

Report on international activities related to the VPH Institute.

Written by Peter Hunter, presented by Randy Thomas. 24th May, 2012.

Discussions with IUPS

The IUPS exec - Denis Noble (President), Walter Boron (Secretary General), Malcolm Gordon (Treasurer), Peter Hunter (acting 1st Vice President), Xian Wang (2nd Vice President) – have formed a 15 member ‘Board of the General Assembly’ (BGA) to enhance communication between IUPS and physiological societies around the world. Most members of the BGA are the physiological society Presidents in their respective countries. One of the goals of the BGA is to provide a vision for the future of physiology and the development of a strategy to support this vision. PJH is currently writing this document with help from the IUPS exec and seeking feedback from the BGA and other physiologists. One of the key features of this vision is the VPH/Physiome project.

APS & TPS

Closely related to the IUPS BGA planning is a discussion within the American Physiological Society (APS) and the UK Physiological Society (quaintly called *The Physiological Society* or TPS). This concerns the role of modelling in physiology and the need to have a theme at the annual Experimental Biology (EB) Society meeting to encourage closer links between physiologists and modellers (typically bioengineers) and also the link with bioinformatics and physiological genomics. A plan is being drawn up to present to the APS executive.

EMBS

A Technical Committee (TC) on ‘Systems Biology and Computational Modeling’ has been formed within the IEEE-EMBS (PJH is the Chair and Nigel Lovell from UNSW is co-Chair) to promote VPH/Physiome linkages with the EMBS community. This community includes many bioengineers working on image & signal processing and medical devices, areas that quite distinct from physiology but which are linked closely with physiology (especially the clinical end) via VPH/Physiome modelling. The TC is overseeing the development of BioSignalML standard in order to provide metadata standards for encoding information about time varying biosignals. The BioSignalML API is being implemented in the Physionet database in order to make that large NIH-funded signal data repository to more accessible to VPH/Physiome modellers.

Biophysical Journal

PJH has been asked by the incoming Chief Editor of the Biophysical Journal (Les Loew) to take over as Associate Editor for the section of the journal that deals with multiscale modelling and ‘systems biophysics’. This will provide an opportunity to encourage more standards based encoding of models, and the ability to run the models from the journal website using the VPH/Physiome standards.

FP7 grants

The SBML, CellML and NeuroML communities have combined to submit a proposal (called OpenMOD) under Call 9 of the ICT VPH RFPs. If funded, this will encourage a much more coordinated approach to the development of modelling and data standards. Another Call 9 submission is ‘TPR’ to continue the developments under the Ricordo grant that are linking the CellML/FieldML models to medical informatics (and OpenEHR) using webservices via ontology based metadata.

IMAG

The (IMAG) consortium formed by the US Government departments NIH, NSF, NASA, DOE, EPA, etc, meets annually in Washington to help promote model and data sharing among the Multi-Scale Modelling (MSM) project grants. The VPH-Institute is usually represented at these meetings by Marco Viceconti, Randy Thomas or Peter Hunter. Planning is underway for this year's meeting on Oct 22-23 at Bethesda.

Representation on other International professional societies

International Union of Physiological Sciences (IUPS) – Denis Noble is President and PJH is Acting 1st Vice-President.

World Council of Biomechanics (WCB) – PJH is Secretary General

International Association of Medical and Biological Engineers (IAMBE) – PJH is President-Elect

Others?

Invited talks given by PJH on the VPH/Physiome Project in the last 6 months are as follows:

2011

- Mar 30-Apr 1 Washington, US: *2nd Int^{al} Conference on Computational & Mathematical Biomedical Engineering*
<http://www.compbiomed.net/>
- May 4-7 San Francisco, US: *Heart Rhythm*
<http://www.hrsonline.org/sessions/scientificprogram/>
- June 10-15 Crete, Greece: *9th Int^{al} Conference on Pathways, Networks and Systems Medicine*
<http://www.aegeanconferences.org/aegeanconferences>
- Jun 28 - Jul 2 Kraków, Poland: *8th European Conference on Mathematical & Theoretical Biology*
<http://www.impan.pl/~ecmtb11/>
- Aug 29 - Sep 1 Stanford, US: *Int^{al} Union of Theoretical & Applied Mechanics (IUTAM) symposium*
<http://iutam.stanford.edu/speaker.html>
- Aug 30 - Sep 3 Boston, US: *IEEE Engineering in Medicine & Biology Conference (EMBC)*
<http://embc2011.embs.org/>
- Sep 7-9 Washington, US: *FDA Workshop on Computer Methods for Medical Devices*
<http://www.fda.gov/MedicalDevices/NewsEvents/WorkshopsConferences>
- Nov 21-23 Osaka, Japan: *4th International Symposium on Physiome and Systems Biology for Integrated Life Sciences and Predictive Medicine*
- Dec 5-6 Sydney, Australia: *10th Engineering Mathematics and Applications Conference*
http://www.emac2011.com.au/index.cfm?page=event_mgmt

2012

- Mar 20-21 Waiheke Island, Auckland, NZ: *CellML workshop*
<http://www.cellml.org/community/events/workshop/2012/cellml-workshop-2012>
- Mar 26 Melbourne, Australia: *Systems Biology of Colonic Crypts Symposium*
- April 26 Atlanta, US: *7th International Symposium on Biomechanics in Vascular Biology and Cardiovascular Disease*
<http://biomechanics.gatech.edu/welcome>
- May 2-5 Barcelona, Spain: *International Symposium on Biomedical Imaging (ISBI)*
<http://www.biomedicalimaging.org/>
- May 26-31 Beijing, China: *Medical Physics and Biomedical Engineering*
<http://www.wc2012.org/>