

Scdt] SCDT-FlexE Centre Weekly Tuesday Seminar - 08.03.2022 at 7:30 PM



From SCDT, IIT Kanpur <scdt@iitk.ac.in>
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Zoom Meeting for joining the webinar:

<https://zoom.us/j/99863678964?pwd=ZVJvdFN5T1UyQjdZbmXwS0htRUJOUT09>

Meeting ID: 998 6367 8964

Passcode: 064022

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Dear Colleagues,

Prof. Arjun Ramakrishnan of the Bio Sciences and Bio Engineering department and the Mehta Family Centre for Engineering in Medicine at our institute is carrying out critical work on depression and anxiety - a significantly widespread ailment across the world including India. He has kindly agreed to share details of the type of work he is pursuing at IIT Kanpur. He is also exploring options of technological solutions for his work, which he will be discussing at the seminar. Some of these are likely to have a lot of relevance for our centre. I invite you to join this interesting seminar by Prof. Ramakrishnan.

With regards  
S.K.I.

~~~~~ Details of the Seminar ~~~~~

Weekly Seminar Title:

Title: "A Neuro-Engineering Approach to Understanding Mental Health"

Date: 8th March, 2022

Time: 7:30 PM to 8:30 PM

Zoom link details for the event is given above

Abstract of talk:

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Depression and anxiety are highly prevalent mental health conditions. Approximately 500 million worldwide and ~90 million in India suffer from these debilitating health conditions. While chronic stress is a precipitating factor, the impact of stress and anxiety on the brain and their effects on behavior are still not well understood. To this end, we develop ecologically valid assays to study decision making in humans and nonhuman primates under stress. While one is engaged in the task, we measure neural activity using EEG, brain surface or deep brain probes to understand the neural underpinnings of decision making under stress. To enable high quality neural data and access more brain regions at once, we are interested in developing better scalp-based and inside-the-brain sensors for reading and manipulating neural activity. In this talk I will outline the broad goals of the lab and then zoom in on the brain recording technologies we have/ would like to have.

Bio:

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Dr. Arjun Ramakrishnan is an assistant professor in Biological Sciences and Bioengineering and the Mehta Family Centre for Engineering in Medicine at the Indian Institute of Technology, Kanpur. He is a DBT-Wellcome Trust India Alliance Fellow and the Brain and Behavior Research Foundation's NARSAD Young Investigator. He co-founded Cogwear Technologies, a neurotechnology startup that makes use of custom-made, flexible, dry nanowire-based sensors to gather EEG signals; these signals are used to train machine learning algorithms to measure and trend changes in anxiety. He recently co-founded Eywa Neuro, a startup that develops surface and deep brain neural probes for recording and stimulating brain activity. Arjun holds a PhD in Neuroscience from the National Brain Research Centre and a BE in Telecommunications from BMS College of Engineering. He trained as a postdoctoral fellow at Duke University and the University of Pennsylvania.

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