

Main Conference Symposia on 13 December 2024

The Symposium on Advanced Methods in Computational Social Neuroscience

Chair: Italo Ivo Lima Dias Pinto, University of California, Irvine, USA

Location: Kx Building (10th floor) - Conference Room X04

Date: 13 December 2024

Time: 1:00 PM - 1:45 PM

Local Chair: Thitaporn Chaisilprungraung, Neuroscience Center for Research and Innovation, KMUTT, Thailand

1:00 PM - 1:15 PM - Paper Presentation

B240: Symbolic Dynamics of Brain Networks during Hyperscanning to Investigate Coordination of Behavior

Author(s): Italo Ivo Lima Dias Pinto, Zhibin Zhou, Ramesh Srinivasan

Institution(s): University of California, Irvine, USA

1:15 PM - 1:30 PM - Paper Presentation

B262: Developing a Multi-Site Hyperscanning Procedure for Investigating Interbrain Synchrony Underlying Remote Social Interaction

Author(s): Sirapakit Limtragooltongchai, Kawin Yamtuan, Javier Gracia, Chaipat Chunharas, Ramesh Srinivasan, Thitaporn Chaisilprungraung, Sirawaj Itthipuripat

Institution(s): King Mongkut's University of Technology Thonburi, Thailand; DEVCOM Army Research Laboratory, USA; King Chulalongkorn Memorial Hospital, Thailand; University of California, Irvine, USA

1:30 PM - 1:45 PM - Paper Presentation

B261: A Near-Infrared Hyperscan Study of the Effects of Mechanical Massage Combined with Mindfulness on functional brain connectivity and mental health

Author(s): Yuqi Sun, Ke Hu, Shiqi Liao, Ke Jiang

Institution(s): Wenzhou Medical University, China; Wenzhou No.7 People's Hospital, China

Note: each paper presentation includes 12-min talk + 3-min Q&A

The Symposium on Computational and Informatics Frameworks for Studying Cognitive Functions and Neurodegeneration

Chairs: Narun Pat, University of Otago, New Zealand & Daniel Thayer, University of California, Santa Barbara, USA

Location: Kx Building (10th floor) - Conference Room X04

Date: 13 December 2024

Time: 2:00 PM - 5:00 PM

Local Chairs: Duanghathai Wiwatratana, Neuroscience Center for Research and Innovation, KMUTT, Thailand & Sittiprapa Isarangura, Mahidol University, Thailand

Schedule:

2:00 PM - 2:15 PM - Paper Presentation

B255: Neural feature dimension maps within human visual cortex support attention and working memory

Author(s): Daniel Thayer, Alison Li, Emily Machniak, Thomas Sprague

Institution(s): University of California, Santa Barbara, USA

2:15 PM - 2:30 PM - Paper Presentation

B281: EEG-based reconstruction models for measuring attention deficits in mild cognitive impairment

Author(s): Kanyarat Benjasupawan, Panchalee Sookprao, Kitnipat Boonyadhammakul, Arp-Arpa Kasemsantitham, Itthi Chatnuntaweck, Kanda Lertladaluck, Chaipat Chunharas, Sirawaj Itthipuripat

Institution(s): King Mongkut's University of Technology Thonburi, Bangkok, Thailand; King Chulalongkorn Memorial Hospital, Thailand; National Nanotechnology Center, Thailand

2:30 PM - 2:45 PM - Paper Presentation

B251: Auditory construction of Music Cognition: An understanding of therapeutic implications in Parkinson's disease through Diffusion Tensor Imaging

Author(s): Poulami Kar

Institution(s): University of Allahabad, India

2:45 PM - 3:00 PM - Paper Presentation

B237: BRAINEX: A Systematic Framework for CNN Models Evaluation and XAI Methods Comparison in Brain Age Prediction

Author(s): Giuseppe Fasano, Maria Luigia Natalia De Bonis, Angela Lombardi, Carmelo Antonio Ardito, Eugenio Di Sciascio, Tommaso Di Noia

Institution(s): Polytechnic University of Bari, Italy; LUM University of Casamassima, Italy

3:00 PM - 3:15 PM - Paper Presentation (online)

B271: Neurodegenerative disorders detection and classification using Resnet-SVM

Author(s): Shikhar Raghuvanshi, Amutha S, Niha Kamal Basha, Mufti Mahmud

Institution(s): Vellore Institute of Technology, India; King Fahd University of Petroleum and Minerals, Saudi Arabia

