

Neuroinformatics Committee Annual Report

September 2006

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.
 - NIC noted the interest in promoting data sharing expressed by Bob Baughman and others at the NINDS Spring 2006 Council, as well as by Gillian Murphy of the MRC at the Oslo meeting. The NIC Data Sharing Standards Subcommittee will survey various formats/venues for sharing data, and will recommend concrete guidelines for various types of data.
- Oversee scientific content of the Neuroscience Database Gateway, a centralized gateway for accessing neuroscience-related databases.
 - The NDG Subcommittee continues to serve as advisors to Drs. Shepherd and Marengo regarding databases listings and features of the Neuroscience Database Gateway.
 - The NIC Data Sharing Subcommittee is surveying NDG resources as to level of free access, and then will work with Dr. Luis Marengo to incorporate this information into the NDG, e.g., to allow users to filter resources with freely available data.
 - The NIC's Interoperability Subcommittee has collaborated with Dr. Marengo to create an NDG interoperability test page, which uses SenseLab and CCDB resources to track a glossary of primary terms from each database; the page is available on the public NDG site (<http://big.sfn.org/ndg/ndg/interop/Default.aspx>), but cannot be reached through any link.
 - The NDG Subcommittee is overseeing the establishment of a link from NCBI PubMed to the NDG. When complete, this PubMed-to-NDG link will highlight those research articles listed by PubMed that have associated NDG data resources.

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.
 - NIC has begun to explore merits of providing authors with a mechanism to upload OA versions of accepted publications to shared databases; encouraging citations and integration of knowledgebases into articles; improving ways of managing information about the rapidly increasing number of online databases and tools in neuroscience (such as the *Nucleic*

Acids Research annual database issue); how best to "publish" and reward creators of knowledgebases and smart databases; 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 working with publishers on industry standards for formats of supplementary material and data sets.

- NIC has identified 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. The possibility of indexing *Journal of Neuroscience* supplemental data in the NDG has been discussed.

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.
 - NIC members G. Ascoli, D. Gardner, R. Kötter, M. Martone, G. Shepherd, D. Van Essen, R. and Williams participated in the Databasing the Brain meeting in Oslo in June, which was organized by committee member Jan Bjaalie. SfN staff member B. Goldman also attended, and made a presentation on SfN neuroinformatics efforts.
 - NIC member Jan Bjaalie is the Director of the INCF. NIC member Robert Williams is on the Scientific Advisory Board for the INCF.
 - NIC member R Williams is a member of NeuroCommons.
 - NIC member Dan Gardner is PI of the NIF.
 - The joint roles above provide a means for SfN to be well informed about and synchronized with other large neuroinformatic efforts.

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.
 - NIC will present a proposal to Council on October 18 for a 2-day neuroscience publishing workshop, tentatively entitled "Databasing Data and Metadata for 'Beyond PubMed' Literature Queries," to be held early in 2007.
- Encourage development of common neuroscience terminologies to facilitate communication across databases and dissemination of neuroscience-related data among neuroscientists and to the public.
 - NIC has incorporated SfN Themes and Topics and *The Journal of Neuroscience* keywords as NDG resources
 - Under the auspices of the Neuroscience Informatics Framework contract from NIH, Dr. Gardner is organizing terminology meetings on cerebellum, neuroimaging, and microscopy/cellular structure.

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.
 - NIC members have remarked on the effectiveness of NDG demos in meetings with Institute Directors, and suggest that NIC develop an online demo or tutorial that shows how the database resources listed in the NDG may be used to solve research problems.
- Craft strategies to help confront neuroinformatics issues that affect the conduct of neuroscience research.
 - NIC remains committed to helping neuroinformatics capture the imagination and enthusiasm of SfN members. The committee suggests that neuroinformatics initiatives continue to be included on agendas for meetings that Council has with NIH Directors.

Coordinate and Communicate

- Increase awareness of neuroscience-relevant databases among SfN members.
 - Dr. Bjaalie has been invited by Dr. Westbrook to write a Commentary for *The Journal* about the International Neuroinformatics Coordinating Facility
 - The NDG Subcommittee is working on establishing a linkout from PubMed for articles that reference neurodatabases.
- 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.
 - Dr. G. Westbrook agreed to serve as an ex officio member of NIC.
 - The NIC Journal Relations Subcommittee is exploring ways to improve reciprocal linkages between *The Journal* and the NDG.
 - NIC will convene a small group of neuroscience journal editors, publishers, and neuroscience database experts in Atlanta on Friday, October 13, to explore the idea of organizing a 2-day workshop in early 2007 to discuss how neuroscience journals and neurodatabases might operate more collaboratively, to permit more powerful mining of text and data published in the neuroscience literature.
- Coordinate activities with the other committee in the Information Cluster, which also includes the Information Technology Committee. The chair will report to Council through the chair of the Information Technology Committee.
 - Dr. Abbott will be updated on NIC activities in a meeting with Dr. Williams on Wednesday, October 18.

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 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.