INCF NEWSLETTER
Issue 1, 2010

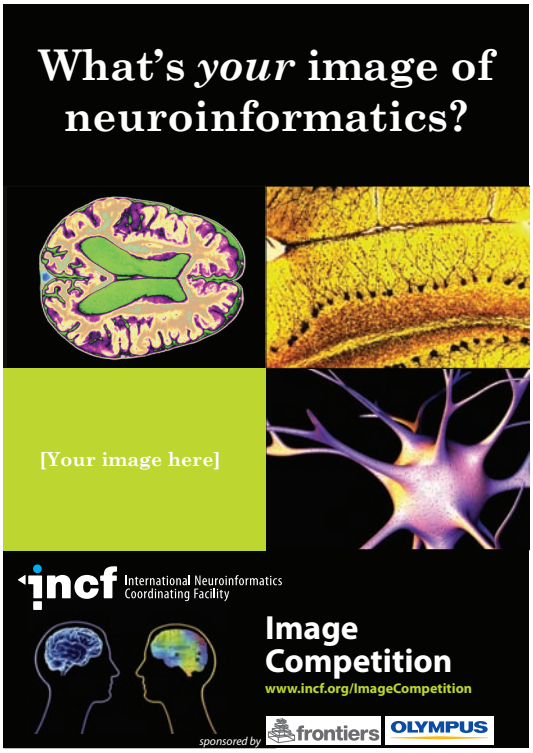
INCF activities

INCF Portal - new and improved!

The INCF web portal has been restructured to better display the INCF Programs and activities, with a new top navigation and a newly remade *About INCF* section. A footer section with direct links to our Programs and services has been added, and all National Nodes now have their own page.

INCF launches Image Competition

INCF is launching a neuroinformatics image competition, open for the whole neuroinformatics and neuroscience community. The prizes are sponsored by Olympus and Frontiers; successful contstants can win either a monetary prize or get to show off their artistic talent on the cover of a "Brain and Art" theme e-issue of *Frontiers in Neuroinformatics*. Images ranging from experiment photography to science-inspired graphical artwork are welcome. Submission closes **August 1**.



www. incf.org/ImageCompetition

INCF Node activities

G-Node Inaugural Symposium

Neuroinformatics: Linking Brain Research from Physiology to Models
Ludwig-Maximilians-Universität München, Biozentrum
June 17, 09.00 - 13.00

Speakers

Piotr Durka, University of Warsaw, Poland
Gaute Einevoll, Norwegian University of Life Sciences, Norway
Sten Grillner, Karolinska Institute, Sweden
Colin Ingram, University of Newcastle, UK
Mayank Mehta, UCLA, USA

www.g-node.org/symposium2010

UK Node Spike Train workshop

STM 2010: Workshop on Spike Train Measures and Their Applications to Neural Coding
Plymouth, June 2-3

Organisers

Thomas Wennekers, University of Plymouth, UK
Sonja Gruen, RIKEN Brain Science Institute, Japan
Roman Borisyuk, University of Plymouth, UK
Leslie Smith, University of Stirling, UK

helen.pion.ac.uk/stm2010

Where to meet the INCF this summer:

ISMRM, May 1-7, Stockholm - *booth **#163***
HBM, June 6-10, Barcelona - *near booth **#3***
FENS, July 3-7, Amsterdam - *booth **#624***
CNS, July 24-30, San Antonio
*... and of course also at our own **3rd Neuroinformatics Congress**, August 30 - September 1, in Kobe!*

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UK Neuroinformatics Congress promotes INCF and Neuroinformatics in the UK

The first UK Neuroinformatics Conference, *Analysing and Modelling Neural Systems in Health and Disease*, was held at the Informatics Forum, University of Edinburgh, 1-3 February 2010. The meeting was organised by the UK Node of the INCF, and funded by the UK research councils, MRC, EPSRC and BBSRC. The aim of this event was to introduce UK researchers to the field of neuroinformatics as well as keeping UK people already working in the field informed about neuroinformatics research. The Conference was built around a programme of seven plenary speakers and four interactive workshops, together with posters and demonstrations.

Attentive and interested participants listening to one of the plenary speakers.

The talks given during the Conference showed the variety of work being carried out across the UK, ranging from data-basing of brain atlases and modelling of neural circuitry to modelling and analysis of medical conditions such as Alzheimer's disease and schizophrenia.

One of the plenary talks.

Considerable time was devoted to group discussions, for example, regarding areas where collaboration would be beneficial. The UK Node is willing to fund small discussion groups to enable these ideas to be developed further.

One of the several group discussions.

Development of the *Road Map for UK Neuroinformatics* was the subject of one of the workshops. Several issues were mentioned:

1) the important role for the INCF in standardisation of data formats, simulation tools, and analysis algorithms;
2) the need for neuroinformatics training at the post-graduate level and for cross disciplinary training at the faculty level; and
3) the role for the INCF in maintaining tools, once the original funding stream ends.