3:15 PM - 3:30 PM: Coffee Break

3:30 PM - 3:45 PM - Paper Presentation

B266: From Alzheimer's Disease to Frontotemporal Dementia: Transfer Learning in EEG-based Diagnosis of Dementia

Author(s): Jaymar Soriano, Paulino Salmon

Institution(s): University of the Philippines, Philippines

3:45 PM - 4:00 PM - Paper Presentation

B228: Brain age has limited utility as a biomarker for capturing fluid cognition in older individuals

Author(s): Narun Pat, Alina Teterova

Institution(s): University of Otago, New Zealand

4:00 PM - 4:15 PM - Paper Presentation

B238: Biophysical Modeling of Alzheimer's Disease Progression

Author(s): Robin Sandell, Justin Torok, Daren Ma, Ashish Raj

Institution(s): University of California, San Francisco, USA

4:15 PM - 4:30 PM - Paper Presentation (online)

B227: Higher-order Adaptive Dynamical System Modeling for the Role of Environmental Neurotoxic Pesticide Paraquat on the Epigenetics of Neurodegeneration in N27 Dopaminergic Cells

Author(s): Bana al Khayrat, Jan Treur

Institution(s): Vrije Universiteit Amsterdam, Netherlands

4:30 PM - 4:45 PM - Paper Presentation (online)

B229: Explainable GRU with Hybrid Attention and Memory-Augmented Network (xGRAM) for Cell Types Classification in Alzheimer's Disease Using Single-Nucleus Transcriptomics

Author(s): Mejbah Ahammad, Ashraful Babu, Mortuza Ahmmed, Mostafizur Rahman, Mufti Mahmud

Institution(s): Independent University, Bangladesh., Bangladesh; American International University - Bangladesh (AIUB), Bangladesh; King Fahd University of Petroleum and Minerals, Saudi Arabia

4:45 PM - 5:00 PM - Paper Presentation

B241: Identification and Evaluation of Multimodal Connectomics in Early Alzheimer's Dementia

Author(s): Yu Chen, Yingwei Fan, Xiaoying Tang, Jian Zhang, Tianyi Yan, Jinglong Wu,

Institution(s): Beijing Institute of Technology, Beijing, China

Note: each paper presentation includes 12-min talk + 3-min Q&A

Main Conference Symposia on 14 December 2024

The Symposium on Cognitive and Computational Approaches to Advancing Mental Health Research

Chairs: Mufti Mahmud, King Fahd University of Petroleum and Minerals, Saudi Arabia & Narun Pat, University of Otago, New Zealand

Location: Kx Building (11th floor) - Conference Room X11.2

Date: 14 December 2024

Time: 1:00 PM - 4:30 PM

Local Chair: Thitaporn Chaisilprungraung, Neuroscience Center for Research and Innovation, KMUTT, Thailand

1:00 PM - 1:15 PM - Paper Presentation (online)

B265: A dopaminergic basis of behavioral control

Author(s): Ian Ballard, Daniella Furman, Anne Berry, Robert White III, William Jagust, Andrew Kayser, Mark D'Esposito

Institution(s): University of California, Riverside, USA; University of California, San Francisco, USA; Brandeis University, USA; Washington University in St Louis, USA; University of California, Berkeley, USA

1:15 PM - 1:30 PM - Paper Presentation (online)

B272: The Role of Executive Functions in Emotional Coregulation: Insights from an Adaptive Network Model

Author(s): Ethel Pruss, Nancy Fortin, Jan Treur, Sander Koole

Institution(s): Vrije Universiteit Amsterdam, Netherlands; University of North Carolina, USA

1:30 PM - 1:45 PM - Paper Presentation (online)

B206: Multiscale Temporal-convolution and Attention improved Neural Network for biased mental state recognition

Author(s): Guoyu Zuo, Erjun Xiao, Tielin Zhang

Institution(s): Beijing University of Technology, China; Chinese Academy of Sciences, China

1:45 PM - 2:00 PM - Paper Presentation (online)

B235: Predicting trait alexithymia using graph neural networks

Author(s): Kin Hei Lee, Weiwei Peng, Wutao Lou

Institution(s): The Chinese University of Hong Kong, China; School of Psychology, Shenzhen University, China; Department of Biomedical Engineering, The Chinese University of Hong Kong, China

2:00 PM - 2:15 PM - Paper Presentation (online)

B233: Advancing Mental Health Problems with Machine Learning and Genetic Algorithms for Anxiety Classification in Bangladeshi University Students

Author(s): Shahriar Siddique Ayon, Muhammad Ebrahim Hossain, Md Saef Ullah Miah, M. Mostafizur Rahman, Mufti Mahmud

