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The end of 2007 marked a nearly one year stay in the new INCF Secretariat building at the Karolinska Institutet. The Secretariat has been growing steadily since its creation in 2006. It was fully staffed by October 2007, many operations started earlier during the year, and fundamental planning of a large part of the principal activities for 2008 – 2010 took place during 2007.

Four new countries joined the INCF during 2007, resulting in a total of 14 participating countries. The European Commission provided support to the INCF with a Special Support Action grant, beginning a 3 year contract.

It has been a momentous year for the INCF. Perhaps the most visible part of our activities has been the workshop series. Following a first topical workshop organized in December 2006, six more workshops were held during 2007. Five were topical workshops, providing valuable recommendations for future INCF actions. The workshops covered a wide range of neuroinformatics topics and brought together more than 70 of the world’s leading experts spanning various scientific disciplines.

A major achievement during 2007 was the planning for future establishment of INCF programs. In October, the Governing Board approved the initiation of a Program on Large-Scale Modeling of the Nervous System and a Program on Digital Brain Atlasing. Program activities started in 2007, with projects in collaboration with the Royal Institute of Technology in Stockholm, and an agreement with the Allen Brain Institute in Seattle on co-hosting of their unique web accessible brain atlas of gene expression data. Preparations were made for the official launching of the two programs in 2008. Based on workshop recommendations, preparations were also made for two more programs, to be presented to the board in 2008.

The INCF contributed as co-sponsor and participant at the PubMed Plus conference that took place in St. Louis, June 18-19. An important outcome of the meeting was the involvement of the INCF Secretariat in establishing a web service for the new Neuroscience Peer-Review Consortium, an alliance of neuroscience journals that have agreed to establish new routines for the handling of scientific manuscript reviews. Flow of information is a key issue in neuroinformatics, and many future neuroinformatics developments will involve collaborations with journals. This project is therefore of long-term strategic importance for the INCF.

Bold yet realistic plans have been made for 2008. A new Software Center and Neuroinformatics Portal will be launched. New programs will be established, and activities expanded overall. With a new structure for international committees to be introduced in 2008 the mechanism will be in place to maintain the connection to the community and to produce new and significant deliverables.

Stockholm, April 2008

Jan G. Bjaalie
Executive Director
The INCF Secretariat

The Secretariat is the central office of the INCF, located in the scientific environs of Karolinska Institutet and the Royal Institute of Technology in Stockholm, Sweden. The new Secretariat building, measuring 300 m², was presented to the INCF by the Swedish government and Karolinska Institutet.

INCF Secretariat – Timeline 2007:

January: Secretariat Director Jan Bjaalie, Program Officer Mikael Naeslund, and administrative assistant Ann Norberg move into the new Secretariat building. Scientific Officer Raphael Ritz, based in Berlin, is employed in a 20% capacity and visits regularly. Sonia Olsson also assists the administration in a part-time position.

February: The new Secretariat building is inaugurated on February 15, 2007, in the presence of the Swedish Minister of Science and Education, representatives of the OECD, and Ambassadors from the participating countries.

March: Ulf Larsson starts as controller.

April: Ylva Lillberg takes up position as Usability and Requirements Analyst, the first position to be filled in the portal development team. Raphael Ritz takes up a full-time position as Scientific Officer.

May: Two systems developers, Per-Erik Standberg and Anders Larsson, join the portal development team.

June: Linda Flodin replaces Ann Norberg as lead administrative assistant.

August: Pontus Holm takes up a position as Program Officer and Elli Chatzopoulou joins as Scientific Information and Public Relations Officer.

October: Hui Wang starts as Deputy Executive Director.

November: Jeanette Hellgren Kotaleski, already connected to the Secretariat, is appointed Professor of Computational Neuroscience at the Royal Institute of Technology and starts formally as part-time advisor to the INCF Secretariat.
Belgium http://www.neuroinformatics.be/
Czech Republic http://www.lss.fd.cvut.cz
Finland http://www.cs.tut.fi/sgn/neuroinfo/
Germany http://www.neuroinf.de/ & http://www.bernstein-zentren.de/
Italy http://www/neuroinf.it
Japan http://www.neuroinf.jp/
Netherlands http://www.neuroinformatics.nl/
Norway http://www.cmbn.no/incf/
Poland http://www.neuroinf.pl/
United Kingdom http://www.neuroinformatics.org.uk/
United States http://apu.sfn.org/index.cfm?pagename=committee_neuroinformatics

National node web pages are in preparation for more countries.
INCF National Nodes

The countries participating in the INCF have by joining the INCF agreed to establish a neuroinformatics node at the national level. INCF National Nodes are facilities, or mechanisms, or other national arrangements, established to coordinate neuroinformatics activities within the country and to interface with the INCF Secretariat and global network. The INCF Secretariat, as a central facility, works internationally through the nodes to coordinate and harmonize national and regional neuroinformatics efforts.

