

# Neuroinformatics Committee Annual Report

## November 2008

### Part 1 — Charter Updates

Below are the responsibilities of the Neuroinformatics Committee as defined in the approved charter. Please provide updates on activities since the last annual meeting in green.

#### ***Monitor***

- Gather information about the informatics needs of the neuroscience community.
  - There were two major resulting initiatives from the 2007 PubMed Plus Leadership Conference that help the committee gather information about the community's neuroinformatics needs: the Neuroscience Peer Review Consortium (NPRC) and the Metadata and Linkages Task Forces.
  - The NPRC includes 32 participating journals, which provides a rich base of articles and information across the discipline; as the NPRC is still relatively new, there are still opportunities for gathering input from other journals that inform the needs of the neuroscience community.
  - The Metadata and Linkage Task Force is in the process of evaluating the best way to collect and facilitate data mining; while more research is still required, it is likely that author submissions are the most effective collection method.
  - There were two license requests for the data mining of the 2008 abstracts; while there are no preliminary reports on the findings, the abstracts provide an additional valuable mechanism for gathering neuroinformatics.
- Oversee scientific content of the Neuroscience Database Gateway, a centralized gateway for accessing neuroscience-related databases.
  - The Neuroscience Database Gateway (NDG) continues to be a valuable resource; however as the Neuroscience Information Framework (NIF) continues to increase in importance and effectiveness, it is likely that the committee will recommend to phase the NDG into the NIF over the next two years.
  - The NIF has completed Phase I and II, and the beta test site is live.
  - A contract was submitted on April 7 (to start June 1) to extend the NIF for five years with a two and three year option.

#### ***Advise***

- Provide expertise and advice to Council when opportunities arise to advise NIH and international bodies about strategies and guidelines that would facilitate data sharing in practical ways that would benefit SfN's membership, the scientific community, and the public.
  - The NPRC is an alliance that involves multiple journals and organizations that is at the core of sharing and facilitating neuroscience

- data; the group has 33 participating journals.
- The International Neuroinformatics Coordinating Facility is also making efforts to promote the consortium.
- Identify neuroinformatics issues that affect the conduct, analysis, interpretation, and communication of neuroscience research.
  - The Committee continues to explore the current status of indexing full text, supplemental material, images, and appendix material; impact of the Semantic Web on publishing standards and methods (such as NeuroCommons); and the need for industry standards for formats of supplementary material and data sets.
  - The Committee is continuing to identify possible ways that journals can help advance neuroinformatics, e.g., by capturing metadata in a formatted way to facilitate text and data mining; encouraging authors to deposit large data sets published as supplemental materials; creating standards for supplemental data formatting and provision of metadata; and allowing indexing of full text and figures by search engines like Google Scholar.

### ***Represent***

- Represent SfN to national and international governmental or private organizations or groups of researchers that are trying to establish standards or resources related to neuro-databases.
  - Jan Bjaalie will be stepping down as Director of the INCF this winter. The new director of the INCF will likely be invited to attend NIC meetings.
  - NIC Chair Maryann Martone has now replaced Robert Williams as a member of the INCF Governing Board. This change was made March 2008 and was approved by the Associate Director of NSF, Kathie Olsen.
  - Incoming NIC Chair Maryann Martone has now replaced Dan Gardner as the PI on the NIF renewal.
  - NIC member R Williams is a member of NeuroCommons.

### ***Manage Activities***

- Serve as an 'honest broker' that facilitates awareness of neuroinformatics resources, promotes data sharing, and helps neuroscientists benefit from the rapidly moving field of bioinformatics.
  - As a result of the 2007 PubMed Plus, neuroscientists, informaticians, journal editors and publishers, and representatives of foundations, societies, government agencies, and the library community continue the dialogue about how to leverage the vast wealth of data offered by our Journals and organizations
  - From that event, we have successfully established a system for sharing peer reviews among selected journals which has grown to a body of 33 active participants
- Encourage development of common neuroscience terminologies to facilitate communication across databases and dissemination of neuroscience-related data among neuroscientists and to the public.

### ***Generate Policy Recommendations***

- Assist Council to plan for significant changes in neuroscience research made possible by new uses of computer technology in data sharing and collaboration.
  - As mentioned above, SfN is an active participant in the Peer-Review Consortium. Reviews from 64 manuscripts have been forwarded to other journals in the consortium at the authors' requests. *The Journal* has implemented a work flow process to facilitate the transfer of reviews.
- Craft strategies to help confront neuroinformatics issues that affect the conduct of neuroscience research.

### ***Coordinate and Communicate***

- Increase awareness of neuroscience-relevant databases among SfN members.
  - The Neuroscience Database Gateway (NDG) has a large and prominent link on The Society's homepage. It currently lists and links to 100 neuroscience databases. The site has received 1,371,575 hits since 5/1/2005.
- Communicate with other Society groups such as the Scientific Publications Committee and *The Journal of Neuroscience* editorial board as needed to help generate suggestions about the evolving relationship between neurodatabases and scientific publishing.
  - The Metadata and Linkage Task Force conducted a pilot project with The Journal. 100 articles were painstakingly mined for additional metadata. The committee plans to test the database with a set of inquiries and compare the results to a standard search function.
- Coordinate activities with the other committee in the Information Cluster, which also includes the Information Technology Committee. The chair will serve as the committee's representative on the cluster's steering committee.
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## Part 2 — Other Updates

Please provide updates on any other activities of the committee that are not already covered in the charter.

During the first two years of the NIC, the Human Brain Project was in the process of being terminated, INCF was in the process of being created, and the status of NIH's commitment to the NIF was in doubt. All three of these factors placed a large burden on the NIC and SfN to provide mechanisms to coordinate neuroinformatics and to foster activities initiated by BIG and the Human Brain Project.

At present, the INCF is fairly mature and is functioning effectively. The NIF has been renewed for NN years, demonstrating interest and support from the NIH Blueprint institutes and centers for neuroinformatics efforts and integration. There is still a real need for NIC and the SfN to help coordinate and foster neuroinformatics. This will be both for the benefit of the society and its members, and also for progress in neuroscience

research on an international scale.

Maryann Martone is an ideal position to help the SfN in this process as the incoming chair of the NIC. She is now actively engaged in the NIF (as PI) and in the INCF as a member of the governing board.

Part 3 — Questions for Cluster Steering Committee / Council  
Use the space below to propose questions for discussion by the Cluster Steering Committee (if appropriate) and/or Council.

Part 4 — Other Comments  
Use the space below for any other comments.