The UK Node intends to organise a further meeting to refine and strengthen the Road Map.

Conference dinner at the magnificent Playfair Library, University of Edinburgh.

There was a sense that the UK Node has helped foster a spirit of cooperation amongst many UK experimentalists and modellers, allowing them to achieve collectively what they could not do separately.

Notes from all discussions and talks have been made available on the UK Node website: **www.neuroinformatics.org.uk**

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Neuro Informatics 2010

Kobe, Japan, August 30 - September 1

Workshops

How to describe a model: Description language solutions and challenges

Neuroinformatics of BMI: Decoding and control of neural codes

Synaptoprojectomes: Assembling, using and sharing dense cellular micromaps of brains

Molecular mechanisms of neural signalling

Keynote Speakers

Upinder Bhalla , India
Lee Hood, USA
Colin Ingram, UK
Ryohei Kanzaki, Japan
Maryann Martone, USA

INCF Japan-Node Special Symposium

How Neuroinformatics Can Revolutionize Neuroscience

www.neuroinformatics2010.org

Neuroinformatics Profiles

A conversation with two National Node Coordinators; Marja-Leena Linne and Yann Le Franc

During the recent Nodes Workshop in Sigtuna, the INCF Newsletter took the opportunity for a brief discussion about the role of an INCF National Node Coordinator, meeting Finland's Dr. Marja-Leena Linne and Belgium's Dr. Yann Le Franc.

Marja-Leena Linne and Yann Le Franc have been working part-time with coordination of National Node activities for almost a year. They are both off to a running start, with high ambitions.

MLL: have been a coordinator for only four months. I am also a part-time senior researcher – I still have a research group to lead. Previously I was indirectly involved in the INCF National Node of Finland by being a member of the steering group. After having been a researcher for long time I felt that I wanted to distribute what I had learnt.

YLF: I started in September 2009, at the Node and within the INCF Program on Multi-Scale Modeling. I began the Belgian Node work first in December and January, investigating about the belgian neuroscience community and refreshing the node website. I am starting now to contact and interact with the Belgian community.

MLL: It is pretty much the same in Finland; over the past two years we did a survey of neuroinformatics activity. Now we are trying to get the community we found interested, and make them start collaborating. It is very important to get experimentalists to join, to show that neuroinformatics not only involves theoreticians.

YLF: The involvement of the experimentalists is a key for the development of neuroinformatics. It is important to explain to the experimentalists what could be the impacts and benefits from modeling and neuroinformatics on their work.

Since neuroinformatics is a young and multi-faceted field, community-building is the way forward, they agree. Thus it is an important area for a Node coordinator to take care of.

MLL: I also see that I can help build stronger connections between the local community and INCF. We – the Finnish Node - have yearly workshops for people from different fields; computer scientists, experimentalists, and so on. I can help with all kinds of networking, arranging opportunities or just letting people know of them.

YLF: The role of the coordinator is to create and organize a scientific community. Neuroinformatics is just getting started. There are needs for tools that do not exist yet. Bringing people together would help identifying these needs and developing the tools. I am currently trying to propose things that could interest and attract people to build such community.

Dr. Marja-Leena Linne (left) from Tampere University of Technology, Dept. of Signal Processing, and Dr. Yann Le Franc (right) from University of Antwerp, Theoretical Neurobiology unit.

"Collaboration is the only way for these multi-disciplinary fields to get further"

MLL: I realized that I also need to talk to the neuroscience graduate schools to educate the students about neuroinformatics and help inform them about tools that can be useful for them. Experimentalists are very busy, and many do not have time for informatics issues outside the scope of their own research. If you want the info to be propagated you need to help.

Both have been working in neuroinformatics-related fields for years, and have personal experiences of the usefulness of and need for standards in such research.

YLF: During my training, I performed experiments (patch clamp, et cetera) and developed models. There are clear gaps between these areas that sometimes make the modeling work difficult. I've been thinking of about ways to fill such gaps for a long time.

MLL: I was first an electrical engineer, then I started doing electrophysiology, then modeling. I saw a need for formalization, for standards and reproducible science. If one is only a researcher it is hard to do anything about it, but in this position I have the possibility.

YLF: I got the chance to contribute to standards directly when I was hired, through my participation in the Multi-Scale Modeling program. I had noticed when teaching in summer courses that it was a problem to construct models from papers that reproduces successfully the results in the papers – it was hard, sometimes impossible!

MLL: My research group has been going through models for synaptic plasticity, and found more than 100 models. For many of these you don't find a full model description. One other problem is the communication between experimentalists and theoreticians. Many times theoreticians develop their own terminology, which is different from that of the experimentalists - and you might end up talking past each other.