2024
NEW Conference
Agenda

Welcome to the Second Annual

Neuroscience of the Everyday World Conference 2024

Hosted by Boston University and Co-Hosted by Chen Institute

August 26th-27th, 2024
Boston University, Computing and Data Science Building,
665 Commonwealth Avenue, on the 17th floor.

The Neuroscience of the Everyday World Conference is pioneering real-world brain insights by bringing together researchers focused on the study of human brain function and continuous brain measurement in real-world activities.

CHEN INSTITUTE TIANQIAO & CHRISSY

BU Center for Brain Recovery

BU Neurophotonics Center

BU Rafik B. Hariri Institute for Computing and Computational Science & Engineering

Day 1: August 26th

8:00am-8:30am *Welcome Breakfast*

8:45am-9:45am *Keynote*

Deep learning as a cognitive model for human behavior in the real world

Uri Hasson
Princeton University

9:45am-10:00am *Break*

10:00am-12:00pm

Symposium 1: Neuroscience of Everyday Life Activities and Disorders. *Q&A and general discussion to follow.*

10:00-10:30am

Baby steps to deciphering the neural basis of walking

Julia Kline
National Institutes of Health, Clinical Center

10:30-11:00am

Advancing the neuroscience of post-stroke walking using task-based functional brain connectivity

Regina Sloutsky
Boston University Neurophotonics Center

11:00-11:30am

Ethological neurobehavioral investigations in obsessive-compulsive disorder

Nicole Provenza
Baylor College of Medicine

12:00pm-12:30pm *Lunch and Networking*

12:30pm-2:00pm *Posters and Networking*

Odd numbered posters will be presenting, others will be available to view. Poster details available on the following pages.

2:00pm-4:00pm

Symposium 2: Real-World Applications and Technologies in Neuroscience. *Q&A and general discussion to follow.*

2:00-2:30pm

Mapping lived experience: precision human neuroscience in the wild

Justin Baker
McLean Institute for Technology, McLean Hospital, Harvard Medical School

2:30-3:00pm

Everyday neuroscience and functional near-infrared spectroscopy

João Sato
Federal University of ABC region

3:00-3:30pm

Everyday use of an EEG-based brain-computer interface

Theresa Vaughan
National Center for Adaptive Neurotechnologies (NCAN), Stratton VA Medical Center

4:00pm-4:15pm *Break*

4:15pm-5:30pm *Neurotechnology Panel*

Veera Anantha
Constant Therapy

Ryan Field
Kernel

Ro'ee Gilron
Rune Labs

5:30pm-6:30pm *Reception and Poster Viewing*

Day 2: August 27th

8:00am-8:30am *Welcome Breakfast*

8:45am-9:45am *Keynote*

Unraveling memories on the go: insights from mobile intracranial recordings in humans

Nanthia Suthana
University of California, Los Angeles

9:45am-10:00am *Break*

10:00am-12:00pm

Symposium 3: Social, Cognitive, and Psychological Aspects of Neuroscience. *Q&A and general discussion to follow*

10:00-10:30am

This is your brain: on movies, nothing and...

Joseph Culver
Washington University

10:30-11:00am

From multi-brain neuroscience to inter-personalized psychiatry and social neuro-AI

Guillaume Dumas
University of Montreal, CHU Sainte-Justine Azrieli Research Center, Mila — Quebec AI Institut

11:00-11:30am

Attention and stress with everyday use of digital devices

Gloria Mark
University of California, Irvine

12:00pm-12:30pm *Lunch and Networking*

12:30pm-2:00pm *Posters and Networking*

Authors of even numbered posters will be presenting their abstracts and our industry partners will present posters about their work.

beiwe
beiwe.org

Fundamental Optical Solutions
fundamentalopticalsolutions.com

NIRX
nirx.net

Verisense
verisense.net

2:00pm-4:00pm

Oral presentations of selected abstracts (Presenter, Poster Number). *Q&A and general discussion to follow.*

- Nicholas G. Cicero, 35
- Sein Jeung, 17
- Lara J. Papin, 7
- John McLinden, 10
- Kevin L. Ramirez-Chavez, 32
- Emily Waskow, 40
- Dalin Yang, 26

4:00pm-5:00pm

Student led wrap-up

5:00pm

Closing remarks: Swathi Kiran, David Boas, Matthias Stangl

5:10pm

Optional Lab Tours

Posters

Authors of odd numbered posters present on day one and even numbered posters present on day two. List continued on the following pages.

