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Invitation to Seminar on "EEG in Neuroscience" by Dr. Debashis Das Chakladar

BSBE Outreach <bsbe_seminar@iiti.ac.in>

Mon, Nov 11, 2024 at 10:10 AM

To: Allstudent <allstudent@iiti.ac.in>, allfaculty <allfaculty@iiti.ac.in>, All Scientists at IITI <allscientists@iiti.ac.in>

Cc: BSBE OFFICE <bsbe_office@iiti.ac.in>, phdbsbe <phdbsbe@iiti.ac.in>, "2023 M.Sc. Biotech" <2023msc-biotech@iiti.ac.in>, "2024 M.Sc. Biotech" <2024msc-biotech@iiti.ac.in>, "2023 M.Tech. BME" <2023mtech-bme@iiti.ac.in>, "2024 M.Tech. BME" <2024mtech-bme@iiti.ac.in>

Dear Colleagues,

We are pleased to invite you to an upcoming seminar organized by the Department of Biosciences and Biomedical Engineering.


Dr. Debashis Das Chakladar, an excellent postdoctoral researcher from the Machine Learning Group at Luleå University of Technology, Sweden, will deliver a talk titled:

"EEG in Neuroscience: Cognitive Load, Face Perception, and Brain Disorder Analysis"


Details:

Venue: [POD 1D, Room 105](#)Date: [November 20, 2024](#)Time: [10:30 AM](#)

The session will cover innovative approaches in EEG-based research, including cognitive load analysis, face perception, and insights into brain disorder connectivity patterns. Further, this seminar offers a unique opportunity to delve into the intersections of neuroscience and machine learning.



Department of Biosciences and Biomedical Engineering
Indian Institute of Technology Indore
Cordially Invites you all for a seminar presentation
 on:
'EEG in Neuroscience: Cognitive Load, Face Perception, and Brain disorder analysis'



Speaker:
 Dr. Debashis Das Chakladar
 Excellent Postdoc Researcher
 (Machine Learning Group)
 Luleå University of Technology
 971 87 Luleå, Sweden

Venue: [POD 1D, Room 105](#)
Date: [November 20, 2024](#)
Time: [10:30 AM](#)

This talk presents a neuroscientific approach to estimating cognitive workload, analyzing face perception, and examining brain disorders, using electroencephalography (EEG) and brain connectivity methods. The talk is divided into three parts. The first part focuses on classifying workload levels with deep learning techniques. Additionally, scalp-level brain connectivity analysis has been performed on various cognitive events to understand how different brain regions interact during these processes, in both functional and effective ways. The second part examines effective connectivity patterns among brain regions as participants view different face stimuli (famous, unfamiliar, and scrambled faces). Connectivity strength between active brain regions for different stimuli highlights the information flow within connected brain regions. In the third part, insights into brain disorder analysis are shared. The last work presents the brain network similarities in Attention Deficit Hyperactivity Disorder (ADHD) individuals of different age groups during cognitive events. It also highlighted how the similarity score is related to attention level variation—a key factor in ADHD. By analyzing cognitive workload levels and brain connectivity patterns, the presented research studies deepen our understanding of how brain regions interact during cognitive and perceptual tasks. In addition to presenting these findings, this talk opens avenues for research collaboration and potential guidance for students interested in neuroscience and cognitive studies. The outcome of this session aims to foster knowledge-sharing and inspire new projects, enhancing both academic and practical contributions to neuroscience research.

Please find the attached flyer for more details about Dr. Chakladar's talk. We look forward to your participation.

Best regards,
Seminar Committee
Department of Biosciences and Biomedical Engineering
Indian Institute of Technology Indore