By the end of 2007, most of the participating countries had established a node. Each node typically covers a few focus areas, but several touch upon a wide range of neuroinformatics topics.

Expert scientists from, or linked to, these nodes, have contributed to the INCF Workshops as invited participants or observers. Via the national representatives on the INCF Governing Board, the nodes have been updated on all major developments and initiatives undertaken by the INCF Secretariat in the build-up phase. Through the board as well as informal channels, the various nodes have influenced the planning efforts for coordinated actions to be performed by the Secretariat.

The Secretariat made preparations for specific actions to be launched in 2008, aiming at achieving integration of node activities in the overall work plan of the INCF and coordination among individual nodes around the world.

Growth in Participation

During 2007, Belgium, The Netherlands, United Kingdom, and Poland joined INCF as participants. The participants, each with one vote in the INCF Governing Board, numbered 14 by the end of 2007.

Also in 2007, an observer from the European Commission was appointed to the INCF Governing Board. The European Commission contributes to the INCF with a Special Support Action grant.
Program of the live demonstrations at the INCF booth, Neuroscience, 2007

Countries contributing with live demonstrations at the INCF booth, Neuroscience, 2007:

- France
- Germany
- Japan
- Norway
- United Kingdom
- United States
PubMed Plus and the Neuroscience Peer-Review Consortium

In June 2007, the Society for Neuroscience, with INCF as co-sponsor, organized the PubMed Plus leadership conference to discuss how neuroscience journals and databases might operate more collaboratively in order to permit more powerful mining of text and data published in the neuroscience literature. Participants included working scientists, journal editors and publishers, experts in computer science and semantic web technology, librarians, and representatives from scientific societies and funding agencies; many, but not all, had some association with neuroscience.

One of the working groups at the conference analyzed the feasibility of sharing manuscript reviews among neuroscience journals with different publishers. The group delivered the following recommendations:

- Establish a pilot Neuroscience Peer-Review Consortium, initially sponsored by the Society for Neuroscience, with journals represented at PubMed Plus initially invited to join;
- Develop a system of cascading submissions in which reviews from one journal in the Consortium could be passed to the next journal if the paper were not accepted by the first journal, and test this system over the next year;
- Identify a task force charged with implementing this plan;
- If the Consortium proves successful, formalize its existence, invite other journals to join, and move sponsorship to a permanent “home” at the International Neuroinformatics Coordinating Facility;
- If the Consortium proves successful, develop a front-end system to automate the review sharing process.

The recommendations were implemented and computational and administrative support is provided by the INCF in close collaboration with the NPRC Task Force, chaired by Clifford Saper and John Maunsell.

INCF at Neuroscience 2007

The INCF contributed for the second time as an Exhibitor at the annual meeting of the Society for Neuroscience. This year’s meeting took place in San Diego, California, November 3-7. At the booth, a pilot version of the upcoming INCF Software Center was presented and discussed, followed by interviews of visitors on the topic: “How neuroscientists find and use software tools for their research.” The interviews were performed by our Usability and Requirements Analyst. Workshop reports and other materials from the Secretariat were distributed, and each INCF node was given the opportunity to provide material about their activities.

