Human Brain Project

EBRAINS

Co-funded by the European Union

YOUNG RESEARCHERS EVENT

YOUNG RESEARCHERS EVENT MEETS HIBALL: NEW DIGITAL TOOLS TO STUDY THE BRAIN

25 October 2022
Zadar, Croatia & virtual

Scientific Programme

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 tool that allows scientists and technology experts to seamlessly collaborate, thereby accelerating advancements in the fields of neuroscience, computing and brain-related medicine.

The Helmholtz International BigBrain Analytics and Learning Laboratory (HIBALL) is an HBP Partnering Project that aims to transform the well-known BigBrain model to its next level by reinforcing utilization and co-development of the latest AI and high-performance computing (HPC) technologies for building highly detailed 3D brain models.
This event will take place in conjunction with the 6th BigBrain Workshop -
From microstructure to functional connectomics.

SCIENTIFIC CHAIR

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

PROGRAMME COMMITTEE

Katrin Amunts | Forschungszentrum Jülich/Heinrich-Heine-Universität Düsseldorf
Caroline Ernoult | EBRAINS AISBL
Maja A. Puchades | University of Oslo
Goran Sedmak | School of Medicine University of Zagreb
Andrija Štajduhar | School of Medicine University of Zagreb
Paule-J Toussaint | McGill University/HIBALL
Susanne Wenzel | Forschungszentrum Jülich/HIBALL

Further information:

www.humanbrainproject.eu/en/education-training-career/YRE2022-Croatia/

Contact:

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In collaboration with

University of Zagreb

HIBALL
HELMHOLTZ International BigBrain Analytics & Learning Laboratory

Organised by

Human Brain Project Education Programme

TUESDAY 25 OCTOBER 2022

All times displayed are in CEST (=UTC+2).

09:00 – 10:00 Registration & Welcome Coffee

10:00 – 10:10 Welcome by hosts & HBP

10:10 - 11:30 PLENARY SESSION I
Chair: Katrin Amunts | Forschungszentrum Jülich, Heinrich-Heine-Universität Düsseldorf

10:10 - 10:30 Introduction to HBP and EBRAINS
Katrin Amunts | Forschungszentrum Jülich, Heinrich-Heine-Universität Düsseldorf

10:30 - 11:00 BigBrain data processing with CBRAIN and DataLad
Bryan Caron | McGill University

11:00 - 11:30 Postnatal development of the human brain
Miloš Judaš | School of Medicine University of Zagreb

11:30 - 12:00 Coffee Break

12:00 - 13:30 PLENARY SESSION II
Chair: Nicola Palomero-Gallagher | Forschungszentrum Jülich

12:00 - 12:20 Introduction to EBRAINS Research Infrastructure: Data
Jan Bjaalie & Maja Puchades | University of Oslo

12:20 - 12:40 The multilevel human brain atlas in EBRAINS
Timo Dickscheid & Lyuba Zehl | Forschungszentrum Jülich

12:40 - 13:00 Can we use cortical folding patterns as a proxy of architectural variability?
Jean-François Mangin | CEA

13:00 - 13:30 HIBALL and related international initiatives
Alan Evans | McGill University

13:30 - 14:30 Lunch Break

14:30 - 15:30 PARALLEL HANDS-ON SESSIONS, PART I:
One out of the three session can be chosen:

- BigBrain data processing with CBRAIN and DataLad
  Bryan Caron | McGill University
  Shahbaz Memon | Forschungszentrum Jülich
  Morris Riedel | Forschungszentrum Jülich
  Pierre Rioux | McGill University
  Serge Boroday | McGill University
  Natacha Beck | McGill University

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- **Using EBRAINS atlas services to explore and analyse the human brain**
  Timo Dickscheid | Forschungszentrum Jülich
  Sebastian Bludau | Forschungszentrum Jülich

- **Introduction to the ENIGMA Toolbox: Surface data visualisation and multiscale neural contextualisation**
  Sara Larivière | McGill University

15:30 - 16:30 **PARALLEL HANDS-ON SESSIONS, PART II**
One out of the three session can be chosen (see above for session details).

16:30 - 17:00 Coffee Break

17:00 - 17:30 **EARLY CAREER RESEARCHERS SESSION**
Chair: Ariane Bruno | Forschungszentrum Jülich

Frequency-dependent spatial distribution of features for Major Depressive Disorder (MDD)
Eda Jovičić | University of Zagreb

Julich-Brain GapMaps parcellation based on structural connectivity using Constellation
Clément Langlet | CEA

Building Goal-Driven Models of the Sensorimotor System to Understand Human Dexerity
Tonio Weidler | University of Maastricht

17:30 - 18:00 **What are you missing in EBRAINS? Feedback and Q&A**
Jan Bjaalie | University of Oslo

18:00 **End of the event**

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humanbrainproject.eu/education