Institution(s): American International University-Bangladesh, Bangladesh; King Fahd University of Petroleum and Minerals, Saudi Arabia

2:15 PM - 2:30 PM - Paper Presentation (online)

B252: Empirical insights into the value of a novel compositional data approach for analyzing bipolar Likert scale data

Author(s): René Lehmann Bodo Vogt

Institution(s): Otto von Guericke University Magdeburg, Germany

2:30 PM - 2:45 PM: Coffee Break

2:45 PM - 3:00 PM - Paper Presentation

B211: Neurocomputational Modelling of EEG Connectivity: Links Between Depression, Inflammation and Gut Microbiome

Author(s): Zohreh Dobarjeh, Daniel Lavin, Kirsty Hunter, Nadja Heym, Bryony Heasman, Maryam Dobarjeh, Nikola Kasabov, Glen Gibson, Alexander Sumich

Institution(s): Auckland University of Technology, New Zealand; The University of Auckland, New Zealand; Nottingham Trent University, UK; The University of Reading, UK

3:00 PM - 3:15 PM - Paper Presentation

B202: Design of an Iterative Method for Integrating Multi-Omic Data and Clinical Insights in Brain Disease Research

Author(s): Aditi Durge, Deepti Shrimankar, Sony Ahuja

Institution(s): Visvesvaraya National Institute of Technology, India

3:15 PM - 3:30 PM - Paper Presentation

B257: Hippocampal Transcriptomic Signature in Schizophrenia: An Index for Dysregulated Inflammatory Immune response

Author(s): Dipayan Roy

Institution(s): All India Institute of Medical Sciences (AIIMS), India

3:30 PM - 3:45 PM - Paper Presentation (online)

B245: Comparison of haloperidol- versus phenazepam-induced anxiolytic effect on rodent behavior

Author(s): Mark Makarov, Alexandr Andreev, Danila Apushkin, Yuri Sysoev, Veronika Prikhodko, Sergey Okovityi, Eduard Korkotian

Institution(s): University of Campania "Luigi Vanvitelli", Italy; Faculty of Chemistry, Perm State University, Russian Federation; Saint Petersburg State Chemical and Pharmaceutical University, Russian Federation; The Weizmann Institute of Science, Israel

3:45 PM - 4:00 PM - Paper Presentation

B210: Sleep Apnea detection from single-lead ECG signal using hybrid deep CNN

Author(s): Duc Thien Pham and Roman Mouček

Institution(s): University of West Bohemia, Czech Republic

4:00 PM - 4:15 PM - Paper Presentation (online)

B223: The Dynamics of Epigenetic Influence in Insomnia: A Higher-Order Adaptive Modeling Perspective

Author(s): Sarah Hassouna, Sophie C.F. Hendrikse, and Jan Treur

Institution(s): Vrije Universiteit Amsterdam, Netherlands; Tilburg University, Netherlands

4:15 PM - 4:30 PM - Paper Presentation

B208: Topological and Graph Theoretical Analysis of Dynamic Functional Connectivity for Autism Spectrum Disorder

Author(s): Yuzhe Chen, Dayu Qin, and Ercan Engin Kuruoglu

Institution(s): Tsinghua University, China

Note: each paper presentation includes 12-min talk + 3-min Q&A

The Symposium on Cognitive and Computational Foundations of Visual Cognition

Chair: Kejkaew Thanasuan, Media Technology Program and Neuroscience Center for Research and Innovation, KMUTT, Thailand

Location: Kx Building (11th floor) - Conference Room X11.3

Date: 14 December 2024

Time: 1:00 PM - 2:15 PM

Local Chair: Kanda Lertladaluck, Neuroscience Center for Research and Innovation, KMUTT, Thailand

1:00 PM - 1:15 PM - Paper Presentation (online)

B267: Unveiling the Role of Memory in Shaping Visual Perception: Empirical Insights

Author(s): Amrita Mukherjee, Avijit Paul, Ratan Kumar Saha, Kuntal Ghosh

Institution(s): IIT Allahabad, India; Tufts University, USA; ISI Kolkata, India

1:15 PM - 1:30 PM - Paper Presentation (online)

B263: Effect of temporal correlation on motion direction flips in bistable stimuli

Author(s): Tsvetalin Totev, Nadejda Bocheva, Kalina Racheva

Institution(s): Bulgarian Academy of Sciences, Bulgaria

1:30 PM - 1:45 PM - Paper Presentation

B258: The Impact of Disfluent Fonts on Natural Paragraph Reading: An Eye-Tracking Study

