Annual Report

2009

International Neuroinformatics Coordinating Facility
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2009 was also a year when INCF completed significant organizational consolidations. The Governing Board renewed the leaderships of Chair and Vice Chair and the Secretariat was restructured to better serve the growing Scientific Programs in promoting international collaboration. Cooperation among INCF National Nodes was enhanced and the value of the INCF global network was increasingly leveraged as demonstrated by the launch of several bilateral or multi-lateral activities.

In conclusion, 2009 marks a significant point in the development of INCF – it signifies the organization turning from building up operational basis to delivering results. Hence, I am confident that 2010, the last year of the first phase of the INCF, will be the time when a fully developed INCF activity portfolio is materialized, and when the added values of our international organization become evident in the daily work of neuroscientists worldwide – a step further towards the full elicitation of the scientific, medical, economic and societal potentials of neuroinformatics.

I am pleased to present the Annual Report for 2009 – the most important year in the short history of INCF.

First of all, as our nascent organization is approaching the final years of its initial phase, the first ever evaluation for operation and performance was conducted in May 2009 by a distinguished international review panel. The different INCF activities to date were evaluated as useful for the neuroinformatics community, and the coordinating roles of INCF were viewed as unique and of added-value to the participating countries. Capitalizing on the strengths demonstrated in the first three years, INCF is in the process for renewal of the second phase and a number of member countries have already officially signed the prolongation and pledged their contributions for a further 5-year period. In addition, India joined INCF in 2009 with their first 5-year commitment endorsed until 2014.

2009 witnessed, for the first time since INCF was established, the release of two specific products to the global Neuroinformatics community: Waxholm Space and the Multi-simulation Coordinator (MUSIC). To harness the optimal use of various digital brain atlases, an essential tool in neuroscience research and education, Waxholm Space is a standardized mouse reference that was created to facilitate interoperability among major atlases, based on international collaboration mediated by INCF. MUSIC is a simulator interoperability interface tool that enables different large-scale parallel simulators to exchange data on-line within a computer cluster. Both of these products were generated from INCF Scientific Programs aiming at promoting sharing and re-use of resources in Neuroinformatics. The neuroscience research community at large may directly experience the benefits of INCF through the hands-on use of these products. As a result, the key INCF mission to coordinate major infrastructures and activities worldwide has been demonstrated in a tangible way with concrete deliverables to the INCF stakeholders.
The INCF Secretariat  
Overview of Operations

From its premises in Karolinska Institutet, the INCF Secretariat with its 11.5 full time equivalent positions operated in full capacity throughout 2009. The operational structure was streamlined to serve the significant growth in INCF Programs, the key activity in the portfolio of the organization. In addition, interaction with the Royal Institute of Technology, the other host institution in Stockholm, was strengthened by a new joint INCF position at the PDC Center for High Performance Computing.

The founding Executive Director, Professor Jan Bjaalie, resigned from his INCF position on December 31, 2008 to return to his home university in Norway. He was available as a Special Advisor for the INCF in 2009. Dr. Mark Ellisman of the University of California, San Diego served as the Executive Director from January 1, 2009 to May 31, 2009, and then as Director for Strategic Planning, all on a part-time basis. From June 1, 2009, Professor Sten Grillner of Karolinska Institutet served as the Director in addition to his role as the Chairman of the INCF Governing Board for the rest of the year.

Due to the completion of the basic technical buildup of the INCF portal, the Secretariat reorganized its corresponding in-house development group in 2009 by reducing the number of Systems Developers and related IT professionals while increasing the efforts for portal content recruitment. The INCF Programs progressed significantly with a fully staffed team of Program Officers. A number of outcomes from the Programs were delivered in 2009 and subsequently integrated into the INCF Portal. The Scientific Communication and Public Relations Officer was succeeded by a scientist with direct expertise in neuroinformatics.

With these changes in personnel, the INCF Secretariat has now been restructured into the following functional divisions: Scientific Programs, Portal Development, Outreach and Communication (including the INCF Annual Congress), and Administration and Finance.

2009 was an important year for the development of INCF National Nodes. Following the 1st INCF Workshop for National Nodes, and a number of measures to promote interactions within the INCF global network implemented in 2008, virtually all INCF countries completed the establishment of their respective National Nodes by the end of 2009. Although the Nodes are at different stages of maturity and of varied structures based on national needs, circumstances and available resources, better integration with Secretariat activities and coordination among individual National Nodes continued being improved throughout 2009. As a result, INCF has begun to build up core infrastructure elements and other activities at the appropriate National Nodes since December 2009.

Organizational chart of the Secretariat
First Evaluation of INCF

The most significant event in 2009 for INCF was the first ever evaluation of the organization. The official document governing the establishment and operations of INCF, “Understanding for the International Neuroinformatics Coordinating Facility”, specifies that the progress and operations of INCF should be reviewed by an independent site visit team three years after the establishment of the organization. The review is to be used to evaluate the effectiveness of the governance structure, and to recommend any changes or the continuation/cessation of INCF beyond the initial five years.

On May 7 and 8, 2009, a Review Panel, composed of five eminent experts with complementary backgrounds, visited the INCF Secretariat (see box below).

Key achievements of the organization were presented to the Panel, covering the rationale and history of the establishment of INCF, the organizational developments, scientific programs and technical projects, educational and outreach initiatives, National Node structures and activities, and the vision for the future. The Review Panel also conducted interviews with the INCF leadership and spoke to all staff at Secretariat as well as the leads of key INCF programs and activities.

The panel assessed the strengths of INCF that have been demonstrated in the first three years of operation, and suggested the future directions. The strong leadership and a convincing strategic plan were applauded. The panel particularly commented that the clear understanding for INCF’s role as coordinator not a competitor has led to the identification of areas where INCF is needed for facilitating rather than duplicating efforts of existing activities.

“In conclusion, the Review Panel felt that the INCF has made remarkable progress, exhibited an exciting vision, and recommends continued support of this enterprise for the next five years.”

Review Panel

Dr. Kathie Olsen (Chair), National Science Foundation, USA. A neuroscientist by training, Dr. Olsen has served in the US National Science Foundation for many years, and as Deputy Director until 2009. She has also served in the Office of Science and Technology Policy of the White House, and is Head of the US delegation to the Global Science Forum of OECD.

Dr. Paul Messina is a prominent computational scientist. He was Director of Center for Advanced Computing Research at California Institute of Technology, and Principle Investigator for the Teragrid and the National Virtual Observatory projects. He has been a member of the Board of Directors of the Global Grid Forum and served on the advisory panel for CyberInfrastructure at the US National Science Foundation. In addition, Dr. Messina has been Senior Advisor to the Director of the CERN (European Organization for Nuclear Research) and Director of Advanced Simulation and Computing for Defense Programs in the National Nuclear Security Administration, US Department of Energy.

Dr. Masao Ito, RIKEN Brain Science Institute, Japan. Dr. Ito is an outstanding neuroscientist, member of the US National Academy, and receiver of the Japan Prize. He was a Dean at the University of Tokyo and subsequently the Founding Director of the Brain Science Institute at RIKEN. Dr. Ito has been the president of the International Brain Research Organization and played a prominent role in the multinational Human Frontier Science Program. He has been the advisor for research to the Prime Minister of Japan.