The exhibit was centered on a series of live demonstrations of neuroinformatics databases, tools, and simulation environments. The program, announced in the Journal of Neuroscience and the exhibit program book, contained 12 teams of presenters representing six countries and more than 25 laboratories. The event was organized by Scientific Officer Raphael Ritz in collaboration with several INCF National Nodes.
1st INCF Workshop on Mouse and Rat Brain Digital Atlasing Systems.
Stockholm, February 13-14, 2007

1st INCF Workshop on NeuroImaging Database Integration.
Stockholm, August 30-31, 2007

1st INCF Workshop on Global Portal Services for Neuroscience.
Stockholm, September 3-4, 2007

1st INCF Workshop on Neuroanatomical Nomenclature and Taxonomy.
Stockholm, September 10-11, 2007

INCF Governing Board Strategy Workshop.
London, December 1-2, 2007

1st INCF Workshop on Sustainability of Neuroscience Databases.
Stockholm, December 13-14, 2007
INCF Workshops – Basis for Action

The INCF Secretariat coordinates topical workshops to facilitate networking, community interaction, and knowledge exchange. Workshop participants co-write a report that includes analysis and recommendations to the INCF. The recommendations represent the basis for actions to be initiated by the INCF, and the possible launching of an INCF program delivering products, services, standards, and guidelines. Each workshop has about 15 invited participants selected on the basis of their expert skills in the particular area of the workshop. INCF National Nodes are allowed to send observers.

The workshops deal with selected problems, including technical issues of primary importance for neuroinformatics, or research topics coupled to databasing of neuroscience data, tools developments, or modeling of nervous system functions.

Countries participating with invited experts or observers at INCF workshops during 2007:

- Australia
- Czech Republic
- Denmark
- Finland
- France
- Germany
- Italy
- Japan
- The Netherlands
- Norway
- Sweden
- Switzerland
- United Kingdom
- United States

1. The INCF organizes a topical workshop or a series of workshops with world leading experts.
2. Workshop participants collectively produce a report on the workshop, which the INCF uses as recommendations for future actions.
3. Actions recommended in the reports are evaluated for suitability and feasibility by the INCF Secretariat and the INCF National Nodes.
4. Selected actions are launched and executed at the INCF Secretariat, National Nodes, and/or external contractors.
5. The results of the activities are released at the INCF Neuroinformatics Portal, in forms such as products, services, standards, guidelines, and course curricula. Additional possible distribution methods include advertisements, press releases, and exhibits at scientific meetings.
INCF Programs

INCF programs represent long-term strategic undertakings to address issues of high importance to the neuroscience community. Targeted to well-defined groups of stakeholders and users, they span a relatively long period of time with the aim to actively solve identified problems by actions. INCF programs are multidisciplinary, organized under specific domain areas of neuroinformatics. Within each program, diverse actions, including products and services provision, standards establishments and compliance, and forum and community development, are carried out.

In October 2007, the INCF Governing Board authorized the launches of Program on Large-Scale Modeling and Program on Digital Brain Atlasing.

INCF Program on Large-Scale Modeling of the Nervous System

As computational modeling techniques become integrated with experimental neuroscience, more knowledge can be extracted from existing experimental data. Quantitative models assist in generating experimentally testable hypotheses and in selecting informative experiments. Large-scale models are becoming an essential tool in bridging multiple levels of organization in the description and understanding of the nervous system, and therefore, large-scale modeling plays an increasingly important role in neuroscience research. Building on the recommendations from the INCF workshop on the topic, the following actions started in 2007:

- INCF sponsored the development of a simulator interoperability interface product, The Multi-Simulation Coordinator (MUSIC), to be released through the INCF Neuroinformatics Portal, in close collaboration and synergy with PyNN, a Python package for simulator-independent specification of neuronal network models.
- INCF investigated the current status and needs for standards and guidelines, and will initiate further standards establishment in the area and promote their adoptions by the community.
- INCF prepared procedures and explored possible channels towards providing researchers in neuroinformatics with access to state-of-the-art computational technologies like Blue Gene as a broker.

INCF Program on Digital Brain Atlasing

Digital atlases act as two-dimensional or three-dimensional maps that researchers may use to traverse the brain and associated data of different granularity, modalities, and sources. Web-accessible brain atlases and spatial indexes have the potential to evolve into powerful tools enabling a dynamic, multidimensional mode of scientific interaction. Therefore, digital brain atlasing is of fundamental importance in neuroinformatics framework. The focus of INCF actions is to coordinate and improve the impact of atlasing projects. Several recommendations from the workshop on this topic commenced their implementation in 2007:

- INCF began to host the European mirror of the Allen Brain Atlas and will initiate developments connected to centralized and distributed atlas resources
- INCF formulated technical plans as well as tools for surveying available digital brain atlasing software and obtaining their essential specifications, and will establish links to and/or collaboration with them via the portal
- INCF liaised with key players/initiatives in the digital atlasing field and reached consensus to further the efforts of guidelines/standards establishment in collaboration with experts on nomenclature.
Networking and External Information

The Executive Director visited the National nodes of five participating countries, following visits to six countries during 2006, to set up interactions and identify the priorities of the nodes. Information for the web site as well as printed materials were prepared. INCF Secretariat staff participated at several international meetings, contributing to scientific planning or policy development, or general outreach.

