The Ontology for Experimental Neurophysiology: a first step toward semantic annotations of neurophysiology data and metadata

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Several projects in the Neuroinformatics community are currently developed or used to store electrophysiology data and metadata. Semantic web technologies allow federating the different web-based resources around a common semantic model, namely an ontology. Analysis of existing ontological resources reveals a lack of terms for accurately and unambiguously annotating electrophysiological data and metadata. With the development of different resources for describing and sharing this particular type of data, the community needs controlled vocabularies to describe the different types of electrophysiology recording paradigms. The goal of Ontology for Experimental Neurophysiology (OEN) is to propose such a unique controlled vocabulary, relying on existing ontologies, which will allow the annotation of these emerging resources and provide a framework for enhancing interoperability . To build such vocabulary, or ontology, we created a dedicated workgroup involving relevant initiatives such as the EEGBase (eegdatabase.kiv.zcu.cz/home.html), the G-Node (www.g-node.org), the INCF task force on standards for sharing of electrophysiology data (www.incf.org/programs/datasharing/electrophysiology-task-force), NIF (www.neuinfo.org) and Neuroelectro.org (www.neurolectro.org).

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