Abstract of Presentation

Name	Affiliation
Thomas Wachtler	Ludwig-Maximilians-Universität München
URL (if you have your webpage)	**E-mail address**
http://www.g-node.org	wachtler@biologie.uni-muenchen.de

Research interest:

neuroinformatics, method and tool development for data management and data sharing, neurophysiology and computational modeling of visual processing

Abstract :

The German Neuroinformatics Node - Database tools for data management and collaboration in neurophysiology.

Thomas Wachtler, Philipp Rautenberg, Andrey Sobolev

Ludwig-Maximilians-Universität München, Martinsried, Germany

Scientific progress depends increasingly on collaborative efforts that involve exchange of data and re-analysis of previously recorded data. A major obstacle to fully exploit the scientific potential of experimental data is the effort it takes to access both data and metadata, for further analysis some time after the initial study was completed or for collaborative data exchange between experimentalists and theoreticians. To cope with these challenges and to make data analysis, re-analysis, and data sharing efficient, data together with metadata should be managed and accessed in a unified and reproducible way, so that the researchers can concentrate on the scientific questions rather than on problems of data management. At the German Neuroinformatics Node (www.g-node.org), an infrastructure for cellular and systems neuroscience is being developed to improve key ingredients of neuroscientific research: data access, data storage and exchange, and data analysis. Central component is a data management platform where neuroscientists can store and organize their data for sharing and analysis (www.g-node.org/data). To facilitate collecting of metadata in machine readable form, we developed a flexible XML-based format, together with recommended terminologies for neurophysiology (www.g-node.org/odml). Furthermore, tools and interfaces for data access through a variety of applications are being developed. This approach will enable researchers to seamlessly integrate data access into the laboratory workflow, exchange data with collaborators, and efficiently perform management and selection of data in a systematic and largely automatized fashion for data sharing and analysis.

Abstract of Presentation