

Finding genes for human disease

from genetics to genomics

Porto
13 - 17 July 2015

Faculty

Marianna Bevova, Olga Sin, Yurii Aulchenko

Program

Monday 13th July

9:30- 9:45	Course introduction (Marianna Bevova)
9:45- 10:30	Lecture: Variation in human genome (Marianna Bevova)
10:45 -11:30	Lecture: Monogenic disorders. Linkage analysis (Marianna Bevova)
11:45 - 13:30	Exercise: Lod score exercise (Marianna Bevova)
13:30-14:30	Lunch
14:30-15:30	Lecture: Monogenic disorders. Next generation sequencing (Marianna Bevova)
15:45- 18:00	Exercise: Virtual Cloning (haplotype analysis)

Tuesday 14th July

9:30-10:00	Discussion Exercises (Marianna Bevova)
10:00-13:30	Exercise: Analysis of the next generation sequence data (Marianna Bevova)
13:30-14:30	Lunch
14:30-15:30	Lecture: Multifactorial disease and association studies (Yurii Aulchenko)
15:30-18:00	Exercise: Introduction to R and association analysis (Yurii Aulchenko)

Wednesday 15th July

9:30-10:00	Lecture : Genome wide association studies (Yurii Aulchenko)
10:15-11:00	Lecture : Power and coverage of genome wide association studies (Yurii Aulchenko)
11.30-13.30	Exercise: Power estimation; GWAS QC
13:30-14:30	Lunch
14:30-15:30	Lecture : Confounding in Genome wide association studies (Yurii Aulchenko)

15:30-16:30	Exercise:	GWAS in GenABEL (Yurii Aulchenko)
17:00-18:00	Exercise:	Developing a study design

Thursday 16th July

9:30 -10:15	Lecture :	Functional Genomics: from gene to function (Olga Sin)
10:30 -11:15	Lecture :	Finding modifiers of protein aggregation in neurodegenerative diseases (Olga Sin)
11:30-13:30	Exercise:	Developing a study design
13:30-14:30	Lunch	
14:30-18:00	Exercise:	Developing a study design

Friday 17th July

9:30-10:15	Lecture:	Applications of the medical genetics findings (diagnostic, pharmacogenomics)
10:30 -13:00	Exercise:	Developing a study design
13:00-14:00	Lunch	
14:00-17:00		Presentation and discussion of the study design. Conclusions