

INCF NEWSLETTER

Issue 4, 2009

INCF activities

INCF launches new Program on Metadata

INCF has just launched its fourth program, "Minimal Metadata Standards". The Oversight committee, led by chair Colin Ingram from Newcastle University, will have its first meeting in Stockholm in January. The program will initially focus on two areas, electrophysiology data and fMRI data.

www.incf.org/about/programs/metadata

INCF Workshop on Genetic Disease Models

INCF held a topical workshop on Genetic Disease Models in Stockholm, Sweden, December 13 - 14, 2009. The workshop is the first step in the process for planning future programs. The scientific organizer was Prof. Olaf Riess of the University of Tuebingen, Germany.



Participants at the Genetic Disease Models topical workshop, standing outside the INCF Secretariat office in Stockholm.

Improved search on the INCF Portal

The INCF Portal now offers an improved search function, which lists internal page hits as well as results from the more than 40 external resources included in the Portal's Resources section. The improved search engine is currently offered as a beta.

www.incf.org/remote_search

INCF Node activities

PhD courses offered by the German node

This winter, INCF's German Node (G-Node) will offer two week-long courses for PhD students and postdocs:

Python Programming Winter School 2010

in collaboration with the University of Warsaw

Feb 8 - 12, 2010, in Warsaw, Poland

Applications due December 6

escher.fuw.edu.pl/pythonschool

2nd G-Node Winter Course in Neural Data Analysis

March 1 - 5, 2010 in Munich

Applications due December 31

portal.g-node.org/dataanalysis-course-2010/

Polish-Norwegian Modeling Workshop

The Second Polish-Norwegian Neuroinformatics Workshop, to be held in *Warsaw, January 14-15, 2010*, will address the question of realistic neural models and related challenges. The workshop will gather modelers, computational anatomists, theoreticians and experimentalists for discussion of: optimal model-building strategies, state of the art techniques, and new vistas for the future. Registration is open until *December 22, 2009*.

www.neuroinf.pl/NIWorkshop2010

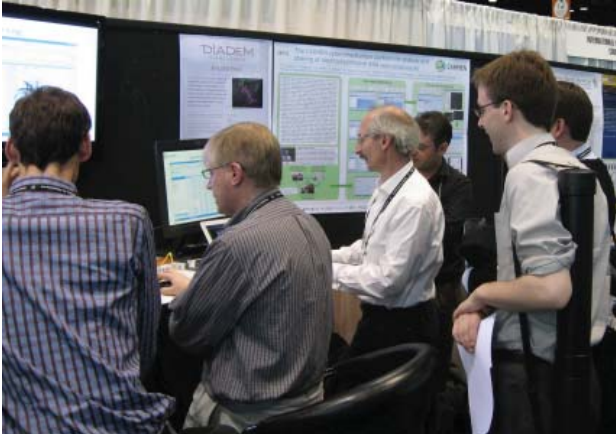
UK Node Congress

The UK node will hold the conference "Analysing and Modelling Neural Systems in Health and Disease" in Edinburgh, *February 1-3, 2010*. The aim is to bring together already established neuroinformaticists as well as showcase the field to people working in related disciplines. The meeting features plenary sessions and collaborative workshops as well as demonstrations and posters.

www.neuroinformatics.org.uk/Node-Congress

INCF at SfN 2009 in Chicago

INCF had a booth at the SfN Neuroscience 2009 meeting in Chicago, October 17-21. A number of INCF- and Neuroinformatics-related projects were exhibited as three-hour interactive demos with accompanying posters (see the INCF Portal for the full demo program with abstracts).



Colin Ingram (Newcastle University) and Leslie Smith (University of Stirling) demonstrate the CARMEN project and portal, a collaboration among 11 UK universities, to interested booth visitors.

Meeting participants were also welcome to pick up INCF reports and flyers, including material brought by several INCF National Nodes, and to use the booth's mingling area for networking and spontaneous meetings ... or for just resting their weary feet a few moments.



Spontaneous neuroinformatics software demonstration over lunch, in the booth mingling area. Visible in the background is our booth neighbour, the Whole Brain Project.



Tom Morse (Yale University) demonstrates one of over 500 models in the ModelDB computational neuroscience modeling database to Gaute Einevoll (Norwegian University of Life Sciences).

To strengthen the presence of neuroinformatics at the exhibit, 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 neuroinformatics social, "Neuroscience 2.0 - Networking data, tools and people", held on the evening of October 19.