Dr. Richard Morris, The Wellcome Trust and University of Edinburgh, UK. Dr. Morris is well known for his research on mechanisms of memory and learning. He is a member of the Royal Society, UK, and is currently Head of Neuroscience and Mental Health at the Wellcome Trust, UK. He has been an advisor to Lord Sainsbury, UK Science Minister 1998 - 2006 and founder of the Gatsby Foundation. He is a past president of the Federation of European Neuroscience Societies.

Dr Klaus-Peter Hoffmann, Ruhr-Universität Bochum, Germany. Dr. Hoffmann is a pioneer in studies of visuomotor coordination in a broad range of experimental models from fish to primates, combined neuroinformatics techniques with analyses of basic neuronal networks. He has served in many different capacities including being the Dean of the Faculty of Biology, president of the German Neuroscience association, and in Human Frontier Science Program and the German Science Foundation (DFG).
Major fortes of the INCF are recognized by the panel as:

- INCF’s vision is compelling and in its first three years the organization has made a good start on creating the infrastructure that will enable INCF to carry out its mission.
- The workshops that INCF has organized have proven to be an effective mechanism for establishing strategies and priorities in key areas, and involving leaders in organizing specific projects to undertake.
- INCF has outlined a strong scientific program and developed extensive work plans to identify deliverables and outcomes.
- The INCF Neuroinformatics Portal will serve as a primary channel for accessing resources and information and to foster interactions within the research community.
- INCF has been very strong and effective in outreach to the research community.
- INCF has been recognized for their role in working with major research journals and the Society of Neuroscience to develop new directions in publishing research articles, to reduce the burden of review and to accelerate the time to publication.

The panel summarized their evaluation as:

“In conclusion, the Review Panel felt that the INCF has made remarkable progress, exhibited an exciting vision, and recommends continued support of this enterprise for the next five years.”

The INCF Secretariat (top) is well equipped to host meetings and workshops (middle). It is supported by the Karolinska Institute (bottom).
Development of INCF National Nodes

The value of INCF’s global network was increasingly recognized and leveraged in 2009 – this year witnessed further developments of the National Nodes in INCF member countries in terms of not only their individual growth but also new bilateral and multi-lateral collaborations.

Examples of INCF National Node collaborations during 2009 include:

- Polish-Norwegian: Neuroinformatics Workshop series
- German-Polish: Scientific Programming in Python
- German-Polish: Scientific Programming in Python
- Swiss-UK-German: Image Processing Course
- Swedish-UK-German-Indian: EuroSPIN: European Study Program in Neuroinformatics

New INCF Member Country: India

India officially signed the “Understanding of INCF” at the end of 2008, and became the newest member of the INCF global family in 2009. With important activities in neuroinformatics, India hosted their inaugural INCF activity, the Workshop on Multi-Scale Modeling, in Bangalore on November 19-21, 2009.

The aims of the Workshop were to promote the definition of model exchange standards for multiscale systems in biology, and to introduce basic issues and concepts in neuroinformatics and multiscale interactions in biology to Indian doctoral students and researchers. The Workshop was organized by Prof. Upinder Bhalla of the National Center for Biological Sciences, which serves as the INCF National Node of India, in conjunction with Erik De Schutter (Chair of INCF Multi-Scale Modeling program), Mark Ellisman and Sten Grillner.
Progress of the INCF National Nodes in 2009

Belgium

Since 2007, the Belgian Node has provided information to the neuroscience community in Belgium using the web portal www.neuroinformatics.be. This portal provides general information about neuroinformatics and international related events and allows registered users to post events in Belgium and communicate through a mailing list.

This year, the Belgian Neuroinformatics node obtained financial support for three years from the Belgian government via the FWO (Fonds Wetenschappelijk Onderzoek Vlaanderen), awarded to Prof. M. Giugliano. This support was immediately translated into the recruitment of Dr. Y. Le Franc as Scientific Coordinator of the Belgian node.

Dr. Le Franc participates in the INCF Task Force for a Standard Language for Neural Network Modeling. He is involved in the development of an ontology of the neural network modeling field. He organized the third meeting of the Task Force in Antwerp from Nov 5-6, 2009 and became Secretary of the Task Force under the supervision of Dr. Sean Hill.

In 2010, under the scientific coordination of Dr. Le Franc, the Belgian Node will develop community oriented activities. This includes gathering information about different laboratories in Belgium to present the expertise of the Belgian community on the web portal and to assess its needs in neuroinformatics.

Czech Republic

A group of research fellows (about 60 people from 11 Czech Universities research institutes and industry) form the current Czech National Neuroinformatics Node (CNNN).

In 2009, they took part in 4 significant domestic projects and research grants supported by the Czech Ministry of Education, the Czech Ministry of Transportation, the Grant Agency of the Academy of Sciences of the Czech Republic, and the Czech State Grant Agency.

During the course of 2009, the members of CNNN were mainly involved with neuroinformatic problems related to human interactions with transportation vehicles.

Special interest was given to development of novel methods of brain research. Internal parameters (temperature, oxidation and des-oxidation etc) by parallel detection of EEG activity and imaging in near infra-red region, coordinated with preliminary analysis by NMR. The results obtained from more than 40 persons seems to be promising especially for analysis if the reason for driver behavior conversion from tolerant to non-tolerant (aggressive) form and for development of the possibility to train the selected group of drivers for higher resistance to attention decreases and non-tolerant driving.

Further research was also done in the area of driver behavior on the base of head muscles tension with preliminary promising results. Much more measurement are expected in the course of the rest of 2009.

The neuroinformatic data basis developed in the Czech Republic has now about 12 specialized parts involving the data of more than 650 people. A special part of this base form the data of driver behavior on road, oriented to aggressive events. This base is now extended from pilot form to more complex one, oriented to systematic search on selected representative sample of road network in the Czech Republic.

In parallel, further development of the driving simulators were done and by the end of 2009 the "Vehicle Simulator Axis of the CR" will involve fully functional and frequently used adaptive driver simulators in Prague and Boleslav and others finished in Brno and Pilsen, representing together the necessary technical basis for much wider measuring activities.

Finland

In 2009, the INCF National Node of Finland finished gathering information about neuroinformatics activities in Finland. The project was started in 2008 and it included visits in different neuroscience and neuroinformatics related research groups in Finland. The Finnish Node also organized a second national workshop on neuroinformatics, entitled “INCF Imaging Brainstorm – The Resting Brain: What Happens When Nothing Happens?” The node supported pilot projects including a database project related to brain imaging data. In addition, the Node, located at Tampere University of Technology, Department of Signal Processing, obtained financial support for neuroinformatics coordination from the Academy of Finland for 2010-11 (responsible leader Prof. Ulla Ruotsalainen, Tampere University of Technology, Department
of Signal Processing). Internationally, the Finnish Node contributed by organizing the INCF Autumn School on Methods in Neuroinformatics. The course was a satellite event of the INCF Neuroinformatics 2009 Congress in Pilsen, Czech Republic.

In 2010, the INCF Finnish Node will support national workshops, a pilot training course for Ph.D. students and post-doctoral researchers, web-based learning material, and different kinds of networking. Collaboration with other Nordic nodes will be intensified regarding the training course and learning material. The chair of coordination is Prof. Ulla Ruotsalainen. In 2010-11, executive coordination will be done by Dr. Marja-Leena Linne. The coordination is supported by a national steering group of nine members.

