

Tentative Schedule

11 / 08 / 2010 (Tuesday)

9:00 a.m. – 9:15 a.m.

Registration

9:15 a.m. – 10:15 a.m.

Introduction to Mathematical Modeling

10:15 a.m. – 10:30 a.m.

Break

10:30 a.m. – 1:00 p.m.

Introduction to Mathematical Modeling (cont')

1:00 p.m. – 2:00 p.m.

Break

2:00 p.m. – 4:30 p.m.

Hands-on session: JDesigner

4:30 p.m. – 5:00 p.m.

Conclusion, Q&A and Wrap-up

Note:

Participants are required to provide your own laptop and please download and install a freeware JDesigner programme from :

<http://sourceforge.net/projects/jdesigner/files/>

Venue



Institute Of Systems Biology (INBIOSIS)

Universiti Kebangsaan Malaysia

43600 UKM, Bangi

Selangor Darul Ehsan

Tel: 03 8921 4549 Fax: 03 8921 3398

email: pghinbio@ukm.my

website: <http://www.inbiosis.ukm.my>



Workshop: Introduction to Mathematical Modeling

11 August 2010

9.00am-5.00pm

Institute of Systems Biology (INBIOSIS)
UKM, Bangi

By:

Dr Peter Klappa
University of Kent
United Kingdom



Abstract

Systems Biology is a multidisciplinary approach, which aims to understand biological processes on different hierarchical levels. The data obtained feed into the generation of multidimensional networks and ultimately into detailed information about biochemical reaction pathways and genetic networks. A fundamental feature of these pathways is their high level of regulation through a multitude of feedback and feedforward loops. Typical examples of feedback/feedforward loops are the regulation of enzymes by products and the regulation of genetic expression by transcription factors. A detailed understanding of these regulatory mechanisms is therefore a fundamental stepping stone in the understanding of the overall biological architecture of an organism. To gain this kind of deep understanding, mathematical modelling of regulatory processes has been used, however, this approach is rather time-consuming and requires mathematical skills, which many biologists lack. In this project, we aim to develop algorithms for the prediction of regulatory events without the need for complex mathematical modelling of the underlying biochemical pathways by identifying specific network motifs; and analyzing their contribution to the general behaviour of a biological system.

Guest Speaker

Dr Peter Klappa
School of Biosciences
University of Kent
Canterbury, UK

PhD in Biology

- Transport of Secretory Proteins into the Endoplasmic Reticulum of Higher Eukaryotes
- University Goettingen (1991)

Staatsexamen [corresponds to PGCE]

- Teaching Biology and Chemistry in Higher Education
- University Muenchen (1987)

Diplom [corresponds to M.Res. in Biology]

- Teaching Biology and Chemistry in Higher Education
- University Muenchen (1987)

Research Interests:

- Protein Folding and the Role Molecular Chaperones and Folding Catalysts Play
- Structure, Function and Specificity of Protein Disulphide Isomerase and Peptidyl Prolyl cis-trans Isomerase
- Cell Biology
- Biochemistry
- Protein Chemistry
- Proteomics/Metabolics / Transcriptomic

Details

Date : 11 August 2010
Venue : Institute of Systems Biology (INBIOSIS)
UKM, Bangi
Fee : RM 30.00

Registration

Name: _____

Institution: _____

Address: _____

Tel: _____

Fax: _____

Email: _____

*Attendance confirmation should be made before
9 August 2010 and sent to
**Institute of Systems Biology (INBIOSIS),
Universiti Kebangsaan Malaysia,
43600 UKM Bangi,
Selangor Darul Ehsan or
faxed to 03-8921 3398***

Workshop fees: RM 30.00

Registration fee covers workshop materials and certificate must be paid in full on the day of registration.

Method of Payment: Cash

Note: Participants are required to provide your own laptop.

Enquiries:

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