The INCF participated as an Exhibitor at the Society for Neuroscience meeting in San Diego, November, 2007 (page 9). The exhibit focused on an extensive series of live neuroinformatics demonstrations, with invited scientists from six countries.

The INCF Secretariat assisted with preparations for a Special Issue on Neuroinformatics to be published in Neural Networks. Several members of the INCF Governing Board and the Executive Director have contributed as a funding editorial board for a new electronic open-access journal: Frontiers in Neuroinformatics (www.frontiersin.org/neuroinformatics).

Countries and organizations visited by the INCF Secretariat in 2007, in the context of meetings with nodes, node contacts, and science policy representatives, and contributions to scientific meetings:

- Australia
- Belgium
- China
- European Commission
- Finland
- Germany
- Norway
- Poland
- The Netherlands
- United Kingdom
- United States

From the INCF mission statement: “...facilitate the flow of information and knowledge between researchers in both academia and industry”
Plans for 2008

• Further develop and release the INCF Neuroinformatics Portal, to include services linked to the INCF programs, as well as general support services and entry points to other portal services in agreement with recommendations from the 1st INCF Workshop on Global Portal Services.

• Maintain the Neuroscience Peer Review Consortium web site and services.

• Release the Program on Large-Scale Modeling of the Nervous System and the Program on Digital Brain Atlasing with extensive portfolio of activities and achievements and services to be delivered through the INCF Neuroinformatics Portal.

• Prepare for the release of more programs for infrastructure developments and services, building on workshop recommendations.

• Organize more workshops and/or meetings of specialists related to activities under INCF programs.

• Put in place a new structure for international committees linked to the establishment of standards and guidelines, and advisory functions for INCF programs.

• Organize the 1st INCF Congress of Neuroinformatics: Databasing and Modeling the Brain, Stockholm, Sweden, September 7 – 9, 2008.

• Contribute as exhibitor and organizer of live neuroinformatics demonstrations at the meeting of the Federation of European Neuroscience Societies in Geneva, July 2008, and at the Society for Neuroscience meeting in Washington, DC, November 2008.

• Participate in international meetings for the purpose of informing the international community about services and activities of the global INCF network.

• Contribute to the development of new INCF node activities and to new interactions among nodes and between the nodes and the Secretariat.

• Establish Newsletter service.
Strategy Overview 2008 – 2010

The Strategy Overview for 2008 – 2010 was developed and prepared for approval by the Governing Board. The document is to be presented to the public in 2008.

Vision

INCF will catalyze and coordinate the global development of neuroinformatics comprehensively in the neuroscience community. This will result in a rapid development of brain science and advances of information technology. Neuroinformatics will ultimately contribute to new therapeutic methods for disorders of the nervous system, and bio-inspired technology will gain inspiration from the many ingenious neural information processing systems.

Mission

- To foster scientific interaction for discovery and innovation and facilitate the flow of information and knowledge between researchers in both academia and industry
- To serve as a credible and sustainable global network for developing, maintaining, and evaluating internationally coordinated neuroinformatics activities and infrastructures for standards, guidelines and references
- To facilitate training for producing highly skilled neuroinformatics researchers worldwide

Values

- Openness – INCF activities are open to all researchers who can contribute to neuroinformatics at the international level
- Neutrality – INCF priorities and directions are based solely on the collective benefit of science and research, with global brokerage being an important function of INCF
- Stability and Lasting Accountability – INCF-participating countries value and directly invest in sustainable products, services, and programs
- Result Orientation – INCF criteria for action are results and deliverables to fulfill the mission
- Global Excellence – INCF benchmarks for all activities are state-of-the-art and best-practice in both academia and industry
- Leadership and Innovation – INCF innovative approaches help to gain and maintain international leadership in supporting neuroscience research.
**Financial Summary**