Germany

Following the appointment of Thomas Wachtler as Scientific Director of the German Node (G-Node), and the hiring of additional staff members, the G-Node has intensified its activities to facilitate data sharing and data analysis, focusing on neurophysiology. Collaborations with other initiatives and laboratories have been established, and tools for format-independent data access, metadata management and data sharing are currently under development. Providing data storage and computing resources, the node supports several collaborative projects of experimental and computational neuroscientists.

The German Node has contributed to the special focus on neuroinformatics at the CNS*2009 meeting, and organized a symposium on analysis tools and data sharing in neurophysiology that brought together a wide range of international experts to discuss recent developments in the field (www.cnsorg.org/2009/informatics.shtml). During the year, the German Node has also organized or contributed to several training courses for students and postdocs, with specific focus on data analysis and software development (www.g-node.org/teaching). Most of these courses will continue to be offered on a regular basis.

Members of the German Node core team:
Andreas Herz, Coordinator
Martin Nawrot, Scientific Consultant
Philipp Rautenberg, Systems Developer
Willi Schiegel, Systems Administrator
Andrey Sobolev, Systems Developer
Thomas Wachtler, Scientific Director
Tiziano Zito, Systems Administrator and Consultant

India

The Indian National Node of the INCF took shape in 2009. Its first activity, which marked the entry of India into INCF and initiated the process of node formation, was to conduct an INCF workshop. This workshop was the INCF Multiscale Modeling Meeting, India (IMMMI), which was held in November 2009 at NCBS Bangalore. This meeting brought together scientists working on models of many different scales of neuroscience, from single molecules up to entire neural systems and behaviour. The meeting report will feed into the deliberations of the INCF Program on Multiscale Modeling.

There were a number of initiatives to follow up from the IMMIM meeting that will form the start of the activities of the Indian Node. These included three specific projects that were well-represented from among the Indian research community:
- Developing standards and models at the interface between biochemical signaling and electrical activity of neurons
- Modeling of the brain as a tissue
- Mechanical simulations

In addition to these planned projects, the Node members plan to organize a follow-up meeting on neuroinformatics in 2010, probably to take the form of a training workshop. All the Indian attendees at the meeting were enthusiastic about participation in the Node.

Following the IMMIM meeting, the Indian Node has been publicized among neuroscientists and researchers in allied areas of modeling. The node activities have also been discussed with the Indian funding agencies (e.g., Department of Biotechnology) and they are enthusiastic about funding streams for such research.

The following persons are involved in the Indian Node:
Rishikesh Narayanan and Vijayalakshmi Ravindranath, Indian Institute of Science, Bangalore
Manjari Tripathi, All India Institute of Medical Sciences, Delhi
Chaitanya Athale, Indian Institute of Science Education and Research, Pune
Rohit Manchanda, Indian Institute of Technology,
Mumbai
Srinivas Chakravathy*, Indian Institute of Technology, Madras
Basabi Bhaumik*, Indian Institute of Technology, Delhi
Shireen Valli*, CellWorks, Bangalore
R. Mathuranath#, Sree Chitra Tirumal Institute for Medical Sciences and Technology, Trivandrum
Gautam Menon*, Institute for Mathematical Sciences, Chennai
Bapi Raju, University of Hyderabad
Abhijit Mitra, Indian Institute of Information Technology, Hyderabad
Upinder S. Bhalla*, National Centre for Biological Sciences, Bangalore
Pramod Pullarkat, Raman Research Institute, Bangalore
Prasun Roy*, National Brain Research Centre, Manesar
Venkat Subramaniam, National Institute of Mental Health and Neuroscience, Bangalore

* Present at the IMMMI meeting
# Discussed INCF Node involvement

At present the node startup activities are coordinated by Upinder S. Bhalla, National Centre for Biological Sciences (bhalla@ncbs.res.in).

Italy
Since 2007, the Italian Neuroinformatics Node has obtained financial support from the Italian government via the MIUR ITLABIONET (Italian Bioinformatics Network) project for 3 years. This support has been used under the scientific coordination of Dr. Luciano Milanesi and Prof. Francesco Beltrame for Italian Node activity. The Italia Node Webportal has been realized at DIST University of Genoa in order to provide information about international events and neuroinformatics tools for the user community. In 2008, the Italian Node hosted the first INCF Nodes Workshop in Varenna. The main scientific activities have been focused on data sharing and grid data analysis within the area of Computational Systems Biology, to define model-based reasoning, with reference to the genetic, biochemical and cellular mechanisms initiating and regulating fundamental biological neural processes. The Nervous System Database NSD (www.itb.cnr.it/gncdb) has been realized by the CNR-ITB; it contains a collection of genes expressed in the nervous system and provides a series of tools to facilitate the analysis with a data integration approach for neuroinformatics research oriented to systems biology.

Participants at the IMMMI meeting in Bangalore, India, November 2009
Japan

As the Japan-Node (J-Node) of INCF, the Neuroinformatics Japan Center (NIJC) at RIKEN BSI organizes Japanese activities in neuroinformatics research. In 2009, the Neuroimaging Platform (PF) and the Dynamic Brain PF have opened to the public, and total of nine neuroscience PFs are now openly available through the J-Node portal, with two more platforms under development. In addition, four new projects of BSI-NI started their activities for establishing PFs this year. They are based on the base-platform XooNips (xoonips.sourceforge.jp).

In terms of outreach, the J-Node has issued Newsletters and J-Node PF News, and also presented their activities at CNS 2009 (July 18-23 2009, Berlin, Germany), Neuroscience 2009 (September 16-18, Nagoya, Japan), and SfN Neuroscience 2009 (October 17-21, Chicago, USA). A symposium titled "Platforms at the Neuroinformatics Japan-Node" was held at Neuroscience 2009 in Nagoya, and the J-Node hosted a demo booth during the conference.

For the 3rd INCF Congress of Neuroinformatics 2010, the local organizing committee has been established at the NIJC, and is coordinating the event together with INCF.

J-Node staff:
Shiro Usui (Director)
Takahiro Kokubo (Deputy Director)
Fumihiko Akazawa (Engineer)
Yoshihiro Okumura (Engineer)
Mari Aoki (Secretary)
Hitomi Okano (Secretary)

Platforms of the J-Node:
1. Visiome PF
Head: Yoshimi Kamiyama, Aichi Prefectural University
2. Brain Machine Interface PF
Head: Toshio Iijima, Tohoku University
3. Invertebrate Brain PF
Head: Ryoei Kanzaki, University of Tokyo
4. Cerebellar Development Transcriptome Database
Head: Teiichi Furuichi, RIKEN BSI
5. Integrative Brain Research PF
Head: Tadashi Isa, NIPS
6. Cerebellar PF
Head: Soichi Nagao, RIKEN BSI
7. Neuro-Imaging PF
Head: Ryoji Suzuki, KIT
8. Dynamic Brain PF (under development)
Head: Minoru Tsukada, Tamagawa University
9. Simulation PF
Head: Hidetoshi Ikene, Univ. Hyogo
10. 3D Brain Atlasng of Degus (BSI-NI)
Head: Atsushi Iriki, RIKEN BSI
A core activity of the INCF Norwegian Node (www.cmbn.no/incf) has been the stimulation and funding of several small projects to stimulate increased use of neuroinformatics in Norwegian neuroscience. The projects may, for example, involve strengthening ongoing neuroscience research projects by incorporating methods from neuroinformatics; development or adaptation of neuroinformatics tools; support for organization of neuroinformatics meetings; or funding of visits to promote links with strong neuroinformatics environments. In 2009, five new projects have been started, adding to the twelve projects begun previously. The project list reveals a healthy span both in terms of the geographical location and type of institutions involved, and in terms of project contents. Project leaders have so far come from six different universities and colleges and two hospitals all over Norway; likewise, the projects have spanned all three major branches of neuroinformatics (data- and knowledge-bases, tools for analysis and visualization of neural data, computational neuroscience) and have addressed problems both in basic and clinical neuroscience.

