

## Informatics

### Neuroimaging Informatics Tools and Resources Clearinghouse (NITRC)

Many neuroimaging tools and databases are underutilized because they are not easy to find, are not user-friendly, or are not compatible with other systems. NITRC ([www.nitrc.org](http://www.nitrc.org)) serves as a clearinghouse for neuroimaging tools and resources, and a forum where the research community can provide feedback about them. NITRC users can compare and download software tools for collecting and analyzing functional neuroimaging data from fMRI, structural MRI, and other imaging modalities. Users are encouraged to upload new tools, and to rate tools regarding ease of use, functionality, quality of documentation and support, and overall satisfaction. The resources registered in NITRC include test data sets, image databases and forums where researchers can discuss trends and challenges in neuroimaging informatics. NIH Blueprint funding is made available for the improvement of existing tools and resources to make them better suited for dissemination via NITRC.

Since the site was launched in 2007, NITRC has become host to approximately 200 tools and resources, more than half of which had not been previously shared online. In spring 2009, the American Council on Technology honored NITRC with an Excellence.gov award, recognizing it as "Best Overall" among 61 nominated government websites and IT programs.

#### Contacts:

##### James Luo, Ph.D.

Program Director, Biomedical Informatics Programs  
National Institute of Biomedical Imaging and Bioengineering (NIBIB)  
[luoja@mail.nih.gov](mailto:luoja@mail.nih.gov)  
(301) 594-3715

##### Zohara Cohen, Ph.D.

Program Director, Division of Discovery Science and Technology  
National Institute of Biomedical Imaging and Bioengineering (NIBIB)  
[zcohen@mail.nih.gov](mailto:zcohen@mail.nih.gov)  
(301) 451-4778

### Neuroscience Information Framework (NIF)

NIF ([www.neuinfo.org](http://www.neuinfo.org)) is a publicly accessible online portal that helps researchers discover and share a variety of neuroscience resources such as data, materials and software. Its search tools offer multiple ways to explore its rapidly growing content, which currently includes a customized neuroscience-relevant web index of approximately one-half million pages, a curated registry of more than 2,000 neuroscience-relevant resources, and an expanding inventory of federated data sources. The NIF, data federation enables users to query multiple databases simultaneously and display the results within the NIF interface, categorized by resource type (such as a grants database, an image database or an atlas) and biological scale (such as gene expression or brain activity patterns).

Like other search interfaces, NIF allows simple keyword searches, but it also enables concept-based queries. Through its advanced search features, users can elect to explore related terms and synonyms. For example, if a user enters the word "neurodegenerative," NIF can identify a range of neurodegenerative disorders and related terms to help narrow the search. These advanced capabilities are made possible by NIF's NeuroLex (<http://neurolex.org/wiki>), a wiki-based system for defining and categorizing commonly used neuroscience terms and concepts. Neuroscientists using terminologies not currently represented in NIF are encouraged to work with NIF to make their vocabularies available through Neurolex. Resource providers also are encouraged to read



# Informatics *(continued)*

the NIF blog (<http://blog.neuinfo.org>) for best practices to facilitate resource discovery and federation. Investigators at the University of California, San Diego are leading the current phase of NIF development, and regularly adding new features to NIF with input from the research community. Participation in the NIF community and news about NIF are available via Twitter, NIF webinars, the NIF mailing list, the NIF blog and popular social news and bookmarking sites. Information for easily adding NIF search boxes to the Firefox search bar and to web pages is available on the NIF portal.

## Contacts:

### **Karen Skinner, Ph.D.**

Deputy Director for Science and Technology Development  
Division of Basic Neuroscience and Behavioral Research  
National Institute on Drug Abuse (NIDA)  
[kskinner@nida.nih.gov](mailto: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](mailto:dshurtle@mail.nih.gov)  
(301) 443-1887

## **Biomedical Informatics Research Network (BIRN)**

The goal of the BIRN is to develop an infrastructure that allows researchers to share data and research tools, and to collaborate through a virtual environment. The BIRN Coordinating Center is led by the University of Southern California, with the participation of investigators from the University of Chicago, University of California, Los Angeles, University of California, Irvine and Massachusetts General Hospital. A new BIRN Community Service (U24) grant will be funded to ensure that the data-sharing infrastructure is responsive to the needs of the broad biomedical research community. Funds also have been provided for researchers to bring their data and data analysis tools into the BIRN infrastructure, and for creating controlled vocabularies to match the meaning of terms across different data sets. The data and tools developed through BIRN are freely available at [www.nbirn.net](http://www.nbirn.net).

## Contact:

### **Liming Yang, Ph.D.**

Health Scientist Administrator, Division of Biomedical Technology  
National Center for Research Resources (NCRR)  
[lyang@mail.nih.gov](mailto:lyang@mail.nih.gov)  
(301) 435-0755

---

**NITRC** and **NIF** are funded by the Institutes and Centers that comprise the NIH Blueprint for Neuroscience Research.

**BIRN** and BIRN-related funding opportunities are affiliated with the NIH Blueprint, but not supported directly by it. Blueprint-affiliated initiatives are discussed systematically by NIH Blueprint program staff, and supported by participating Institutes and Centers independently of Blueprint funds, management and oversight. BIRN receives primary support from NCRR.

October 2009



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