

## MEG brain fingerprinting: Evaluation, pitfalls, and interpretations



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**Abstract:** In this talk, the speaker will present one of her recent works on magnetoencephalography (MEG)-based fingerprinting of individuals. Currently, this is a topic of interest in neuroscience research. The speaker has utilized resting-state MEG data of the Human Connectome Project to assess MEG Functional Connectivity (FC) fingerprinting and have provided quantitative fingerprint scores FC measurements. They have also investigated the cross-modality fingerprinting patterns obtained from MEG and fMRI recordings from the same subjects. Their results suggest that fingerprinting performance is heavily dependent on the functional connectivity measure, frequency band, identification scoring method, and spatial leakage correction. This is one of the first investigations in this direction and has the potential to contribute to setting the grounds for MEG connectome identification.

**Bio:** Anubha Gupta (anubha@iiitd.ac.in) received her B.Tech and M.Tech from Delhi University, India in 1991 and 1997 in Electronics and Communication Engineering. She received her PhD. from Indian Institute of Technology (IIT), Delhi, India in 2006 in Electrical Engineering. She did her second Master's as a full time student from the University of Maryland, College Park, USA from 2008-2010 in Education. She worked as Assistant Director with the Ministry of Information and Broadcasting, Govt. of India (through Indian Engineering Services) from 1993 to 1999 and, as faculty at NSUT- Delhi (2000-2008) and IIT-Hyderabad (2011-2013), India. Currently, she is working as Professor at IIT-Delhi. She has authored/co-authored more than 100 technical papers in scientific journals and conferences. She has published research papers in both engineering and education. A lot of exciting work is being taken up in her lab: SBILab (Lab: <http://sbilab.iiitd.edu.in/index.html>). Her research interests include applications of machine learning in cancer genomics, cancer imaging, biomedical signal and image processing including fMRI, MRI, EEG, ECG signal processing, and Wavelets in deep learning. Dr. Gupta is a senior member of IEEE Signal Processing Society (SPS) and a member of IEEE Women in Engineering Society. She is an Associate Editor of IEEE Access journal, IEEE SPS Magazine eNewsletter, Frontiers in Neuroscience, and IETE Journal of Research. She is also the technical committee member of BISP committee of IEEE SPS Society for Jan 2022- Dec 2024.

Date: **9<sup>th</sup> Feb 2022, Wednesday**

Time: **04:00 PM**

Google Meet Link: <https://meet.google.com/kbt-jbjt-ypx>