The Norwegian Node has developed a close collaboration with the Polish Node. In addition to several visits between the two Nodes, two well-received Polish-Norwegian Neuroinformatics workshops have been arranged: the first in Ski, Norway, in January 2009 (compneuro.umb.no/lfpworkshop/LFP_workshop/Home.html), and the second in Warsaw in January 2010 (www.neuroinf.pl/NIWorkshop2010).

Personnel connected to the Norwegian INCF Node:

Leaders:
- Prof. Gaute T. Einevoll, Norwegian University of Life Sciences
- Prof. Johan Storm, University of Oslo

Representatives on INCF Governing Board:
- Prof. Svein Dahl, University of Tromsø
- Dr. Camilla Haglerød, Research Council of Norway

Administrative/technical support:
- Dr. Klas Pettersen, Norwegian University of Life Sciences
- Sonja Tveiten, University of Oslo

National advisory board:
- Prof. Atle Bjaalune, Oslo University Hospital & Univ. of Oslo
- Prof. Jan G. Bjaalune, University of Oslo
- Prof. Svein Dahl, University of Tromsø
- Prof. Asta Håberg, Norwegian University of Science and Technology
- Prof. Arvid Lundervold, University of Bergen

Poland

Education: Two new BSc courses were created in Poland in the fall of 2009. “Neuroinformatics” is a complete BSc program prepared from scratch in the Physics Department of the Warsaw University. It received 66 applications, and 20 students were admitted into the program. A complete description of the program is available at: www.neuroinformatyka.pl/. “Cognitivistics” is a complete interdisciplinary BSc program with neuroinformatics components, at Nicolaus Copernicus University in Torun. It received 160 applications with 75 students admitted into the program. A complete description of the program (in Polish) is available at: www.kognitywistyka.umk.pl/.

Activities: national: A short hands-on course “Introduction to nervous system modeling with Neuron” with 17 participants was organized at the Nencki Institute of the Experimental Biology under the auspices of the Polish Neuroscience Society (14-15 April 2009), www.neuroinf.pl/warsztaty_neuron/.

A session on modern data analysis methods in electrophysiology was organized during the 9th International Congress of the Polish Neuroscience Society, 2009.

Activities: international. Two Polish-Norwegian Neuroinformatics Workshops were organized by the Polish and Norwegian INCF Nodes, supported by a grant from the Polish-Norwegian Research Fund and the Nencki Institute. The first one, “Modeling of extracellular field potentials”, took place 15-16 January 2009 in Ski, Norway, compneuro.umb.no/lfpworkshop/LFP_workshop.

The Advanced Scientific Programming in Python Winter School has been organized by G-Node and the Physics Department of the University of Warsaw, and will take place 8-12 February, 2010: escher.fuw.edu.pl/python-school/.

Node members

The most involved people in node activities in 2009:
Katarzyna Blinowska, Physics Department, Warsaw University
Piotr Durka, Physics Department, Warsaw University
Szymon Łęski, Nencki Institute of the Experimental Biology
Daniel Wójcik, Nencki Institute of the Experimental Biology
Andrzej Wróbel, Nencki Institute of the Experimental Biology

Institutions supporting Polish membership in the INCF:
Nencki Institute of the Experimental Biology, Polish Academy of Sciences, Warsaw
Warsaw University, Department of Mathematics and Computer Science
Nicolaus Copernicus University, Chair of Applied Computer Science, Torun
Institute of Biocybernetics and Biomedical Engineering, Polish Academy of Sciences, Warsaw
AGH University of Science and Technology, Chair of Automatics, Cracow
Medical Academy in Wroclaw, Department of Medicine, Chair of Biophysics, Wroclaw
Warsaw School of Social Sciences and Humanities, Department of Psychology, Warsaw
Warsaw School of Finance and Management, Department of Psychology, Warsaw
EEG Institute, Warsaw
Polish Society of Neuroscience PTBUN
Polish Neural Network Society
Polish Cognitivists Society
Polish Academy of Sciences, Committee of Neuroscience

Sweden

The INCF National Node of Sweden is located at The Royal Institute of Technology (KTH) in Stockholm and was established in August 2006. The Chair and Coordinator is Professor Jeanette Hellgren Kotaleski at the Department of Computational Biology, School of Computer Science and Communication, KTH. The node functions as a network of research groups, which in most cases is tightly tied to the Stockholm Brain Institute. The research activities are covering large-scale computing and software tools for modeling and simulations, and databases for brain imaging. Neurorobotics is also represented. The Swedish node is also coordinating an Erasmus Mundus PhD training network in neuroinformatics involving partners from four INCF member countries.

The members of the Swedish INCF node network are:
Computational neuroscience and brain-like computing:
Mikael Djurfeldt, KTH
Örjan Ekeberg, KTH
Erik Fransén, KTH
Sten Grillner, Karolinska Institute (KI)
Jeanette Hellgren Kotaleski, KTH and KI
Anders Lansner, KTH and Stockholm University
Dan Lundh, University of Skövde
Gilad Silberberg, KI
Jesper Tegnér, KI

Neuroimaging and databases:
Martin Ingvar, KI
Lennart Jonsson, KTH
Patrik Krieger, KI
Erwin Laure, KTH
Tony Lindeberg, KTH
Per Roland, KI
Gert Svensson, KTH

Neurorobotics:
Christian Balkenius, Lund University
Tom Ziemke, University of Skövde
United Kingdom

The UK Node Steering Group has been meeting every six weeks since continuation of Node funding was secured in early 2009.

The primary activity of the Steering Group has been to plan for a conference on neuroinformatics to be held on February 1-3 2010 in Edinburgh. The conference has a rich profile of national and international speakers and also features specialist workshops including ones showcasing UK Neuroinformatics and a Skills Exchange Forum. For more details, see: www.neuroinformatics.org.uk/Node-Congress.

The UK Node is contributing to funding open-call research workshops on neuroinformatics-related topics. The latest workshops for which funding have been approved are:

(i) 20th-24th September 2009: Imperial College London. “Modelling brain networks in functional and structural MRI data.” Organiser: Dr. Christian Beckmann, Division of Neuroscience and Mental Health, Imperial College London.


(iii) September 13-14th, 2010, St. Anne’s College, University of Oxford: “Future Challenges in Mathematical and Computational Neuroscience.” Organisers: Prof. Peter Dayan, Gatsby Computational Neuroscience Unit, UCL; Prof. Paul Bressloff, Mathematical Institute, University of Oxford. UK neuroinformaticians are playing their part in INCF activities with significant representation in all INCF Programs:

Multi-Scale Modeling:
Peter Latham and Mark van Rossum on Oversight Committee
Robert Cannon and Padraig Gleeson on Task Force

Digital Brain Atlasing:
Richard Baldock on Oversight Committee
Albert Burger on Waxholm Space and Infrastructure Task Forces

Ontologies of Neural Structures:
Colin Ingram on Oversight Committee
Peter Somogyi, Alex Thomson and Nicolas Le Novere on Neuron Registry Task Force
Albert Burger, Bernard de Bono and David Osumi-Sutherland on Representation and Deployment Task Force

Colin Ingram has been appointed Chair of the Oversight Committee of the newly formed Metadata Standards Program.