1. A computational platform for visuospatial assessment.
Woo Zong Han, Zikun Wang, Alicja Mahr, Derek Roberts, Kiran Jagaroo, Daniel Oh, and Vinoth Jagaroo

2. Assessment of verbal short-term memory in children with Down syndrome using mobile fnirs.
Candida Barreto, Zuhal Ormanoglu, Kelsey Csumitta, Altona Tufanoglu, Adrian Curtin, Yigit Topoglu, Rebecca LaQuaglia, Hannah Grosman, Meghan O'Brien, Jessica McNulty, Jamie Edgin, Nancy Raitano Lee, Hasan Ayaz

3. Assessing brain hemodynamic responses of children with autism during dynamic and complex social stimuli.
Candida Barreto, Adrian Curtin, Yigit Topoglu, Jessica Day-Watkins, Brigid Garvin, Grant Foster, Zuhal Ormanoglu, Elisabeth Sheridan, James Connell, David Bennett, Karen Heffler, Hasan Ayaz

4. Assessing whether personally otivated interests elicit different neural activation patterns in autistic and neurotypical young children.
John S. Wilson III, Alyssa Daniels, Meredith Pecukonis, Helen Tager-Flusberg

5. Brain correlates of autistic echolalia: a naturalistic fNIRS study.
Pauline Maes, Helen Tager-Flusberg

6. Brain oxygenation after repetitive head impacts in Para sports.
I. Helmich, Y.Y. Chang, R. Gemmerich, L. Rodrigo, J. Funken, K.M. Arun, P. Van de Vliet

7. Brainwaves on the line: investigating cognitive-motor interference during slacklining using mobile EEG.
Lara J. Papin, Manik Esche, Joanna E.M. Scanlon, Nadine S.J. Jacobsen, Stefan Debener

8. Cedalion: a Python-based framework for data driven analysis of multimodal fNIRS & DOT in the everyday world.
Eike Middell, Laura Carlton, Thomas Fischer, Masha Iudina, Nils Harmening, Meryem A. Yücel, David A. Boas, Alexander von Lühmann

9. Disconnecting early: reduced prefrontal connectivity between children and caretakers in ASD.
Adrian Curtin, Yigit Topoglu, Jessica Day-Watkins, Brigid Garvin, Elisabeth Sheridan, James Connell, David Bennett, Karen Heffler, Hasan Ayaz

10. EEG-fNIRS causal interactions during auditory processing.
John McLinden, Pankaj Pandey, Alex Cerullo, Mascha van 't Wout-Frank, Kevin M. Spencer, Yalda Shahriari

11. EEG in the wild: guidelines for experiments in everyday environments.
Layla Kouara, Amy Bland, Yuri Pavlov, Rebecca Henderson, Jorge Bosch-Bayard, Lisa Henderson, Ioannis Delis, Jasper Van Den Bosch, Dominik Welke, Mahnaz Arvaneh, Giuseppe Chiarenza, Michael John Jenkins, Susanne Dikker, Min Li, Faisal Mushtaq

12. Electrophysiological investigation of active-assisted vs. recumbent cycling: a case series in adults with Parkinson's disease.
Alex Seng, Michelle Lim, Raphael Dias, Vanessa Harwood, Alisa Baron, Nicole E. Logan, Christine M. Clarkin, Christie L. Ward-Ritacco

13. Examining white matter organization in relation to language skills in children with autism.
Marie Murray, Juliana Ronderos, Jennifer Zuk

14. Feasibility and reliability of online vs in-person cognitive testing in healthy older people.
Sol Morrissey, Rachel Gillings, Michael Hornberger

15. fNIRS-based hyperscanning to investigate inter-brain synchronization in communication-based language therapy for aphasia.
Yiwen Zhang, Xingxiao Li, Meryem Yücel, Swathi Kiran, David A Boas

16. fNIRS to evaluate brain function during interaction and Walking in natural environments.
Erin Carpenter, Erie Shivers, Yashvi Grover, Danielle Rich, Grace Magee, Shannon Kelley, Laura Carlton, Swathi Kiran, David Boas

17. Hexadirectional modulation of high-frequency power of human scalp electrophysiology signal.
Sein Jeung, Christian F. Doeller, Klaus Gramann

18. High-density SCOS for human brain function measurements.
Byungchan Kim, Alexander C. Howard, Tom Y. Cheng, Bernhard Zimmerman, Mitchell Robinson, Marco Renna, Maria Angela Franceschini, Stefan Carp, David A. Boas, Xiaojun Cheng

19. HyperCONNecT: a toolbox for EEG hyperconnectivity analyses.
Pradyumna Lanka, Zhenghan Qi

20. Improving memory consolidation via neurofeedback-based theta upregulation.
Yeshi Dolma, Emily Waskow, Anthony Goñez, Renée DeCaro, Andrew Budson

21. Investigating environmental characteristics driving mobile EEG measures of everyday life auditory perception.
Thorge Haupt, Martin G. Bleichne

22. Investigating neural correlates of motor speech sequencing in adults who stutter and neurotypical controls.
Jackie S. Kim, Haochen Wan, Jason Tourville, Barbara Holland, Alfonso Nieto-Castañón, Frank H. Guenther

23. Investigating reduced consciousness in Alzheimer's disease: a perturbation complexity index analysis of state transition brain responses to transcranial magnetic stimulation.
Brenna Hagan, Stephanie S. Buss, Peter J. Fried, Moushin M. Shafi, Katherine W. Turk, Recep A. Ozdemir, Andrew E. Budson

