



OVERVIEW

Following the very successful Summer School in September 2011, the Istituto di Ricerca Genetica e Biomedica (CNR-IRGB) and the Centro di Ricerca, Sviluppo e Studi Superiori in Sardegna (CRS4) are organising the 2nd Sardinian Summer School ‘Genomic Analysis of Complex and Monogenic Disorders’ from **24 – 28 September 2012**.

The aim of this Summer School in Genomics is to cover state-of-the-art theory and practice of the approaches to the identification of the genetic bases of human diseases.

COURSE DESCRIPTION

The programme consists of a series of lectures and practical sessions which are specific to the theme of the Summer School. The course is designed to encourage the maximum possible interaction among lecturers and students.

The lectures are intended to give conceptual overviews of modern approaches to study genetic variation and to apply this information to different areas of research, in particular the detection of genetic variants associated with complex and monogenic traits. Special emphasis will be given to recent progress resulting from massive parallel sequencing strategies and their integration with microarrays data.

The practical sessions (workshops) are intended to give more applicative tools on the different topics covered during the course; in particular a discussion of different study designs, methods to analyse high flow microarray data for GWAS, analysis of low pass and deep coverage whole genome DNA sequencing data, methods for statistical imputation, analysis of exome sequencing data, quantitative and qualitative analysis of the transcriptome, epigenome and other related issues. The workshops will consist of theoretical demonstrations as well as practical tasks carried out using a variety of computer programs.

Course Scientific Directors: Francesco Cucca, Marcella Devoto

Lectures		Workshops	
Marcella Devoto	GWAS Overview	Marcella Devoto and Serena Sanna	Study Design, Power Analysis, QC
Serena Sanna	Association studies including QTL	Marcella Devoto and Serena Sanna	GWAS including Imputation
Stephen Sawcer	Genetics of Multiple Sclerosis	Gonçalo Abecasis and Serena Sanna	Sequencing
Gonçalo Abecasis	Low Pass Sequencing	Deborah Nickerson	Sequencing
Deborah Nickerson	Sequencing in the Clinic	Nicole Soranzo	TBD
Thomas Meitinger	Sequencing in Complex Traits	Stephen Montgomery	RNASeq
Nicole Soranzo	Meta-Analysis	John Novembre	Population Genetics
Francesco Cucca	Sardinia as a model population		
Stephen Montgomery	Expression and eQTL		
John Novembre	Population Genetics		
John Todd	Genetics of Type 1 Diabetes		
Vanessa Hayes	Historical Genomics		
NN	TBD		
David Schlessinger	Wrap up, what's next?		

WHO SHOULD ATTEND

Graduate students, post-doctoral researchers, and clinical researchers who wish to learn more about or move into the complex genomics field. Attendees should have background knowledge on most of the topics presented during the course. The ability to work in a Linux environment is a prerequisite for attending the workshops. Applicants must be fluent in English. The course is funded by the Regional Sardinian government and will be free of charge for all attendees.

Application deadline: 15 August 2012

Local Organizing Committee: Roman Tirler, Chiara Rotondi

For additional course information and course application please visit the course website.

LOCATION

Polaris Technology Park
Loc. Piscinamanna
09010 Pula (CA), Italy

CONTACT

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WEBSITE

<http://www.crs4.it/SC2012>