David Willshaw was Program Chair for the 2009 INCF Congress in Pilsen. He organised the 2nd INCF Workshop on Training that followed the Congress as well as the 3rd Workshop which took place on October 26-27 in Edinburgh. Richard Baldock and David Willshaw are on the Program Committee for 2010 INCF Congress in Kobe.

UK Node Steering Group:
Peter Cowley, Quarndon Cognition
Colin Ingram, University of Newcastle
Marc de Kamps, University of Leeds
Ian Piper, Greater Glasgow Health Board
Jonathan Roiser, University College London
Angus Silver, University College London
Leslie Smith, University of Stirling
John Terry, University of Bristol
David Willshaw (Chair), University of Edinburgh

In the US, it has been decided not to have a single node but a set of distributed nodes that represent major neuroinformatics initiatives and centers in the US. The first node to be established was at UCSD, under the auspices of the Neuroscience Information Framework (NIF; www.neuinfo.org) project. While the neuroinformatics committee of the Society for Neuroscience had been serving unofficially as a US node, the SFN council formally took up the matter at the fall meeting. They declined to continue as a node, largely because they view themselves as an international organization with growing international membership. Rather, they recommended that NIF be a node. NIF is also coordinating with different groups such as the Neuroimaging Tools and Resource Clearinghouse (NITRC; www.nitrc.org) and Collaborative Research in Computational Neuroscience (CRCNS; www.crcns.org) to establish group mailing lists to inform INCF and each other of neuroinformatics activities in the US. The NIF project headed by Dr. Maryann Martone at UC San Diego, has partnered with INCF in the maintenance of the BrainInfo resource created by Doug Bowden. BrainInfo is a large database of anatomical structures with associated vocabularies and metadata that required support upon Dr. Bowden’s retirement. Given the extensive nature of the collection, this resource was successfully transitioned to UCSD through support from INCF and work was performed on the BrainInfo resource to support the goals of the Program in Ontology of Neural Structures (PONS). NIF is maintaining the Neurolex Wiki, a semantically enhanced Wiki built from the NIF vocabularies. The wiki has been modified in support of the PONS program with assistance from INCF. The NITRC project under the direction of Dr. David Kennedy is working closely with the INCF tools registry to establish interoperability. Dr. Kennedy is also working with INCF on the local arrangements for the 2011 Neuroinformatics meeting to be held in Boston. Members of the NIF project and UCSD community have been very active in the atlasing program as well, with Dr. Ilya Zaslavsky at UCSD heading the Task Force responsible for developing and deploying the Waxholm Space infrastructure.

US scientists discussing a demo at the 2nd INCF Neuroinformatics Congress in Pilsen, 2009.
Topical Workshops

INCF has established a step-wise procedure for planning activities. A Topical Workshop is the first step and, as the basis for forthcoming activities, of critical importance.


The main theme was to discuss the use and benefits of applying neuroinformatics at each phase of building, evaluating and using genetic animal models for human brain diseases. Chaired by Prof. Olaf Riess of University of Tuebingen, the Workshop gathered world leading experts in rodent, non-human primate, and zebrafish models. With both experimentalists and neuroinformaticians, the state-of-the-art and possible roles for INCF to promote the developments in the field, particularly via neuroinformatics approaches, were discussed.

In addition, representatives from US National Institutes of Health and the European Commission Directorate for Research presented the ongoing and scheduled initiatives in the US and Europe, and discussed possible coordination and value added actions for INCF.

It is expected that the recommendations from this workshop will lead to launch of further activities in the field and thus, marking the first turning point for INCF towards more clinically relevant actions.

Participants at the Genetic Disease Models Topical Workshop, outside the INCF Secretariat in Stockholm.
**INCF Programs**

Programs have been the key instrument to pursue the INCF mission, and have now grown to occupy a prominent position in INCF activity portfolio. In 2009, all launched programs progressed at a rapid pace, and a new Program on Metadata Standards was initiated.

**Digital Brain Atlasing**

Digital brain atlases are an essential tool in neuroscience research. They function as references, as analytical tools, and provide a stable data integration framework to investigate normal and abnormal brain structure and function. The INCF Digital Brain Atlasing Program began with the creation of a standardized reference atlas for the mouse brain, based on international agreements reached at a meeting in Waxholm, Sweden and accordingly termed as "Waxholm Space". Release of the initial Waxholm framework/prototype was achieved in mid-2009. A production level of Waxholm Space was installed six months later. Thus, the Digital Atlasing Program completed its first task at the end of 2009.

A second Task Force has been formed to address the needs of clients working on any platform to use atlases interoperatively via Waxholm Space. The key actions would include defining Waxholm Space translation services and mapping other major atlases into Waxholm Space, and defining and publishing the mapping pipeline/processes, i.e. best practice.

Another activity within the Program is Allen Brain Atlas Mirror Site. As a service that INCF provides to the global community to improve their access to this major infrastructure, the mirror site has been functional well since early 2008. Royal Institute of Technology, the co-host institution of INCF Secretariat, has been the key for the smooth operation.

Chair of Oversight Committee:
Robert Williams, University of Tennessee, USA

Task Force Leads:
Michael Hawrylycz, Allen Institute for Brain Science, USA
Ilya Zaslavsky, University of California San Diego, USA

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INCF digital atlasing infrastructure (INCF-DAI) shall be constructed from a collection of distributed services that support publication, discovery, and invocation of heterogeneous atlas resources.
Ontologies of Neural Structures

Controlled vocabularies are necessary for the useful and practical sharing and re-use of data. Ontologies in neuroscience are formal representations of the set of terms used within a domain area of research and the relationships between the terms, i.e. a platform for translation and clarification of terminologies. In 2009, the INCF Program on Ontologies of Neural Structures advanced into full operation with three Task Forces to develop (a) a structural lexicon defining structural entities for the nervous system; (b) a neuronal registry serving as a key knowledge base; and (c) representation and deployment infrastructures providing IT platforms and support.

Neuronal Registry Task Force:
The goal and scope of the Neuron Registry was defined in 2009, with the Petilla terminology serving as the basis for INCF effort. The task force designed the curator interface and INCF-supported software team implemented the resulting specifications. Release of a beta version of the Neuron Registry is scheduled at the end of 2010.

Structural Lexicon Task Force:
The NeuroLex website (neurolex.org) is the tool for this task force to develop a wiki-like technical platform. By test-populating Neurolex with a focus on brain-related gross anatomy, cells, synapses, and connections in the adult of four species (mouse, rat, macaque monkey, and human), NeuroLex were further modified in 2009 to pave the way for population from the community. The task force coordinated the efforts closely with BrainInfo, a neuroanatomical resource that sustained its availability via INCF brokerage to INCF US Node in early 2009, and the Neuroscience Information Framework (NIF), a NIH funded project to provide neuroinformatics services.

Representation and Deployment Task Force:
The infrastructure development for the program was in parallel with the efforts of the other two task forces. In 2009, the initial focus was determined to be on representing neurons and anatomy of the brain, with the ontology logical formalism based on the evolving OBO foundry, a collaborative of developers of science-based ontologies in the biomedical domain.

