

# Initiatives and projects for collaboration in neuroinformatics



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Sharing of electrophysiology data, related metadata, processing methods and workflows is one of the crucial tasks in neuroinformatics. International Neuroinformatics Coordinating Facility (INCF) develops and maintains computational infrastructure for neuroscientists and INCF Programs address infrastructural issues of high importance to the neuroscience community. The INCF program “Standard for data sharing – Electrophysiology Task Force” deals with collection of requirements for developing the data format that could be accepted and widely shared within the community. To enable collaboration through the sharing of neuroscience data, INCF also introduced the INCF Dataspace that associates data sources in a distributed system based on iRods solution. The Czech National Node for Neuroinformatics (CNNN) is currently focused on two main topics. The first one deals with higher reliability of interactions of human subjects, artificial systems and their alliances. Theoretical knowledge is applied in transportation area; relations between the components of the EEG alpha rhythm and attention levels of relevant subjects are investigated. The Node also continues in building of complex hardware and software infrastructure for research in electrophysiology. A catalog server connected to INCF Dataspace and a node server for EEG/ERP domain were established. The EEG/ERP Portal (EEGBase) is a web-based system that enables researchers to store, manage, share, and process data and metadata from EEG/ERP experiments. The portal was registered as a neuroscience resource within the Neuroscience Information Framework (NIF). Off-line and mobile versions of the portal are also available. A programmable hardware stimulator that allows users to create various experiments and use the combined stimulation (acoustic and visual) was designed and developed. The stimulator is portable and can be connected to conventional equipment.

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