Author(s): Syeda Tahiyah, Namon Nugoolsuksiri, Thitaporn Chaisilprungraung, Kejkaew Thanasuan

Institution(s): University of Toronto, Canada; King Mongkut's University of Technology Thonburi, Thailand

1:45 PM - 2:00 PM - Paper Presentation (online)

B268: Replication of the Hermann Grid Illusion By U-Net Deep Learning Architecture Performing Deblurring: A Low-level Visual Task

Author(s): Avijit Paul, Amrita Mukherjee, Kuntal Ghosh

Institution(s): Tufts University, USA; IIT Allahabad, India; ISI Kolkata, India

2:00 PM - 2:15 PM - Paper Presentation

B242: When Sexy Avatars Get Weird: How Brain Asymmetry and Oculomotor Dynamics Navigate the Uncanny

Author(s): Mathieu Brideau-Duquette, Sara Saint-Pierre Côté, Philippe Charbonneau, Patrice Renaud

Institution(s): Université du Québec en Outaouais, Canada; École de technologie supérieure, Canada; Institut national de psychiatrie légale Philippe-Pinel, Canada

Note: each paper presentation includes 12-min talk + 3-min Q&A

Main Conference Symposia on 15 December 2024

The Symposium on Brain Big Data Analytics, Curation and Management

Chairs: Liya Ding, University of Chicago, USA & Carlos Enrique Gutierrez, Okinawa Institute of Science and Technology, Japan

Location: Kx Building (11th floor) - Conference Room X11.7

Date: 15 December 2024

Time: 10:00 AM - 2:00 PM

Local Chairs: Itthi Chatnuntaweck, National Center of Nanotechnology & Kanda Lertladaluck, Neuroscience Center for Research and Innovation, KMUTT, Thailand

10:00 AM - 10:15 AM - Paper Presentation (online)

B274: SmartStitcher: A Terabyte-level 3D Microscopic Image Stitching Tool Based on Mixed-Max-Resolution

Author(s): Yabo Li, Xiaoli Qi, Liya Ding

Institution(s): Southeast University, China; Cold spring harbor laboratory, USA

10:15 AM - 10:30 AM - Paper Presentation

B215: Deep Learning Methods to Evaluate the Quality of Skull-Stripped Brain MRI Images

Author(s): Li Luo, Rishikesh Phatangare, James Wang, Kenneth Vaden, Mark Eckert

Institution(s): Clemson University, USA; Medical University of South Carolina, USA; Columbia University, USA

10:30 AM - 10:45 AM - Paper Presentation (online)

B256: Feature Reduction and Machine Learning Analysis of Resting-State fMRI for Biomarker Identification in Post-Traumatic Epilepsy

Author(s): Alan Ho, Henry Noren, Pratik Jain, Spencer Chen, Hai Sun, Bharat Biswal

Institution(s): University of Miami Miller School of Medicine, USA; Robert Wood Johnson Medical School, USA; New Jersey Institute of Technology, USA

10:45 AM - 11:00 AM - Paper Presentation

B214: Gossamer: Scaling Image Processing and Reconstruction to Whole Brains

Author(s): Karl Marrett, Keivan Moradi, Chang Sin Park, Ming Yan, Chris Choi, Muye Zhu,

Masood Akram, Sumit Nanda, Qing Xue, Hyun-Seung Mun, Adriana E. Gutierrez, Mitchell

Rudd, Brian Zingg, Gabrielle Magat, Kathleen Wijaya, Hongwei Dong, X. William Yang, Jason

Cong

Institution(s): University of California, Los Angeles, USA

11:00 AM - 11:15 AM - Paper Presentation

B221: A Computational Model for Estimating NMDA Properties from Local Field Potential Spectra

Author(s): Gabriele Mancini, Pablo Martínez-Cañada, and Stefano Panzeri

Institution(s): University Medical Center Hamburg-Eppendorf, Germany; University of Granada, Spain

11:15 AM - 11:30 AM - Paper Presentation

B207: Multimodal Physiological Signal Analysis using Attention-Based Feature and Model Fusion

Author(s): Wei Liu, Kebin Jia, Jinchao Feng, Xiaohu Zhao, and Zhonghua Sun

Institution(s): Beijing University of Technology, China

11:30 AM - 11:45 AM - Paper Presentation

B277: Towards an AI-Powered Platform for the Digital Brain in Brain/MINDS 2.0

Author(s): Carlos Enrique Gutierrez, Gaganpreet Singh Jhajj, Henrik Skibbe, Kenji Doya

Institution(s): Okinawa Institute of Science and Technology Graduate University, Japan;