Chair of Oversight Committee:
Maryann Martone, University of California San Diego, USA

Task Force Leads:
David Van Essen, Washington University, USA
Giorgio Ascoli, George Mason University, USA
Alan Ruttenberg, Science Commons, Cambridge, USA
Multi-Scale Modeling

Multi-scale modeling is a tool of critical importance for neuroscience. As computational modeling techniques become integrated with experimental neuroscience, more knowledge can be extracted from existing experimental data. One major challenge in the field is the absence of widely adopted standards for model description, which hampers reproduction of simulation results, compatible programs, innovative software development and benchmarking of existing simulators. The INCF has started two projects within this program that tackle this challenge from different aspects, developing practical community standards for future model and software construction, and generating tools to connect existing key simulators to enable interoperability for existing models.

In 2009, efforts for a new standard markup language for model description progressed rapidly. The scope of the initiative was determined and an action plan on detailed technical developments was finalized through three meetings of the Task Force. The initial focus aims at describing a growing area of computational neuroscience, spiking networks. In addition, the new INCF membership of India promoted discussion on complementary actions in other areas, including compartmental models, synaptic microphysiology, cellular mechanics, and electrodynamics.

While the action to establish standards will evidently assist the interoperability and sharing for future modeling work, many existing models would benefit from software tools for integration and interaction between different simulators in order to harness fully their usefulness. Accordingly, a project to develop a simulator interoperability interface tool, the Multi-Simulation Coordinator (MUSIC), was launched. In 2009, MUSIC was released as open source software that can be downloaded, together with a user manual, from the INCF Software Center. By the end of the year, three simulators in the community, NEST, Neuron and MOOSE, had added a MUSIC interface.

Chair of Oversight Committee:
Erik De Schutter, Okinawa Institute of Science and Technology, Japan

Task Force Leads:
Sean Hill, Blue Brain Project, EPFL, Switzerland
Anatoli Gorchetchnikov, Boston University, USA
Ivan Raikov, Okinawa Institute of Science and Technology, Japan

The newly developed logo for MUSIC
Minimal Metadata Standards

Neuroscience data, particularly those in neuroinformatics related areas, are associated with a rich set of descriptive information that is often called metadata. For data archiving, storage, sharing and re-use, metadata are of equal importance to primary data, as they define the methods and conditions of data acquisition, and (for analyzed data) the statistical procedures. A further challenge for metadata is the rapidly evolving nature of investigative methods and scientific applications. This INCF Program aims to address key issues to establish minimal metadata standards such as

1) how should metadata be organized and made accessible with the primary data?
2) how should these metadata be structured to handle the large diversity, and in certain instance complexity, of existing descriptors?
3) how can databases adapt to handle new forms of metadata as new methods and/or applications emerge?

In 2009, INCF invited leading experts to craft international agreements regarding metadata standards. The overall scope and action plan for the program were determined. There are large initiatives involving related work in INCF member countries (e.g., CARMEN, UK; Bernstein Centers, Germany) and at many of the laboratories directly associated with the INCF National Nodes. Accordingly, the initial scientific foci are neuroimaging and electrophysiology.

Chair of Oversight Committee: Colin Ingram, Newcastle University, UK

Australia India Poland
Austria Israel Spain
Belgium Italy Sweden
Czech Republic Japan Switzerland
Finland Netherlands Taiwan
France New Zealand United Kingdom
Germany Norway United States
Hungary

Countries with representation on Oversight Committees or Task Forces of different INCF Programs, or who have participated in Topical Workshops.
Portal Development

A major achievement of INCF in 2009 was the completion of the technical construction of the INCF Neuroinformatics Portal, which aims to become a major tool for the entire neuroinformatics community for both research use and public dissemination of information. Based on a careful analysis of the different types of users who might access the portal, the basic structure, function and presentation have been designed to be professional and user-friendly, and the concept of “portal of portals” has been followed to match the INCF recognized role of international coordination.

In 2009, the continued development of the INCF Portal shifted from construction of the technical platform to content and service provision, i.e., populating the Resource and Community sections. The major directions during this year included:

(a) increased content curation of INCF activities and products, particularly that generated from INCF Programs, and contributions from the relevant communities. Waxholm Space was the first to be technically installed at and become available through the INCF Portal

(b) integration with existing and planned neuroinformatics resources and initiatives worldwide such as BrainInfo, Neuroscience Information Framework, and NeuroGlobe.

Along this line of development, the INCF Software Center integrated its content with NITRC in April 2009, so that software tools registered on one site are also present at the other.

Equipment at the Royal Institute of Technology

Above: The Blue Gene/L rack, in which INCF has a share.
Left: Servers hosting Waxholm Space Transformation and other services
Workshop topics:

- Advances in the automatic analysis of multi-dimensional data
  Chairs: Jaap Van Pelt, Ulla Ruotsalainen
  Bart ter Haar Romeny, Uri Eden, Klaus Linkenkaer-Hansen

- Ontologies for neuroscience: applications and advances
  Chair: Maryann Martone
  Tim Clark, Alan Ruttenberg, Jeffrey Grethe

- How should a neuron be modeled: biophysical detail vs. abstraction
  Chairs: Gaute Einevoll, Andreas Herz
  Arnd Roth, Wulfram Gerstner, Peter Hunter

- High performance computing and grid infrastructure for neuroinformatics applications
  Chairs: Luciano Milanesi, Shiro Usui
  Markus Diesmann, Andrey Semin, Pietro Liò

- The neuroinformatics of neural connectivity
  Chairs: David Willshaw, Kevan Martin
  Albert Cardona, Giorgio Ascoli, Rolf Kötter

Keynote speakers:

- Kenji Doya
- Andrew Schwartz
- Alon Halevy
- Shankar Subramaniam
- Astrid Prinz
- Arthur Toga

Supported by the EU Special Support Action INCF, the INCF Central Fund and the Swedish Foundation for Strategic Research.

www.neuroinformatics2009.org

Poster for the 2nd Neuroinformatics Congress in Pilsen, Czech Republic, 2009.
Multi-faceted Outreach
INCF Neuroinformatics Congress

Following the successful 1st INCF Congress in Neuroinformatics, the 2nd INCF Congress took place in Pilsen, Czech Republic. The scientific program included keynote speeches, workshop presentations and discussions, and live demos and posters. Over 210 individuals attended the Congress. Improvements based on the feedback from the previous Congress were implemented, in particular making posters visible for the duration of the Congress. The keynote speeches and workshops were well received. INCF also exhibited its full activities and direction for further developments.

New to the 2nd Congress was the Quantitative Single-Neuron Modeling Competition. In 2009, the organizer of the competition, Brain Mind Institute of the Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland, began the collaboration with INCF. In this third round of the competition, four challenges were set. Two categories of prize were awarded this year: Ryota Kobayashi of Japan, in collaboration with Shigeru Shinomoto, was awarded the top INCF Prize which was handed out for the first time in the competition’s history; Karim El-Laithy (Germany) and Ja-Lyoung Joe (S. Korea) shared the FACETS Award.

