

Empowering Systems Medicine Through Optimal Experimental Design and Computational Modelling

A workshop at the IEEE Conference on Bioinformatics and Biomedicine, November 2nd-5th, 2014, Belfast, Northern Ireland, UK

For further details on workshop see empoweringsystemsmedicine.weebly.com



Developing predictive computational models for biomedical systems has proven highly challenging, due to the logistical demands of producing the necessary measurements. Producing sufficiently rich experimental data is expensive and time-consuming and therefore not a priority for most labs. As a result, experimental and computational biology have yet to reach their full potential and a gap remains between what experimental biology provides and what computational biology requires. This gap is at its greatest in new areas such as epigenetics where our tools and understanding are still expanding. It is therefore of great importance to address the twin questions of how to optimize the efficiency with which experimentation can generate data suitable for computational studies and how computational models can be optimized so as to minimize the data needed. This workshop aims to provide a forum for exploring this twin challenge in biomedical systems. We will take a particular interest in epigenetic regulation amongst other areas.



Topics of interest

- Biomedical systems modelling, simulation and visualization
- Optimal and robust experimental design
- Parameter estimation, model simplification and validation
- Imaging and data visualization
- Systems pharmacology
- Systems pathology
- Effective therapeutics development
- Patient cohort variability and personalized-stratified medicine
- Investigating dynamics of complex biological systems/networks
- Time and Spatial Scales of Epigenetic Phenomena
- Epigenetics Epidemiology
- Signalling pathways and 'epigenetic triggers'

Call for Papers

Author submissions should be uploaded at empoweringsystemsmedicine.weebly.com

Proceedings will be published in a journal special issue

Talks will be webcast with the permission of speakers

Key Dates

- **September 21, 2014:** Due date for full workshop papers submission
- **October 1, 2014:** Notification of paper acceptance
- **October 10, 2014:** Camera-ready of accepted papers
- **November 2-5, 2014:** Workshop and conference