Athabasca University, Canada; RIKEN Institute, Japan

12:00 PM - 1:00 PM: Lunch Break

1:00 PM - 1:15 PM - Paper Presentation

B232: EEG Biomarkers based on Microstates and RQA

Author(s): Włodzisław Duch, Krzysztof Tołpa, Łukasz Furman, Ewa Ratajczak

Institution(s): Nicolaus Copernicus University, Poland

1:15 PM - 1:30 PM - Paper Presentation

B219: Topological Inference for Seizure Lateralization

Author(s): Jian Yin, Duc Anh Doan, Sofia Kollia, Andrew Yang, Pavan Turaga, Yuan Wang

Institution(s): City University of Hong Kong, China; National and Kapodistrian University of Athens, Greece; Barrow Neurological Institute, USA; Arizona State University, USA; University of South Carolina, USA

1:30 PM - 1:45 PM - Paper Presentation

B226: A Visualization and Computation Platform for the 3D Stereotaxic Mouse Brain Atlas with Single-cell Resolution

Author(s): Zhao Feng, Xueyan Jia

Institution(s): Hainan University, China; HUST-Suzhou Institute for Brainsmatics, China

1:45 PM - 2:00 PM - Paper Presentation (online)

B230: Evaluating Feature Importance in the Context of Simulation-Based Inference for Cortical Circuit Parameter Estimation

Author(s): Alessandro Sandron, Alejandro Orozco Valero, Juan Miguel García, Gabriele Macini, Francisco Pelayo, Christian Morillas, Stefano Panzeri, Pablo Martínez-Cañada

Institution(s): University of Padua, Italy; University of Granada, Spain; Istituto Italiano di Tecnologia, Italy; University of Granada, Spain; University Medical Center Hamburg-Eppendorf, Germany

Note: each paper presentation includes 12-min talk + 3-min Q&A

The Symposium on Brain-Computer Intelligence and Brain-Inspired Computing

Chair: Thitaporn Chaisilprungraung, Neuroscience Center for Research and Innovation, KMUTT, Thailand

Location: Kx Building (11th floor) - Conference Room X11.3

Date: 15 December 2024

Time: 10:30 AM - 12:00 PM

Local Chair: Kejkaew Thanasuan, Media Technology Program and Neuroscience Center for Research and Innovation, KMUTT, Thailand

10:30 PM - 10:45 PM - Paper Presentation

B234: "Evaluating the Potential of Low-Cost BCI Devices for Online Classification of Four-Class Motor Imagery States"

Author(s): Suparach Intarasopa, Bawornsak Sakulkueakulsuk, Thitaporn Chaisilprungraung
Institution(s): King Mongkut's University of Technology, Thailand

10:45 AM - 11:00 AM - Paper Presentation (online)

B209: Artificial Intelligence and Cognitive Neuroscience: An Integrative Review of Literature

Author(s): Minal Rehan, Irfan Butt, Iman Shamraiz, Mahnoor Butt
Institution(s): Beaconhouse School System Margalla Campus, Pakistan; Toronto Metropolitan University, Canada; University of Ottawa, Canada

11:00 AM - 11:15 AM - Paper Presentation

B218: Modelleyen: Continual Learning and Planning via Structured Modelling of Environment Dynamics

Author(s): Zeki Doruk Erden, Boi Faltings
Institution(s): Ecole Polytechnique Federale de Lausanne, Switzerland

11:15 AM - 11:30 AM - Paper Presentation (online)

B239: Gradient Ascent Activity-based Credit Assignment with History-dependent Reward

Author(s): Oussama Sabri, Luc Lehéricy, Alexandre Muzy
Institution(s): University Medical Center Hamburg-Eppendorf, Germany; Université Côte d'Azur, France; Université Côte d'Azur, France

11:30 AM - 11:45 AM - Paper Presentation

B264: A Novel Class Incremental Learning Method via Multi-granularity Balance Inspired by Human Granular Cognition Mechanism

Author(s): Yan Xian, Hong Yu, Ye Wang, Guoyin Wang
Institution(s): Chongqing University of Posts and Telecommunications, China; Chongqing Normal University, China

11:45 AM - 12:00 PM - Paper Presentation

B246: Evaluating Inductive Reasoning of Large Language Models: A Cognitive Psychology Approach Using Number Series Completion

Author(s): Yulong Gao, Ning Zhong, Peipeng Liang

Institution(s): Capital Normal University, China; Maebashi Institute of Technology Maebashi, Japan

Note: each paper presentation includes 12-min talk + 3-min Q&A