The competition was launched several years ago to offer a coherent framework in which to compare neuronal models and fitting methods. The aim is to bridge the gap between experimentalists and modelers, and to provide the opportunity for modelers to compare their methods and models to those of others in the field, which is also an essential objective of the INCF mission. How well single-cell properties are reproduced by present-day neuronal models, and how to quantify “well reproduced”, are interesting questions in neuroinformatics. Recently, several labs have approached this question by assessing the quality of neuron models with respect to spike timing prediction or characteristic features of the voltage trace. So far, however, all modelers have used their own preferred performance measures on their data sets.

Ryota Kobayashi was awarded the top INCF Prize, the first one in the history of the competition.
INCF is an international organization devoted to advancing the field of neuroinformatics

Neuroinformatics combines neuroscience and informatics research to develop and apply the advanced tools and approaches that are essential for major advances in understanding the structure and function of the brain.

Live demonstrations at the INCF booth #2100 at SfN 2009 in Chicago!

**Sunday, October 18**
**morning (09:30 - 12:30)**
- Reaching 500 models in ModelDB: implications for advances in neuronal integration
  
  Marsze, T., Carnevale, N.T., Migliore, M., Hines, M.L., and Shepherd, G.M.

- Modelling Large-Scale Neuronal Networks with the NEST Topology Module
  
  Plesser, H.E., Austvoll, K., Diesmann, M., Eppler, J.M., Gewaltig, M.O., and Morrison, A.

**afternoon (13:30 - 16:30)**
- Spectral Analysis of Neural Time Series Data: An introduction to Chronux
  
  Bokil, H. and Mitra, P.

- BrainInfo Online 3D Macaque Brain Atlas
  
  Dubach, M.F. and Bwedden, D.M.

**Monday, October 19**
**morning (09:30 - 12:30)**
- INCF Japan Node (J-Node) and neuroinformatics platforms: Integrative Brain Research Platform, Cerebellar Development Transcriptome Database Platform
  
  Usui, S., Takao, K., Wagatsuma, H., and Kamiji, N.L.

- The INCF Digital Brain Atlas: Community Built Infrastructure Spanning Multiple Atlas Spaces
  
  Hawrylycz, M., Lau, C., Larson, S., and Boline, J.

**afternoon (13:30 - 16:30)**
- INCF Japan Node (J-Node) and neuroinformatics platforms: Dynamic Brain Platform, Related Abstract Search Tool
  
  Usui, S., Wagatsuma, H., Asai, Y., Inagaki, K., and Kamiji, N.L.

- The CARMEN Portal for Sharing and Analysis of Neurophysiological Data
  
  Ingram, C., Smith, L., Simonetto, J., Williams, L., Hiden, M., Senogor, E., Jackson, T., and Austin, J.

**Tuesday, October 20**
**morning (09:30 - 12:30)**
- Neuroinformatics resources for computational neuroanatomy
  
  Polavaram, S., Hamilton, D., and Ascoli, G.A.

- The Rodent Brain Workbench: Web-enabled Brain Mapping at Microscopic Resolution
  

**afternoon (13:30 - 16:30)**
- Modelling Network Diseases: From Retinal Dysfunction to Epilepsy
  
  Simonetto, J., Marcelino, J., and Kaiser, M.

- Scalable Brain Atlas Viewer: NeuroLex concepts in interactive 3D-context
  
  Bakker, R., Larson, S., Bezgin, G., Heeren, D., and Kötter, R.

**Wednesday, October 21**
**morning (09:30 - 12:30)**
- NeuroLex.org - a semantic wiki for neuroinformatics based on the NIF Standard Ontology
  
  Larson, S., Maynard, S., Imam, F., and Martone, M.

- Data Sharing Between NITRC and the INCF Software Center
  
  Haselgrove, C., Larson, A., Bjoelke, J.G., Breeze, J., Buccigrossi, R., Kennedy, D., Preuss, N., and Ritz, R.

**afternoon (13:30 - 16:30)**
- Open forum discussion
  
  Anyone is welcome to give a spontaneous demonstration

Social event - Monday, October 19
We are co-sponsoring the social event "Neuroscience 2.0 - Networking data, tools and people", held on Monday October 19, 18:30 - 21:00 in Lake Erie Room at the Chicago Hilton.

Flyer for the INCF demo booth at SfN 2009, Chicago
Exhibition at the Society for Neuroscience Annual Conference

For the fourth consecutive year, INCF had an exhibition booth at the Society for Neuroscience Annual Meeting in Chicago, October 17–21, 2009. In the booth, a number of INCF- and Neuroinformatics-related projects were displayed as three-hour interactive demos with accompanying posters.

To strengthen the presence of Neuroinformatics at the meeting, INCF, the Neuroscience Information Framework (NIF) and the Whole Brain Project coordinated their booth placements and layouts. INCF, NIF and the Whole Brain Project also co-sponsored a well attended social event: "Neuroscience 2.0 – Networking data, tools and people".

Consolidation of partnership with the Neuroscience Peer Review Consortium

The Neuroscience Peer Review Consortium (NPRC; nprc.incf.org) is an alliance of neuroscience journals that have agreed to accept manuscript reviews from other members of the Consortium. Its goals are to support efficient and thorough peer review of original research, speed up the publication of research reports, and reduce the burden on peer reviewers.

Thus, the alliance could promise to revolutionize the publishing industry. INCF played a critical role in the establishment of NPRC and as an independent, international neuroscience organization unaffiliated with a journal, INCF was deemed as a suitable, neutral venue to host the necessary infrastructure and provide technical support for the Consortium. NPRC started to operate in January 2008 with less than 20 journals for a trial of one year. With the early indication of success, NPRC continues and expands with increasing support from the community. By the end of 2009, 42 journals, ranging from basic to clinical neuroscience, have become the members. These include virtually all major journals in neuroscience including Nature Neuroscience, Journal of Neuroscience, Journal of Comparative Neurology, and Neurosurgery.
Plans for 2010

• Publish INCF Strategic Plan 2011-2015 to pave the way for further development of the organization for the next 5 years.

• Convene the 2nd INCF National Node Workshop to heighten interaction within the INCF global network.

• Develop the launched INCF Programs further - organize working meetings of oversight committees, task forces, and reference panels under the Programs; and disseminate the outcomes and deliverables of the Programs via scientific publications and INCF Neuroinformatics Portal.

• Re-structure the INCF Neuroinformatics Portal and curate significant contents for its subsections to reflect, in particular, the fully bloomed INCF Programs.

• Improve the INCF Software Center, stimulate the registration of more software tools, and establish interoperability with other major resources worldwide.

• Organize the 3rd INCF Congress of Neuroinformatics in Kobe, Japan.

• Contribute as exhibitor and organizer of live neuroinformatics demonstrations at the meetings of the Federation of European Neuroscience Societies in Amsterdam (July 3-7) and the Society for Neuroscience in San Diego (November 13-17).

• Advance INCF outreach actions through participating in specialist neuroinformatics-related meetings and publishing quarterly INCF Newsletters.

