

Why systems biology? Kutsu kurssille, inbjudan till kurs

June 16th & 17th 2009, Espoo, Finland
Dipoli, Otakaari 24; Seminar room 22

EU Professional education Course invitation

+ Soveltuu biologian, matematiikan,
fysiikan ja kemian opettajille

 Lämpad för lärare i biologi,
matematik, fysik och kemi

What

A set of two related 1-day introductory courses in English. Support in Finnish and Swedish available. Participation to the first day only is possible, second day requires knowledge from first day. Lectures 9:00–12:30, practical sessions 13:30–16:30.

Level

Persons having a M.Sc. (or equivalent) in biology, chemistry, physics, mathematics or information technology (course emphasis is on biology).

Topic

Systems biology is an area of science at the intersection of biology, medicine and more formal sciences like mathematics and physics. This dynamic, interdisciplinary field combines mathematical and computational modelling techniques together with experimental data from a variety of sources such as genomics, proteomics or metabolomics.

In the future, systems biology will contribute to our understanding of complex biological processes in as different domains as waste treatment, agricultural sustainability or human diseases by shedding light on how various biological processes interact.

Content

Basics about cell biology (*lectures*)

About cells: structure and functional aspects
About molecular components of cells: genes, proteins, other molecules
About interactions of molecular components in the cell

Basics about measurement technologies (*lectures*)

Sequencing genomes, identifying genes and understanding variation
Measuring gene activity and regulation
Understanding protein structure, interactions and function

Basics about biological databases (*lectures and practical session*)

Component databases
Network and interaction databases
State data repositories

Basics about data analysis (*lectures and practical session*)

Sequence analysis
Multivariate statistical analysis, machine learning, classification
System analysis
Modelling and simulation

Basics about software and standards for systems biology (*lectures and practical session*)

Registration & other info

Registration by June 9th : e-mail to 'mosbio@medicel.com' or phone to +358 (0)207199470, Pirjo Löytölä, Tuyet Nhu Tran, Christophe Roos. No course fee. Mosbio homepages: www.mosbio.eu .
Further questions to same e-mail and phone.

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Education and Culture

Leonardo da Vinci