TissueHome Minisymposium:
In silico modeling and simulation of proteins and membranes

June 5-6, 2014, Oulu, Finland

Time
June 5-6, 2014

Place
University of Oulu, Linnanmaa campus. Morning sessions: Lecture hall L10; afternoon sessions in a computer classroom, Dept. of Biochemistry

Credits
1.5 ECTS for the whole programme (see below), 0.3 ECTS for lectures only

Requirements
To obtain the credits for the whole programme, participation in the lectures on both days, afternoon post-lecture sessions and suggested readings are required.

Organizer
Biocenter Oulu Doctoral Programme (BCO-DP)

Registration
Send e-mail before the symposium to Ritva Saastamoinen, indicating if you participate in the lectures only, or also in the afternoon programme with the speakers. Registration deadline: By May 30, 2014.

Enquiries
Dr. André Juffer, Biocomputing coordinator, and BCO-DP coordinator Ritva Saastamoinen, tel. 0294 48 6102. e-mail: firstname.lastname(at)oulu.fi

Event outline

- Pre-assignment: Doctoral students are expected to prepare for the minisymposium by reading the pre-distributed material suggested by the speakers. The material is distributed to registered participants about one week before the course. The students are also encouraged to bring their own laptops for simulations etc.
- Mornings: lectures, 2 sessions on both days (8 hours)
- Afternoons: Discussions for guest speakers, doctoral students and senior investigators; specialty talks; computer demonstrations, simulations and other exercises.
  - Frank Eisenhaber specialty talk: Usage of the ANNOTATOR tool for reading biomolecular mechanisms in protein sequences
  - Kimmo Mattila: demonstrations on the following potential themes (depending on the demand): Pouta cloud service, FGI grid environment, (Array) batch jobs in Taito cluster, IDA storage environment, Chipster data analysis environment for NGS, microchip and sequence data, Discovery Studio graphical protein modeling program; Ad-Hoc demos on request
  - Hans Kestler: a hands-on Boolean modeling and simulation tutorial, 1.5-2h
PROGRAMME

Day 1
8:30-8:40 Opening words, André Juffer and Ritva Saastamoinen

Lecture session 1 (lecture Hall L10)
8:40-9:20 Utilizing the computing and data resources of CSC in your research. Including small live examples about using cloud and grid computing.
Kimmo Mattila
CSC - IT Centre for Science, Espoo, Finland
9:20-10:00 When will we understand the human genome? About the role sequence-analysis in gene function discoveries for ATGL, PIG-T, GAA1/GPAA1, etc.
Frank Eisenhaber
The Bioinformatics Institute (BII), Singapore

10:00-10:30 Coffee break

Lecture session 2 (lecture Hall L10)
10:30-11:10 Effect of hydrophobic molecules on the lateral organization of biological model membranes
Luca Monticelli
Institut de Biologie et Chimie des Protéines, National Center for Scientific Research (IBCP, CNRS), Lyon, France
11:10-11:50 Coarse-grained energetic and evolutionary approaches to predicting protein-protein interaction interfaces and interaction strength
Jaap Heringa
Centre for Integrative Bioinformatics VU, Vrije University, Amsterdam, Netherlands

11:50-13:00 Lunch break
13:00-16:30 Afternoon programme in a computer classroom, Dept of Biochemistry

Day 2
Lecture session 3 (lecture Hall L10)
8:30-9:10 In silico analysis of small RNAs in nematodes
Garry Wong
University of Eastern Finland, A.I. Virtanen Institute for Molecular Sciences, Kuopio, Finland
9:10-9:50 Boolean networks for modeling cellular signaling processes
Hans A. Kestler
Institute of Neural Information Processing, Ulm University, Germany

9:50-10:20 Coffee break

Lecture session 4 (lecture Hall L10)
10:20-11:00 Protein-protein interactions: providing context for a meaningful interpretation of OMICS data sets
Dirk Walther
Max Planck Institute for Molecular Plant Physiology, Potsdam-Golm, Germany
11:00-11:40 Biocomputing approaches: Application to protein sequence and structure analysis
Padmanabhan Anbazhagan
University of Oulu, Faculty of Biochemistry and Molecular Medicine

11:40-12:40 Lunch break
12:40-16:00 Afternoon programme in a computer classroom, Dept of Biochemistry