyopadhyay

Assistant Professor, Dept. E and ECE, IIT Kharagpur

Email id: sharba@ece.iitkgp.ernet.in

Dr. Nihar Ranjan Jana

Professor, School of Bioscience, IIT Kharagpur

Email id: nihar@iitkgp.ac.in