

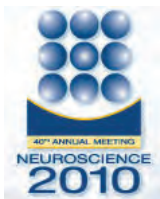
## INCF NEWSLETTER

# Issue 3, 2010

### INCF activities

#### INCF at SfN 2010

INCF will have an exhibit booth at the SfN Neuroscience 2010 meeting in San Diego, November 13-17, where a number of INCF- and neuroinformatics-related projects will be demonstrated. Exhibits will be open 09.30 - 17.00, starting November 14. See the column to the right of this page for a condensed demo program; the full program can be found on the INCF web site.



#### Neuroinformatics socials at SfN 2010

The official SfN-sponsored Neuroinformatics & Genomics social will be organized by the US node of INCF. It will spotlight the INCF Task Forces, and will be held November 14, 6:45-8:45 pm at the San Diego Marriott Hotel & Marina. INCF is also co-sponsoring a satellite social event organized by the US node with several other neuroinformatics organizations, on November 15: "Neuroscience 2.0 - Networking data, tools and people" (6:30-9:30 pm, The Tippy Crow, 770 Fifth Avenue).

### INCF Programs

#### Metadata is now Datasharing

INCF has changed the name of the Metadata Standards Program, to reflect the Program's wider scope. The new name is the INCF Program on Standards for Datasharing. In addition to the Task Force on Neurophysiology Datasharing, the Program has launched a second Task Force, on Electrophysiology Datasharing, led by Friedrich Sommer (UC Berkeley) and Thomas Wachtler (LMU München). The new Task Force will meet for the first time during the SfN 2010 meeting in San Diego.

[incf.org/core/programs/datasharing](http://incf.org/core/programs/datasharing)



**See next page for photos from the 3rd INCF Neuroinformatics Congress in Kobe!**

Visit us at booth #4025!

#### Live demos at SfN 2010 in San Diego

##### Sunday, November 14

**09:30 - 12:30:** Neurons on the net: the present and the future

**09:30 - 12:30:** How to register your datasets to digital atlases like Waxholm Space

**13:30 - 16:30:** NeuroNames in Waxholm Space

**13:30 - 16:30:** SenseLab: recent developments in ModelDB, MicrocircuitDB, and BrainPharm

##### Monday, November 15

**09:30 - 12:30:** NEST 2 - Advanced simulation methods for neurons and spike-timing and neuromodulation dependent plasticity

**09:30 - 12:30:** NeuroLOG: a federated system for the sharing of distributed data and processing tools in neuroimaging

**13:30 - 16:30:** The Neuroimaging, Cerebellar Development Transcriptome Database, and Simulation Platform at the INCF Japan-node

**13:30 - 16:30:** Data Integration Solutions with Mediation technology, in BIRN

##### Tuesday, November 16

**09:30 - 12:30:** CoCoMac and the Scalable Brain Atlas: Macaque connectivity at your fingertips

**09:30 - 12:30:** Connectomics Tools for Neuroimaging - ConnectomeViewer & ConnectomeWiki

**13:30 - 16:30:** CRCNS.org - A resource for collaborative research in computational neuroscience

**13:30 - 16:30:** Interactive diagram of the anatomical connectivity in the rat hippocampal formation and parahippocampal region

##### Wednesday, November 17

**09:30 - 12:30:** Standards-based community infrastructure for brain atlas interoperability

**09:30 - 12:30:** Online atlas system for mapping of brain-wide connectivity of the barrel cortex

**13:30 - 16:30:** Open forum discussion - *spontaneous demonstrations welcome!*



On the day before the congress, we held a workshop for the INCF National Nodes, concluded by an informal dinner at an *izakaya* in central Kobe.



The Congress attracted 227 participants from 19 countries. The program featured in total 5 keynote speakers, 4 workshops with a total 12 speakers and 4 panel discussions.



We got our own "INCF Neuroinformatics 2010" signs in the subway, on seatbacks as well as at the station closest to the meeting venue.



During the Congress, in total 23 demos and 92 posters were presented.



Winners of the INCF Image Competition were announced: Jenny Cunnane (UK) and Christian Gaser (Germany). The prizes were handed out by Idan Segev (Frontiers) and Shuichi Takayama (Olympus).



