# NIH Blueprint for Neuroscience Research

# Blueprint and Blueprint-Affiliated Informatics Activities

## Blueprint Informatics

### Blueprint Informatics Team (BIT)

The BIT has three overall objectives: 1) to accelerate the use of computational approaches in the neurosciences by advancing informatics research, 2) to increase the value of informatics research by encouraging communication, collaboration, and coordination among the Blueprint Institutes and Centers, and 3) to provide a collective neuroscience voice and unified leadership for informatics activities across the National Institutes of Health (NIH) and within the wider neuroscience research community. The BIT functions as a common platform for hosting discussions about the overarching area of informatics and serves as an integrating force across all informatics initiatives, whether they are Blueprint, Blueprint-affiliated, or otherwise.

Contact: Michael F. Huerta, Ph.D.
Associate Director
National Institute of Mental Health (NIMH)
mhuert1@mail.nih.gov
(301) 443-1815

## Neuroscience Information Framework (NIF)

The Blueprint launched the NIF in 2005 to develop a network infrastructure for neuroscientists to search for research resources at multiple levels of integration, including research materials, web pages, software tools, data sets, literature, and other information. In January 2008, a beta version of the framework became publicly available via the Internet at http://nif.nih.gov. A unique feature of the NIF is that users are able to issue direct queries against multiple databases simultaneously, retrieving content that is largely hidden from traditional search engines. Another feature unique to the NIF is an extensive vocabulary that covers major neuroscience domains for describing and searching the resources. The NIF takes advantage of advances in knowledge engineering to broaden and refine searches based on related concepts. Members of the research community are invited to test the beta version, identify resources to be included in the NIF registry, nominate vocabulary terms, and suggest improvements and enhancements for upcoming new releases of the system, now in the planning stages. In September, 2008, a contract was awarded to the University of California, San Diego, for the operation, maintenance, and enhancement of the NIF.

Contacts: Karen Skinner, Ph.D.
Deputy Director for Science and Technology Development
Division of Basic Neuroscience and Behavior Research
National Institute on Drug Abuse (NIDA)
kskinner@nida.nih.gov
(301) 435-0886

David Shurtleff, Ph.D.
Director, Division of Basic Neuroscience and Behavioral Research
National Institute on Drug Abuse (NIDA)
dshurtle@mail.nih.gov
(301) 443-1887

# Blueprint and Blueprint-Affiliated Informatics Activities *(continued)*

## Blueprint-Affiliated Informatics

### Biomedical Informatics Research Network (BIRN)

The goal of the BIRN is to develop an infrastructure that allows researchers to share data, both for limited collaborations inside a defined research group and also among the research community at large. Most of the basic BIRN infrastructure has been developed at the University of California, San Diego under a Coordinating Center award. Three large projects, all of which involve neuroinformatics research, have been funded to ensure that the data-sharing infrastructure is responsive to the needs of biomedical investigators. These projects are focused on structural MRI imaging, functional MRI imaging, and new techniques for merging and blending imaging technologies and image resolutions. The tools developed with support from this project are freely available to the biomedical community via the BIRN website at www.nbirn.net.

Contact: Greg Farber, Ph.D.
Senior Health Scientist Administrator
National Center for Research Resources (NCRR)
farberg@mail.nih.gov
(301) 435-0778

## Blueprint Informatics Funding Opportunity Announcements (FOAs)

Developed under the BIT to take advantage of the BIRN infrastructure already in place are two active, Blueprint-affiliated FOAs:

**Sharing Data and Tools** (PAR-07-426 http://grants.nih.gov/grants/guide/pa-files/PAR-07-426.html) asks researchers to apply for funds to bring either their data analysis tools or their data into the BIRN infrastructure for use by the research community. The BIRN infrastructure is unique in that it allows multiple data analysis tools to be compared against each other in a common environment using real data. The infrastructure also provides a convenient way for researchers to store and share their data.

**Data Ontologies for Biomedical Research** (PAR-07-425 http://grants.nih.gov/grants/guide/pa-files/PAR-07-425.html) tackles a deeper problem of research data sharing – how to match the meanings of words when their usage varies among data sets. This grant will support research to create an ontology using controlled vocabularies for two datasets in a specific research area. Once the ontology is created, it will be shared within the field.

Contacts from individual Institutes and Centers are listed in each FOA.

U.S. Department of Health
and Human Services
National Institutes of Health