

SYSTEMS AND SYNTETIC BIO week GABBA Feb 2015

Monday 09.02.2015

09:30 to 12:30	Introduction to the System and Synthetic Biology week (SS + PB)
	Public Speaking part I (SS)
	Introduction to Systems Biology (PB)
12:30 to 13:30	Lunch Break
13:30 to 17:00	Bioinformatics, Supervised /Unsupervised Machine learning (PB)

Tuesday 10.02.2015

9:30 to 12:30	*Omics, Pros/Cons of different high-throughput methods (PB)
12:30 to 13:30	Lunch break
13:30 to 17:00	Hands on: Programming (PB)

Wednesday 11.02.2015

9:30 to 12:30	Design principles in biological systems (SS)
12:30 to 13:30	Lunch break
13:30 to 17:00	Hands on: Image analysis (SS + PB)

Thursday 12.02.2015

9:30 to 12:30	Synthetic Biology - engineering biological circuits (PB)
	Public speaking part 2 (SS)
12:30 to 13:30	Lunch break
13:30 to 17:00	Hands on: Write a paper (SS)

Friday 13.02.2015	Mini symposium on systems and synthetic biology
9:30 - 10:15	Intro to System Biology - an editors perspective (MP)
10:15 - 10:50	Omics I - from proteins to networks to phenotypes (PB)
10:50 - 11:25	Omics II - from genes to behavior (AB)
	BREAK
11:45-12:20	Design Principles - Spatio-temporal control of cell division (SS)
12:20-13:00	Synthetic Biology (HY)
13:00-14:00	Lunch break
14:00	Introduction to publishing: Meet and editor
	Academic track and open QA

Lecturers

Pedro Beltrao (PB) EMBL-EBI www.ebi.ac.uk/beltrao

Silvia Santos (SS) MRC-CSC <http://csc.mrc.ac.uk/research-group/quantitative-cell-biology/>

Andre Brown (AB) MRC-CSC <http://csc.mrc.ac.uk/research-group/behavioural-genomics/>

Hyun Youk (HY) TU Delft <http://www.youklab.org/>

Maria Polychronidou (MP) Editor Molecular Systems Biology msb.embopress.org

Reading Material

References for the different sub-sections will be given during the week. Please read the following short commentary papers before Monday:

1. Can a biologist fix a radio?--Or, what I learned while studying apoptosis. Lazebnik Y. Cancer Cell. 2002 Sep;2(3):179-82.
2. Q&A: Systems biology. James E. F. Jr. Journal of Biology. 2009.
3. The meaning of Systems Biology. Marc Kirschner. Cell 2005

Bioinformatics and Image Analysis

- Practical course in Perl programming and Image Analysis

-Please, bring 1 laptop per two students for the practical courses

Software to install:

For all (PC and Mac):

Install CellProfiler (<http://www.cellprofiler.org/download.shtml>)

Install Cluster3.0 (<http://bonsai.hgc.jp/~mdehoon/software/cluster/software.htm>)

Install TreeView – Mac:TreeView-1.1.6r2-osx.zip; Win:TreeView-1.1.6r2-win.zip
(<http://sourceforge.net/projects/jtreeview/files/jtreeview/1.1.6r2/>)

On a Windows PC:

Install ActivePerl 5.14 x86 (<http://www.activestate.com/activeperl/downloads>)

Install Notepad++ (<http://notepad-plus-plus.org/>)

On a Mac:

Install TextWrangler (<http://www.barebones.com/products/TextWrangler/>)

On a Linux:

Whatever editor you like.