Neuroinformatics

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Editorial

Changes and Opportunities

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"Change alone is unchanging." (Heraclitus)

In April 2004 the Human Brain Project (HBP) celebrated a Decade of Neuroscience Informatics but shortly afterward, one of the originators of the project left National Institutes of Health (NIH) and was replaced by another originator. Steve Koslow and Mike Huerta started the HBP together in 1993 (Huerta et al., 1993; Koslow and Huerta, 1997). After a few years, Mike left for other NIH projects and Steve became the face of the HBP. As a historical aside, the initial project described "A neuroscience database that will allow neuroscientists to access information at all levels of integration, from genes to behavior" (Huerta et al., 1993). Wisely, the actual implementation of the HBP focused on smaller, more achievable projects and this approach has been so successful that it even led to the creation of a journal. All the scientists who benefited from the HBP, which includes the three editors-in-chief, will agree that Steve was not just a manager but also an evangelist for neuroinformatics and that he thereby promoted our science and work. He traveled around the United States and the world to spread the word on this new field, always stressing the importance of developing databases in neuroscience to provide access to the continuously increasing amounts of data being produced.

So when Steve sent me and several colleagues an e-mail just before Christmas to announce that he was "starting a new position at the Allen Institute for Brain Science" I worried for the future of the HBP until I heard that Mike Huerta was taking over the Office of Neuroinformatics. Mike is running other programs at the National Institute of Mental Health and is a member of the editorial board of this journal, so he will be quite busy in the near future. But as Mike was also involved in the early phases of the HBP he is ideally suited to make a running start. It will be interesting to see if more changes at the HBP than the director.

To conclude, Steve: thank you for all the good work done and good luck in your new position! Mike: welcome back and let's go for an even more successful second decade!

The challenges before us are monumental. But it is not every generation that is given the opportunity to shape a new international order. (Henry Kissinger)

Steve Koslow was also involved with another venture that is much less known but may ultimately become even more important: the quest for international collaboration in neuroinformatics. Steve left only a few months after an international group drafted a series of documents describing the establishment of an International Neuroinformatics Coordinating Facility (INCF).

The purpose of the INCF will be to coordinate and develop international activities in neuroinformatics. It is the result of a process of negotiation by a Neuroinformatics Working Group (NWG) comprising representatives from many countries, this under the umbrella of first the OECD Megascience Forum (1996–1999) and next the OECD Global Science Forum (1999–2002) (www.oecd.org/sti/gsf.). Steve was instrumental in getting the OECD to start the NWG (it was initially presented as part of a proposal on Biological Informatics, together with a NSF initiative on biodiversity) and he subsequently chaired the NWG during its entire existence. The NWG proposed that individual nations should continue to support research at the national level but also establish a Neuroinformatics Node for coordination of national and international activities. In addition, the INCF, with representatives from each participating nation, will coordinate activities in neuroinformatics at a global level. The NWG defined neuroinformatics as a new research area integrating neuroscience with information science/technology and aiming at the development of neuroscience data and knowledge bases together with computational models and analytical tools for the sharing, integration and analysis of experimental data, discovery research, and the advancement of theories of nervous system function.

The INCF will come into existence on July 1, 2005. It will operate as both a central and a distributed facility. The central facility, the Secretariat, will work internationally through the Neuroinformatics Nodes to coordinate and harmonize national and regional neuroinformatics efforts. It is to promote international collaboration for standards, guidelines, ontology and software tools designed to facilitate interoperability and use on multiple platforms. In addition, the Secretariat will be responsible for maintenance and currency of the core infrastructure elements (ontologies, guidelines, databases as required) and other activities as they develop. The Secretariat will build coalitions among existing efforts, encourage new developments, and provide mechanisms for coordinating separate national investments and forging international agreements.

Besides creating the INCF the Understanding also calls for establishing the Program in International Neuroinformatics (PIN). This new international funding scheme will be established to evaluate, fund, and monitor collaborative projects for neuroinformatics research or infrastructure, which cannot be addressed optimally through national funding. In this new scheme, each country will have the option of funding the participating researchers from its country. While the scientists on the NWG thought this essential to achieve international coordination through collaboration, the current plans for the PIN are much less defined than those for the INCF.

At present there is an open call for countries to sign an Understanding and contribute financially to the INCF. It is the intention of many Asian, European and North American countries to sign the Understanding but it takes everywhere time to process this through the many layers of bureaucracy involved. The first duty of the INCF will be to request proposals for Host Country for its Secretariat and to recruit an Executive Director. It is expected that its real work will start in 2006 with an initial mandate for 5 years.

As the future of our field strongly depends on the creation of internationally accepted common standards we wish the INCF all the best in its ambitious program to come to an international consensus and integration of efforts. We also hope that the INCF will be able to create the PIN funding program that might benefit most of our readers.

Huerta, M. F., Koslow, S. H. & Leshner, A. I. (1993) Trends in Neurosciences **16,** 436–438.
Koslow, S. & Huerta, M. (1997) Neuroinformatics: An Overview of the Human Brain Project (Lawrence Erlbaum Associates, Mahwah, NJ.).