

Atlasing Plan and Action Items

Mouse BIRN focuses on using multimodal digital atlases as frameworks to facilitate the organization and display of shared MBIRN data sets. These atlasing tools may also be used as an intuitive visual interface for image processing and automated analysis of the data collected. The immediate focus of atlas integration is to be able to switch between atlases, transferring the current state to whichever atlas you want to examine using your favorite tool or tools.

Plan

- Exchange of:
 - Atlas state
 - Metadata
 - Data (images, segmentations, etc)

- Locations referenced via:
 - Spatial coordinates
 - Ontology
 - Verbal descriptions
 - Rat atlas as proxy (images and segmentation-scalable into mouse atlas)

- Mechanisms of integration across atlas clients
 - Specification of state of atlas client
 - API for initializing exchange service and submitting and retrieving states

Action Items

By July 2005

- GENSAT data
 - Rob provides a gene list overlapping mouse BIRN mouse models and Gensat data
 - Weed down list to manageable subset of genes to register (Rob, Maryann, Bill, Yoni, Mark, Arthur, Russ, Jyl)
 - Get feedback from transgenic animal experts
 - Mouse BIRN group make individual decisions
- Generating a high resolution segmented mouse brain atlas (Yoni)
 - Yoni's Nissl rat brain atlas warped into the mouse brain
 - Interpolate surfaces from this and into the SmartAtlas and LONI atlas
- Test for swapping images back and forth from the 3 atlasing programs (Drexel, UCLA, UCSD)
- All applications accessible through Mouse BIRN portal and mouse wiki
 - Simple links (Jyl and Mark James)

By October 2005

- Population of mouse BIRN atlases with data
 - Registration of some of the MBL data (Rob, Yoni, Bill)
 - Gensat data-Decide who will register which data sets and some data sets must be registered by this point (Atlasing group)
- All applications accessible through Mouse BIRN portal
 - Integration with portal (Atlasing group and BIRN CC)

- Develop a set of “evidence metrics” (Atlasing group)
 - Gold standard: comparison with Nissl or equivalent?
- Develop a set of requirements of data and what’s needed to get it into this common atlas space, both for current mouse BIRN and future users (Atlasing group)