

Finding genes for human disease

from genetics to genomics

Oporto
19 - 23 June 2017

Faculty

Marianna Bevova, Yurii Aulchenko, Michel Georges

Program

Monday 19th June

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 20th June

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 21th June

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 22th June

9:30 -10:15	Lecture :	Positional cloning for complex diseases (Michel Georges)
10:30 -11:15	Lecture :	Functional annotation of the human genome (Michel Georges)
11:30-13:30	Exercise:	Developing a study design
13:30-14:30	Lunch	
14:30-18:00	Exercise:	Developing a study design

Friday 23th June

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