The final half-day was devoted to an INCF Japan Node special symposium with focus on INCF activities and Asian-Pacific neuroinformatics.

***Many thanks to all attendees - we hope to see you again next year in Boston, September 4-6!***



# Neuro Informatics 2011

Boston, USA, September 4-6

## Keynote speakers

Kim "Avrama" Blackwell (George Mason University)

Ed Callaway (Salk Institute)

Shin Ishii (Kyoto University)

Allan Jones (Allen Institute for Brain Science)

Terry Sejnowski (Salk Institute & UCSD)

## Workshops

- 1: Network principles derived from analysis and databasing of cortical connectivity**  
(Chair: Jan Bjaalie, University of Oslo)
- 2: Connectome integration across modalities**  
(Chair: David Van Essen, Washington University)
- 3: Advances in Computational Psychiatry**  
(Chair: David Kennedy, U. of Massachusetts Medical Center)
- 4: Functional reconstruction of neural networks**  
(Chair: Upinder Bhalla, NCBS)



[www.neuroinformatics2011.org](http://www.neuroinformatics2011.org)

## Neuroinformatics Profiles

### A conversation with the new Executive Director of INCF, Dr. Sean Hill

Beginning January 1st, 2011, Dr. Sean Hill, from the Brain Mind Institute at École Polytechnique Fédérale de Lausanne in Switzerland, will be the new INCF Executive Director.

Dr. Hill has almost 20 years experience in neuroscience research, across many areas of the field.

*"Starting with my undergraduate studies, where I recorded from CPGs (central pattern generators) in pond snails, I have personally seen the importance of combining experiments with modeling. Neurobiology is messy and hard to formalize, and I was moved to modeling by my desire to understand activity in local microcircuitry and ultimately the brain."*

After a period spent working in the biotechnology industry, where he supervised a team of programmers working on distributed databases, he returned to academia and moved to Lausanne to work with multi-unit recordings and large-scale neuronal simulations. After that, he worked as a Junior Research Fellow at The Neurosciences Institute in La Jolla, California, where he worked on models of visual processing in cat thalamocortical circuitry before moving to the University of Wisconsin - Madison to extend the model to replicate the rhythms of sleep. He then was recruited by IBM to work on large-scale models of cortical processing and joined the Blue Brain Project at the Brain Mind Institute in 2008.

*"I have participated in many different types of experiments: intracellular recordings in snails, multi-unit extracellular recordings in rats, high-density EEG in humans, and behavioral sleep experiments in fruit flies... we had to figure out how to sleep-deprive fruit flies, which is actually much more difficult than you would think!"*

Most of the experiments were performed alongside of model building; an integration that he sees as crucial.

*"We must use experimental data to drive model building and validation, and it is particularly important to build models that replicate many different experimental results."*

During recent years, Dr. Hill has been an active member of the INCF community, chairing the Task Force of the INCF Program on Multi-Scale Modeling as well as partici-



Sean Hill

pating in the Neuronal Registry Task Force of the INCF Program on Ontologies of Neural Structures. Thus he already has experience from several different areas of INCF activities, and a clear view of what INCF can offer.

*"Integrating neuroscience data, analyses and models can enable discovery across all levels of the brain. The challenge is to coordinate a neuroinformatics infrastructure to bring such a capability to the international neuroscience community."*

To better integrate or seamlessly move among several datasets and different models, he says, the neuroscience community needs access to a better neuroinformatics infrastructure - something he believes that INCF can advance.

*"The INCF Programs and the ongoing activities in the neuroinformatics community represent a real opportunity to form a unified international neuroinformatics infrastructure that spans digital atlases, databases, ontologies, analysis tools, and large-scale modeling - so that neuroinformatics becomes part of every neuroscientist's research!"*

Ultimately, he says, neuroinformatics will play a leading role in changing scientific publishing practices - how we publish data, models, and workflows. A change for which the demand is constantly growing.

*"Large-scale data gathering and aggregation is already happening, in areas ranging from gene expression to proteomics, from electrophysiology to brain imaging... our job is to bring the tools and techniques of neuroinformatics to bear on every level of detail of the nervous system - from genome to behavior. Only then can we form a fully integrated picture of all current neuroscience data and models - and truly advance our understanding of the brain."*

