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## BigBrain data processing and scientific tool integration in CBRAIN

*Monday 11 March 2024 14:45 (2h 45m)*

CBRAIN is a web portal that provides seamless access to high-performance computing clusters, and is a component of the NeuroHub ecosystem of neuroinformatics tools. The tutorial will cover the main functionalities of CBRAIN for the processing and management of data, illustrate them on BigBrain data, and demonstrate their interaction. For more advanced users, an introduction will be provided about how to prepare their scientific application for integration in CBRAIN.

Expected learning outcomes:

In this tutorial, participants will learn to use the following infrastructure tools and services for analyzing data in HIBALL:

Part 1 (1h): CBRAIN to process BigBrain data on HPC clusters, such as that at JSC, through a web portal, including:

- Finding BigBrain datasets in CBRAIN
- Processing BigBrain datasets in CBRAIN
- Exploring and working with the processing results
- Downloading and sharing the results

(short break)

Part 2 (1h) : Scientific software containerization for tool integration into CBRAIN

- Introduction to Containerization
- Containerizing your tool with Apptainer
- Writing a Boutiques Descriptor for your tool
- Testing your Descriptor in CBRAIN

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