• Maintain smooth operation for delivering services of Allen Brain Atlas Mirror Site, Blue Gene supercomputer access, and the Neuroscience Peer-Review Consortium.
Financial Summary

Summary Financial Report 2009, in kSEK, kUSD, and kEURO

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Average exchange rate

7.2181 | 10.318

* Note: Funds are held in SEK. Each Annual Report uses average exchange rates for that year.
Annex: INCF Financial Contributions

INCF Participants

Belgium
Czech Republic
Finland
France
Germany
India
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 institution for the INCF Secretariat: Karolinska Institutet and the Royal Institute of Technology, Stockholm
Annex:

INCF Governing Board members and Secretariat Staff 2009

INCF Governing Board

Chair: Sten Grillner
Vice chair: Shun-ichi Amari (until Nov 2009)
Keiji Tanaka (from Nov 2009)

Members:

Belgium Monnik Desmeth, Erik De Schutter
Czech Republic Mirko Novak, Vaclav Matousek/Roman Moucek
Finland Ulla Ruotsalainen
France Bernard Bioulac
Germany Christiane Buccholz, Thomas Wachtler
India Vijayalakshmi Ravindranath, Upinder Bhalla
Italy Luciano Milanesi, Francesco Beltrame
Japan Keiji Tanaka, Shiro Usui
Netherlands Jaap van Pelt
Norway Svein Dahl, Mari Nes/Camilla Haglerød
Poland Andrzej Wrobel, Daniel Wojcik
Sweden Anders Lansner, Jeanette Hellgren Kotaleski
Switzerland Rodney J. Douglas, Carmen Adusumalli/Albert Cardona
United Kingdom David Willshaw, Katherine Giles
United States Edward Seidel/Kenneth Whang, Maryann Martone

Secretariat Staff

Sten Grillner Director (from Jun 2009)
Mark Ellisman Director (Jan-May 2009)/Director of Strategic Planning (Jun-Dec 2009)
Hui Wang Deputy Director
Mikael Naeslund Executive Advisor
Raphael Ritz Scientific Officer
Pontus Holm Program Officer
Janis Breeze Manager of Programs
Elli Chatzopoulou Scientific Information and Public Relations Officer (until Jan 2009)
Malin Sandström Scientific Information and Public Relations Officer (from Jun 2009)
Ylva Lillberg Usability and Requirements Analyst
Anders Larsson Systems Developer and IT Administrator (until Aug 2009)
MIkael Djurfeldt INCF Neuroinformatics Research at PDC, Royal Institute of Technology
Jeanette Hellgren Kotaleski Special Advisor
Karin Gabrielsson Controller
Linda Flodin Administrative Assistant
Annex:
Publications and Background Material

Publications:
Annual Report 2008 (August 2009, 24 p)
Report on Digital Atlasing Standards in the Rodent Brain (Waxholm Space) (September 2009, 46 p)
INCF Newsletter Issue 4, 2009 (December 2009, 4 p)
INCF Newsletter Issue 3, 2009 (October 2009, 4 p)
INCF Newsletter Issue 2, 2009 (July 2009, 4 p)
INCF Newsletter Issue 1, 2009 (March 2009, 4 p)

Background material:
INCF - The First Three Years: www.incf.org/documents/FirstThreeYears.pdf
Strategy Overview: www.incf.org/documents/incf-core-documents/INCFStrategyOverview
Program in Neuroinformatics: www.incf.org/documents/incf-core-documents/INCF_PIN.pdf
INCF Welcomes New Director

INCF has recently appointed Director of the International Neuroinformatics Coordinating Facility (INCF). This is a significant appointment, as the President of the INCF Board, Professor Olaf Riess, commented:

The President of the INCF Board, Professor Olaf Riess, commented: “We are delighted to welcome [new director] to the INCF family. His research has furthered investigation into the basic developmental and application of network and information technologies to advance the biological sciences. His expertise in computational biology and his experience in managing large-scale research projects make him an ideal candidate to lead the INCF into the next phase of its development.”

The new director, [new director], has a strong background in computational neuroscience and has previously served as the Director of the German National Node of the INCF. He has been involved in the development of the INCF portal and has been instrumental in its growth and expansion.

The INCF booth at SfN Annual Meeting 2008

INCF was present at the Society for Neuroscience (SfN) Annual Meeting 2008, where they showcased their latest developments and initiatives. Attendees were able to learn more about the INCF portal and its role in facilitating data sharing and analysis in the neuroscience community.

The Task Force of the INCF Program on Digital Atlasing

The Task Force of the INCF Program on Digital Atlasing has been working on developing a canonical atlas of the rodent brain. This atlas is designed to be a comprehensive resource for researchers studying brain function and development. The task force has been working to make this atlas accessible to the neuroscience community.

The 1st INCF Workshop on “Time Series Data: Analysis and Computational Neuroscience”

The INCF workshop on “Time Series Data: Analysis and Computational Neuroscience” was held at the University of California San Diego. The workshop brought together experts from around the world to discuss the latest developments in time series analysis and computational neuroscience.

The workshop covered a range of topics, including single-neuron modeling, network analysis, and data sharing. Attendees had the opportunity to present their work and engage with other researchers in the field.

Polish/Norwegian INCF Nodes Workshop

The Polish and Norwegian INCF nodes held a workshop on “Single-Neuron Modeling: From Theory to Practice.” The workshop featured presentations on the latest developments in single-neuron modeling and provided a platform for researchers to share their work and collaborate on future projects.

INCF National Nodes

The INCF national nodes are an important part of the INCF infrastructure, providing local support and resources for researchers in the neuroscience community. The Polish and Norwegian nodes are two of the many national nodes that make up the INCF network.

Polish/Norwegian INCF Nodes Workshop

The workshop on “Single-Neuron Modeling: From Theory to Practice” was co-organized by the Polish and Norwegian INCF nodes. The workshop featured presentations on the latest developments in single-neuron modeling and provided a platform for researchers to share their work and collaborate on future projects.

INCF Community

The INCF community is a growing network of researchers, educators, and professionals working in the field of neuroinformatics. The community is supported by the INCF secretariat and provides a platform for researchers to share their work, collaborate on projects, and stay informed about the latest developments in the field.

INCF is also co-sponsoring a social event, held together with the Neuroinformatics at CNS*2009 in Berlin. The event featured a condensed demo program; the full program can be found on the INCF website.

Standards in the Rodent Brain

The 2009 annual report of the INCF Japan Node (J-Node) is now available. The report covers the latest developments in rodent brain research and highlights some of the key initiatives of the J-Node.

The Japanese INCF node is an important part of the INCF network, providing support and resources for researchers studying rodent brain function. The report highlights the node’s work on developing standards for rodent brain research, as well as its other initiatives and activities.

The J-Node is co-organized by INCF Japan and neuroinformatics researchers from the University of Tokyo and the University of Osaka. The node is supported by the INCF secretariat and provides a platform for researchers to share their work, collaborate on projects, and stay informed about the latest developments in the field.

INCF is also co-sponsoring a social event, held together with the Neuroinformatics at CNS*2009 in Berlin. The event featured a condensed demo program; the full program can be found on the INCF website.

Live demos at SfN 2009 in Chicago

The annual meeting of the Society for Neuroscience (SfN) in Chicago featured a number of live demos by participants in the INCF community. The demos covered a range of topics, including single-neuron modeling, network analysis, and data sharing.

The demos were part of a larger initiative by the INCF community to engage with the neuroscience community and showcase the latest developments in neuroinformatics. The INCF secretariat provided support and resources for the demos, ensuring that they were a success.

Participants at the Genetic Disease Models topical workshop, standing in line for the demo. The event was held at the University of California San Diego, where participants had the opportunity to present their work and engage with other researchers in the field.

The workshop featured presentations on the latest developments in genetic disease modeling and provided a platform for researchers to share their work and collaborate on future projects.

The participants were able to present their work and engage with other researchers in the field. The workshop was a great success, and the INCF secretariat provided support and resources to ensure that it was a success.

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