Summary Financial Report 2007 in kSEK, kUSD, and kEURO

### Income Statement

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<th>kSEK</th>
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<th>kEURO</th>
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<td><strong>Income</strong></td>
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<tr>
<td>Total Income</td>
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<td>1 262</td>
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<tr>
<td><strong>Expenditure</strong></td>
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<tr>
<td>Staff expenditure</td>
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<td>-928</td>
<td>-681</td>
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<td>Running expenditure</td>
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<td>-42</td>
<td>-31</td>
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<tr>
<td>Program expenditure</td>
<td>-1 405</td>
<td>-205</td>
<td>-151</td>
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<tr>
<td>Professional Services</td>
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<td>-187</td>
<td>-137</td>
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<td>Secretariat facilities</td>
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<td>-46</td>
<td>-34</td>
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<tr>
<td><strong>Total expenditure</strong></td>
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<td>-1 408</td>
<td>-1 034</td>
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<td>Depreciation</td>
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<td>-2</td>
<td>-2</td>
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<td><strong>Total expenditure</strong></td>
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<td>-1 036</td>
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### Retained funds

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<th>kSEK</th>
<th>kUSD</th>
<th>kEURO</th>
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<tbody>
<tr>
<td>Retained and supplementary funds 2007</td>
<td>2 433</td>
<td>397</td>
<td>261</td>
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<tr>
<td>Retained funds 2006 Balance Carried Forward</td>
<td>21 783</td>
<td>3 554</td>
<td>2 335</td>
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<tr>
<td><strong>Total retained funds</strong></td>
<td>24 216</td>
<td>3 950</td>
<td>2 595</td>
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</table>

Average exchange rate 6,13 9,33
Annex: Financial Contributions

INCF Participants
Belgium
Czech Republic
Finland
France
Germany
Italy
Japan
The Netherlands
Norway
Poland
Sweden
Switzerland
United Kingdom
United States

The INCF is supported by:

- Contributions from the participating countries, based on Gross Domestic Expenditure on Research and Development
- The European Commission (Special Support Action: INCF)
- The Swedish Foundation for Strategic Research
- The Swedish Government (support in addition to contribution as member country)
- The host institutions for the INCF Secretariat: Karolinska Institutet, and the The Royal Institute of Technology, Stockholm
Annex: INCF Governing Board

Chair: Sten Grillner
Vice Chair: Shun-ichi Amari

Members:
Belgium Monnik Desmeth, Erik De Schutter
Czech Republic Mirko Novak, Vaclav Matousek
Finland Ulla Ruotsalainen
France Bernard Bioulac
Germany Christiane Buchholz
Italy Luciano Milanesi, Francesco Beltrame
Japan Shun-ichi Amari, Shiro Usui
Netherlands Jaap van Pelt
Norway Svein Dahl, Mari Nes
Poland Andrzej Wróbel, Daniel Wojcik
Sweden Sten Grillner, Anders Lansner
Switzerland Rodney J. Douglas, Carmen Adusumalli
United Kingdom David Willshaw, Gilliam Murphy
United States Daniel Atkins, Maryann Martone

Executive Secretary: Jan Bjaalie

Annex: INCF Secretariat Staff

Jan G. Bjaalie Executive Director
Hui Wang Deputy Executive Director
Mikael Naeslund Executive Advisor
Raphael Ritz Scientific Officer
Pontus Holm Program Officer
Elli Chatzopoulou Scientific Information and Public Relations Officer
Jeanette Hellgren Kotasinski Professor of Computational Neuroscience
Ylva Lillberg Usability and Requirements Analyst
Anders Larsson Systems Developer and IT Administrator
Per Strandberg Systems Developer
Ulf Larsson Controller
Linda Flodin Administrative Assistant
Sonia Olsson Administrative Assistant
Annex: Publications and Background Material

Workshop Reports:

Articles:

Conferences:

Background material

Understanding:
The legal document signed by all participants in the INCF that sets the framework for joining the INCF
http://www.incf.org/med/INCF_Understanding.pdf

Business plan:
The document that describes the mission and operating procedure of the INCF

PIN:
The framework document for the future Programme in International Neuroinformatics
http://www.incf.org/med/INCF_PIN.pdf

OECD reports:

The INCF website:
http://www.incf.org