

Neuroinformatics Committee Annual Report

October 2009

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.
 - This past Spring, the Committee invited members and the community via announcements in *Neuroscience Nexus* and an article in *Neuroscience Quarterly* to access the Neuroscience Information Framework (NIF) 1.5 release and provide feedback. This feedback is being used to enhance the tools further, and the 2.0 release will see a new set of tools and resources, including a “NIF Community” section with RSS feeds, sharing and printing tools, as well as integrations with Twitter, Facebook, and Web browser search toolbars
 - The Committee has shared its goals with the SfN Program Committee, Public Education & Communications Committee, and Scientific Publications Committee in an effort to increase awareness among volunteer leadership of the society, particularly those with access to scientific data, of the need to consider standards and guidelines for data sharing and publishing.
 - Members of the committee assisted PECC on their Wiki initiative and also on a proposal to fund a portal for higher education resources.
- Oversee scientific content of the Neuroscience Database Gateway, a centralized gateway for accessing neuroscience-related databases.
 - At its June 2009 meeting, the Neuroinformatics Committee made a recommendation to begin the steps for announcing the transition of NDG as the society-sponsored informatics resource to the NIF. The NIF builds upon the foundation of the NDG, but provides a unique set of tools tailored especially for neuroscientists: a more expansive catalog, the ability to search multiple databases directly from the NIF home page, a custom web index of neuroscience resources, and a neuroscience-focused literature search function. The NIF is supported by an extensive terminology for neuroscience, the Neurolex, that provides new ways to search and organize neuroscience information.

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 Committee is investigating a pilot project to perform semantic

annotation of a limited set of concepts from the materials and methods section of *The Journal of Neuroscience*. Using both manual annotations applied by curators and automatic annotations via available tools such as TextpressoTM and SWAN (Semantic Web Applications in Neuromedicine), the group proposed to index and map entities to enhance the NIF search database and provide a valuable resource to the neuroscience community.

- 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; the 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 continues 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.
 - Members of the Neuroinformatics Committee are involved with several projects and organizations dedicated to neuroinformatics initiatives, including the International Neuroinformatics Coordinating Facility (INCF), Neurocommons, Semantic Web Applications in Neuromedicine (SWAN), GeneNetwork, and TextpressoTM to name a few.
 - Helped to facilitate communications among members and meeting attendees wishing access to SfN resources for the purposes of demonstrating neuroinformatics tools, e.g., abstract mining tools

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.
 - See above notes.
- Encourage development of common neuroscience terminologies to facilitate communication across databases and dissemination of neuroscience-related data among neuroscientists and to the public.
 - See above notes.

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.
 - At this time, the Committee has no recommendations; however, the semantic annotation project mentioned above will likely lead to

recommendations in this area.

- Craft strategies to help confront neuroinformatics issues that affect the conduct of neuroscience research.
 - See directly above.

Coordinate and Communicate

- Increase awareness of neuroscience-relevant databases among SfN members.
 - Announcements and requests for testing and feedback of NIF were sent to the SfN membership via the January 9, 2009 issue of *Neuroscience Nexus* and in a longer, more prominent feature in the Spring 2009 Issue of *Neuroscience Quarterly*. The Spring '09 NQ article highlighted the impact of the digital revolution in providing new venues for publishing information, as well as acquiring and exchanging data, and it underscored the need for the community to recognize and contribute to informatics tools that provide neuroscientists with efficient ways to access and utilize the avalanche of information.
- 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.
 - In addition to having a liaison member from the Scientific Publications Committee sit on NIC, the two committees have collaborated to discuss the proposed semantic annotation project. Both committee chairs support the effort and will work together on any outcomes.
 - A presentation was also made to the Program Committee about the importance of metadata tagging and sharing; no specific action has been proposed with this group.
- 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.

Part 2 — Other Updates

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

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.