24. Investigating the relationship between impaired somatosensation, cognitive load and postural sway; implications for people with Multiple Sclerosis.
Katelyn Pickunka, Stephanie Jones

25. Language and emotion processing dynamics in post-stroke aphasia: continuous and holistic valence ratings of naturalistic movie-viewing.
Bryce Gillis, Manuel Jose Marte, Colin Galvin, Laura Rigolo, Yanmei Tie, Swathi Kiran, Einat Liebenthal

26. Measuring cortical activity during motor imitation and observation in autistic and non-autistic adults and children.
Dalin Yang, Tessa G. George, Chloe M. Sobolewski, Sophia R. McMorrow, Sung Min Park, Mary Beth Nebel, Bahar Tuncgenc, Rene Vidal, Natasha M. Marrus, Stewart H. Mostofsky, Adam T. Eggebrecht

27. Navigating neuroergonomics: comparing cognition during real-world and virtual reality treadmill navigation.
Adrian Curtin, Kevin L. Ramirez-Chavez, Yigit Topoglu, Saqer Alshehri, Branden Perry, Felix Maldonado Osorio, Nick Jushchyshyn, Rajneesh Suri, Hasan Ayaz

28. Neural correlates of mental time travel in Alzheimer's disease.
Anthony Goñez, Emily Waskow, Yeshi Dolma, Renée DeCaro, Andrew Budson

29. Neural variability marks age-related differences during working memory subprocesses.
Douglas Hazel, Wen Wen, Shrey Grover, Peyton Berning, Frederik Baumgardt, Vighnesh Viswanathan, Olivia Tween, Robert M. G. Reinhart

30. Novel method for extraction of default mode network and dorsal attention network using fNIRS.
Laura Carlton, Samuel Montero, Yuanyuan Gao, Yiwen Zhang, David Beeler, David Somers, Meryem A. Yücel, David A. Boas

31. Prefrontal brain activity during single- and dual-task Walking in healthy adults and persons with Parkinson's disease with Subjective Cognitive Concerns.
Nishaat Mukadama, Rini I. Kaplana, Courtney Aula, Timothy Nordahlb, Nicole M. Eklundb, Meryem A. Yücelc, Terry D. Ellis, Alice Cronin-Golomb

32. Psycho-physiological responses in virtual and real environments: A multimodal neuroergonomics approach.
Kevin L. Ramirez-Chavez, Adrian Curtin, Yigit Topoglu, Saqer Alshehri, Nick Jushchyshyn, Rajneesh Suri, and Hasan Ayaz

33. Selective retroactive and proactive memory enhancement.
Seth Schallies, Chenyang (Leo) Lin, Wen Wen, Phillip Xin Cheng, Shrey Grover, Robert M. G. Reinhart

34. Simulation-based inference for tailored full-head fNIRS data generation.
Condell Eastmond, Suvranu De, Xavier Intes, Stefan T. Radev

35. Subcortical neuromodulation of arousal state transitions in the human brain.
Nicholas G. Cicero, Beverly Setzer, Daniel E. P. Gomez, Ewa Beldzik, Makaila Banks, Juan Eugenio Iglesias, Giorgio Bonmassar, Brian L. Edlow, Laura D. Lewis

36. Synchronizing neural rhythms in an aging and clinical population reduces working memory impairments.
Kush Patel, Wen Wen, Seth Schallies, Douglas Hazel, Iris Hall, Brenna Hagan, Katherine Turk, Andrew Budson, Robert Reinhart

37. Task-specific differences in prefrontal hemodynamic changes during verbal fluency performance: a preliminary fNIRS study in healthy adults.
Junyoung Shin, Yearee Kim, Se Jin Oh, Soeun Kim, Sang Beom Jun, Jee Eun Sung

38. Use of transitional spaces and cognition.
Iris Hall, Kush Patel, Myna Chadalavada, Renée E. DeCaro, Meltem Karaca, Brenna Hagan, Katherine W. Turk, Andrew E. Budson, Diana C. Anderson

39. Using fNIRS and movement analysis to understand everyday nonverbal behavior.
Sabrina von Au, Ingo Helmich, Hedda Lausberg

40. Wearable technologies for in-home cognitive assessment and event-related potential responses in Alzheimer's Disease.
Emily Waskow, Brenna Hagan, Renée DeCaro, Andrew Budson

Digital copies of posters are available for viewing at any time on the conference website.

More Information

The Neuroscience of the Everyday World Conference is pleased to be featuring 14 distinguished speakers and panelists from around the world. Their work is helping create opportunities for discussion and collaboration to further develop the field of Neuroscience of the Everyday World.

To read about our speakers, please scan the QR code above to visit the Neuroscience of the Everyday World website

NeuroscienceEverydayWorld.org/Conference-2024

Conference Chairs

David Boas, PhD.
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Swathi Kiran, PhD.
Center for Brain Recovery, BU

Matthias Stangl, PhD.
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Thank you for joining us at this years Neuroscience of the Everyday World Conference! We hope to see you again next year!