Neuroimaging Platform in Japan

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Introduction

Brain imaging has become one of the most important key technologies for studying human brain mechanisms. For further advancements of this field, it is necessary to systematically accumulate huge amounts of experimental data, measurement and analysis methods, and mathematical modeling.

We organized NIMG-PF committee as an activity of the Neuroinformatics Japan Center (NIJC) at RIKEN in cooperation with International Neuroinformatics Coordinating Facility, and are constructing a database of neuroimaging, i.e., non-invasive measurements of brain functions. It has been open for limited use since 17th March 2008 (http://platform.nimg.neuroinf.jp).

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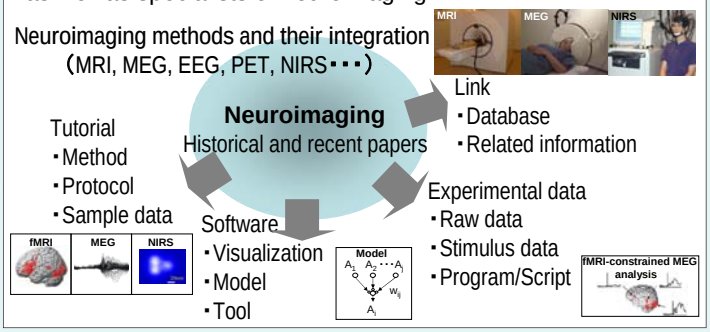
NIMG-PF

We are collecting the contents that are useful for beginners as well as specialists of neuroimaging.



Database system and Index

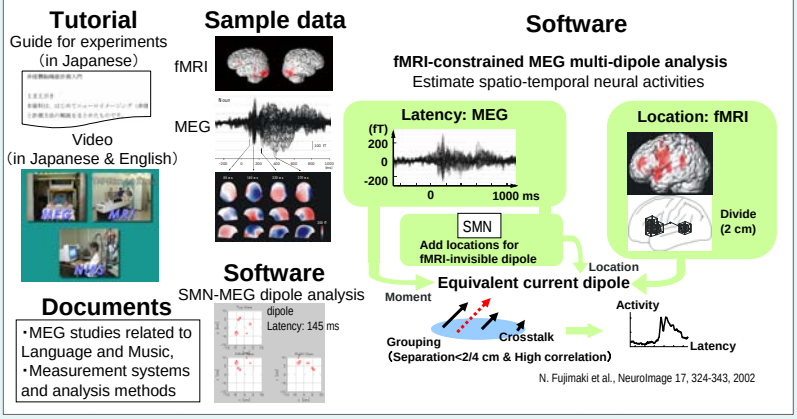
We are constructing NIMG-PF on the XooNIps basic database system operated by RIKEN NIJC. Users can search and view contents by using **Keyword,** categories called **Item-type**, or **Index** shown below.

Index (three hierarchical levels)

Method
  MRI, PET, MEG/ERF, EEG/ERP, NIRS, Integration
Tutorial
  Method, Measuring protocol, Sample data
Brain function
  Sensory system, Motor, Learning and memory, Language, Executive function, Emotion, Awareness/consciousness, Rhythm/sleep, Development/aging
Task/Stimulation
Brain area
Active time and frequency
Model
Technology
  Imaging principle, Measurement & analysis, Visualization, Modeling
Link

NIMG-PF contents

We NIMG-PF committee members are registering the contents shown below. 447 contents（27 data, 345 papers、21 books、2 tools、11 URL）have already been registered since Dec. 2006.



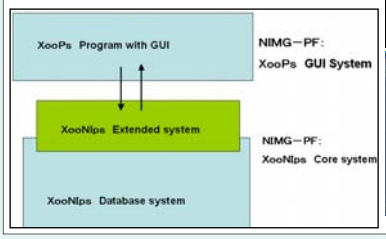
N. Fujimaki et al., NeuroImage 17, 324-343, 2002

Visualization

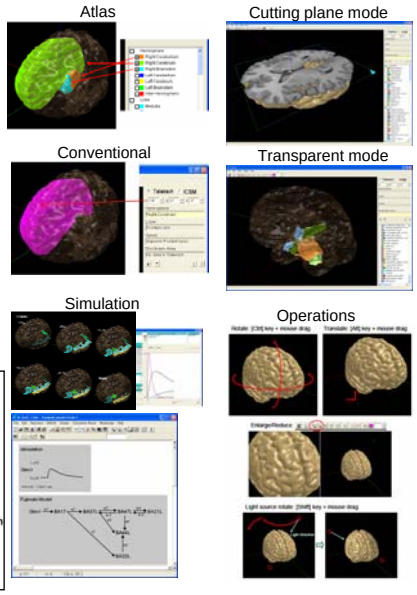
XooNIps system was extended to have functions of displaying 3D-brain images, and of searching papers that include activations at the locations specified by pointing on the images.

Separately, a free software called ***sBrain*** was registered in NIMG-PF for standalone use. It has functions of the visualization and search as well as simulations of neural activation.

Extention of XooNIps
K. Niki



sBrain
T. Suzuki, N. Fujimaki, and K. Ichikawa



Registration and license

Users can register contents to NIMG-PF with specifying license conditions related to commercial use and modifications, which are based on Creative Commons (http://creativecommons.org/license/). Any users can use the contents, if they accept the license conditions.

Conclusions

NIMG-PF users can search, view, and use contents as well as register their original contents to make them open. We hope that NIMG-PF will become a site where useful information gathers.