Human Brain Project

EBRAINS

YOUNG RESEARCHERS EVENT
EBRAINS - A DIGITAL EUROPEAN INFRASTRUCTURE
FOR NEXT-GENERATION BASIC & CLINICAL NEUROSCIENCE

16 May 2022
Copenhagen, Denmark & virtual

Scientific Programme

HYBRID EVENT

ABOUT THE EVENT

The human brain is a multi-level and highly complex system that produces, processes and transmits information in an incomparable manner. The Human Brain Project (HBP) unites researchers and scientists to decode the mechanisms underlying this unique system by investigating the human brain and its diseases with the help of highly advanced ICT tools. As such, the HBP is developing EBRAINS, the new European digital research infrastructure, as a lasting contribution to the global science community, an open source that allows scientists and technology experts to seamlessly collaborate, thereby accelerating advancements in the fields of neuroscience, computing and brain-related medicine. During this event participants can explore how EBRAINS supports the next generation of basic and clinical neuroscience. Topics like data sharing, brain atlasing, translational and computational neuroscience as well as neurorobotics will be delivered in interactive plenaries and hands-on workshops. The event also offers ample networking opportunities for participants to exchange with peers as well as renowned experts.

SCIENTIFIC CHAIR

Katrin Amunts │ Forschungszentrum Jülich/Heinrich-Heine-Universität Düsseldorf

PROGRAMME COMMITEE

Katrin Amunts │ Forschungszentrum Jülich/
Heinrich-Heine-Universität Düsseldorf, Germany
Caroline Ernoult │ EBRAINS, Belgium
Tabea Kirchner │ Forschungszentrum Jülich, Germany
Celia Kjærby │ University of Copenhagen, Denmark
Trine Lisberg Toft │ University of Copenhagen, Denmark
Gitte Moos Knudsen │ Copenhagen University Hospital, Denmark
Elias Najarro │ IT University of Copenhagen, Denmark
Paschal Ochang │ De Montfort University, United Kingdom
Nicolas C. Petersen │ University of Copenhagen, Denmark
Philippe Ryvlin │ Centre Hospitalier Vaudois, Switzerland

Further information:
humanbrainproject.eu/en/education/YRE2022-Denmark/

Contact:
yre@humanbrainproject.eu

In collaboration with

UNIVERSITY OF COPENHAGEN

REGION H

Rigshospitalet

Organised by

HP
Human Brain Project
Education Programme

MONDAY 16 MAY 2022

All plenary lectures take place in Henrik Dam Auditorium,
Maersk Tower, Blegdamsvej 3B, Copenhagen

09:00 – 09:10   **Welcome to the Event**
Katrin Amunts | Forschungszentrum Jülich,
Heinrich-Heine-Universität Düsseldorf
Celia Kjærby | University of Copenhagen
Trine Lisberg Toft | University of Copenhagen

09:10 – 09:30   **Introduction to HBP & EBRAINS**
Katrin Amunts | Forschungszentrum Jülich,
Heinrich-Heine-Universität Düsseldorf

09:30 - 10:15   **PLENARY SESSION I: The Human Brain Atlas & clinical applications**
Chair: Felix Beinlich (University of Copenhagen)
Using the atlas to analyse the brain
Sebastian Bludau | Forschungszentrum Jülich
Personalized brain modeling using the high-resolution atlas
Viktor Jirsa | Aix-Marseille University

10:15 - 10:45   **Coffee break**

10:45 - 11:45   **PLENARY SESSION II: Bridging basic & clinical neuroscience:
Learning and memory**
Chairs: Celia Kjærby & Trine Lisberg Toft (University of Copenhagen)
From basic to clinical neuroscience
Gitte Moos Knudsen | Copenhagen University Hospital
**Synaptic depotentiation and forgetting: understanding and manipulating
memory decay**
Andrea Moreno | Aarhus University
A clinical perspective on memory testing
Kasper Jørgensen | University Hospital Copenhagen

11:45 - 12:30   **PLENARY SESSION III: Data sharing**
Chair: Antonios Asiminas (University of Copenhagen)
Managing, sharing and publishing research data through EBRAINS
Jan Bjaalie & Maaike van Swieten | University of Oslo
EBRAINS "Twins": Actionable Multilevel Health Data
Petra Ritter | Charité University Medicine Berlin

12:30 - 13:30   **Lunch break**

13:30 - 14:15   **PLENARY SESSION IV: From neuron simulations to robotics**
Chair: Elias Najarro (IT University Copenhagen)
Computational neuroscience with EBRAINS
Andrew Davison | CNRS
From Computational Neuroscience to Autonomous Robotics and back
Silvia Tolu | Technical University of Denmark

MONDAY 16 MAY 2022

14:15 - 15:45   **PARALLEL HANDS-ON SESSIONS: (On-site only)**

- **Browsing reference atlases online**
  Xiao Gui & Sebastian Bludau | Forschungszentrum Jülich

- **Open discussion about data sharing: opportunities and challenges, rewards and pitfalls**
  Jan Bjaalie & Maaike van Swieten | University of Oslo

- **Using the PyNN library to build and simulate models on EBRAINS**
  Andrew Davison & Florent Bonnier | CNRS

- **Standardized computational workflows in EBRAINS**
  Sofia Karvounari & Eleni Mathioulaki | Athena Research and Innovation Center

15:45 - 16:15   **PLENARY SESSION V:**
Chair: Björn Sigurdsson (University of Copenhagen)
Algorithms and artificial intelligence in epilepsy and electroencephalography
Sándor Beniczky | Aarhus University Hospital

16:15 - 16:45   **Coffee Break**

16:45 - 17:15   **PLENARY SESSION VI:**
Chair: Claudia Bachmann (Forschungszentrum Jülich)
Developing a research career as an EBRAINS user
Jan Bjaalie | University of Oslo

17:15 - 17:30   **Closing**

17:30   **EBRAINS Community Reception - Networking event (On-site only)**

humanbrainproject.eu/education