Raphael Ritz (INCF Secretariat) comparing notes on the SfN exhibition with the Neuroscience Information Framework's Jeff Grethe (UCSD).



Neuro Informatics 2010

Kobe, August 30 - September 1

Keynote speakers:

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



Congress Workshops

Workshop 1: How to describe a model: Description language solutions and challenges

Leader: Erik De Schutter

Speakers: Nicolas Le Novère
Chung-Chuan Lo

Workshop 2: Neuroinformatics of BMI: Decoding and control of neural codes

Leader: Kenji Doya

Speakers: Ed Boyden
Yukiyasu Kamitani
Eilon Vaadia

Workshop 3: Synaptoprojectomes: Assembling, using and sharing dense cellular micromaps of brains

Leader: Mark Ellisman

Speakers: Robert Marc
Marcel Oberlaender

Workshop 4: Molecular mechanisms of neural signalling

Leader: Svein Dahl

Speakers: Philip Biggin
Rama Ranganathan

www.neuroinformatics2010.org

Neuroinformatics Profiles

A conversation with Jeanette Hellgren Kotaleski, Coordinator of the new Erasmus Mundus PhD program “EuroSPIN”.

Erasmus, the EU's flagship education and training programme, has recently been expanded to cover PhD studies. At the end of this year, the initial crop of Erasmus Mundus PhD programs - thirteen in total, spanning the full academic spectrum from humanities to astrophysics - will begin preparations to receive their first students. Some of these students will join a world-class, international PhD program in neuroinformatics organized by four INCF member countries and coordinated through the Royal Institute of Technology (KTH) in Sweden. The other partners are the National Centre for Biological Sciences in Bangalore, India, the Albert Ludwig University of Freiburg, Germany and the University of Edinburgh, UK. Students within EuroSPIN can choose among six possible pairs of partners, who offer over 20 research projects ranging from dendritic calcium to large-scale networks and multi-level simulations.

“No single partner could offer an education with this breadth and scope”, explains Program Coordinator Jeanette Hellgren Kotaleski, Professor in Neuroinformatics at the Royal Institute of Technology in Stockholm. She is also affiliated with Karolinska Institutet, and leader of the Swedish Neuroinformatics Node. Her own research projects focus on mathematical modeling of neural mechanisms underlying information processing, rhythm generation and learning in motor systems, mostly the basal ganglia. She and her group have worked with computational models of subcellular biochemical networks as well as small and large networks of abstract and complex cells.

The study program of EuroSPIN fits well with several of the key recommendations and findings from the INCF Workshop “Needs for Training in Neuroinformatics” held in Edinburgh during the summer of 2008. This is perhaps not surprising, since the scientific organizer of the workshop and the main organizer at the UK partner of EuroSPIN is David Willshaw, Professor in Computational Neurobiology in the Institute for Adaptive and Neural Computation at the School of Informatics, University of Edinburgh. *“We have taken many of the workshop recommendations seriously and tried to implement them, such as the recommendation for visiting labs abroad”,* says Professor Hellgren Kotaleski. *“We will build on past experiences, both the UK and German partners have considerable experience, and we will keep an eye on further developments in*



Jeanette Hellgren Kotaleski

findings on training and will try to incorporate them”.

All EuroSPIN participants will perform part of their studies abroad as they divide their education between two of the partners. With this division also comes an extra supervisor, and a joint or double PhD degree awarded by the host universities at the end of the program.

“No single partner could offer an education with this breadth and scope”

Setting up the PhD program was much faster and easier than expected, according to Professor Hellgren Kotaleski, despite the fact that this is the first round ever of Erasmus Mundus PhD programs and some bumps in the road would be expected. *“Since we are the first ones out, they pay much attention to our views and experiences. And my university, KTH, has an excellent support structure”.*

For the organizers, the benefit of being part of Erasmus Mundus lies in the increased visibility, additional funding and inherent quality control - and in the extra possibilities for networking and cooperation offered by sharing PhD students within the program. The students, on the other hand, receive a broad education with secondary skills development; they will be trained in scientific discourse, writing and the local languages. The joint studies will also provide an extra quality stamp, since the students are validated by both of their degree-granting universities, and give an extensive network that can be used to find post-docs or jobs.

The students are expected to be much sought after; the program has received glowing letters of support from a number of large companies and renowned institutions. *“Not only the academic world but also the companies will benefit”,* says Jeanette Hellgren Kotaleski. *“Biology at large is becoming more computationally intensive”.*

www.kth.se/eurospin