

# 6<sup>th</sup> Sardinian International Summer School

## From GWAS to function

Pula (Italy), June 12 – 16, 2017

Course jointly organized by IRGB, SR, ESGM and CEUB

**Target Audience:** This course is designed to explore the current knowledge on the molecular basis of complex genetic variation in humans and to use this information in different research areas applying new methodologies. Data from genome-wide association studies will be explored, starting from experimental design, through data analysis, and the impact of functional information on variations.

The course will use a combination of lectures and demonstrations with a heavy emphasis on hands-on data analysis, which requires students' active participation. The goal is to achieve maximum interaction with the instructors and the other participants.

This summer school is intended for advanced pre-doctoral students and post-doctoral researchers from biological and health sciences and other backgrounds (including bioinformatics and mathematics) that wish to learn more about or move into the complex genomics field.

**Venue:** Polaris Techno Park, Building 2 - 09010 Pula (CA), Italy (<http://www.sardegna-ricerche.it/en/technologypark>). The Technology Park is located in the territory of Pula, in the hinterland of Cagliari, close to the South-Western coast of Sardinia.

**Cost:** The course is funded by the Regional Sardinian government and registration will be free of charge for all attendees. Registration includes course material, lunches and coffee breaks (not accommodation expenses – see below). Free shuttle services will be provided from Cagliari Elmas Airport to the hotel and from the hotel to the Polaris Technology Park Auditorium. Travel and accommodation expenses are to be covered by the attendees.

**Accommodation:** Faculty and students will stay at hotels located near the seaside, a few kilometers from the Polaris Technology Park. A very special rate has been agreed with the Local Organizing Committee. All rates include breakfast and dinner and free transfer to and from the Summer School venue. You'll be lodged at the hotel Flamingo ([www.hotelflamingosardinia.com](http://www.hotelflamingosardinia.com)) and the hotel Mare Pineta (<http://www.marepinetahotel.com/>) located in front of the sea at few kilometers from the Polaris Technology Park.

For info on arrangements and reservations see: [www.irgb.cnr.it/summerschool2017](http://www.irgb.cnr.it/summerschool2017)

### A limited number of fellowships covering both registration and accommodation will be offered

**Applications:** all applicants are required to pre-register by sending together with the pre-registration form available at [www.irgb.cnr.it/summerschool2017](http://www.irgb.cnr.it/summerschool2017): 1) A curriculum vitae (résumé) in English, including work and research experience; 2) A letter of motivation in English (max. 500 words); 3) A letter of reference from the current supervisor. Incomplete applications will not be considered.

Selection will be based on CV and a letter stating the motivations for attending the course and future research plans of candidates.

**The maximum number of participants is 40.**

**Deadline:** for all applications (both for attendance and for fellowships) is **May 1<sup>st</sup>, 2017**

**Applicants from countries for which a visa to Italy is required are encouraged to apply earlier**

**Abstracts submission:** To actively participate in the School, participants are invited to submit an abstract for review by the Scientific Committee. Submission of an abstract together with the application may give an advantage in the competition for admission and for fellowships.

The Committee reserves the right to: 1) Select the abstracts relevant to the sessions; 2) Decide on the final form of presentation (poster or oral presentation). The list of abstracts will be published in the Final Program and on the website only on receipt of full registration.

## Directors:

Francesco Cucca (Italy), Marcella Devoto (Italy, USA), Giovanni Romeo (Italy)

## Faculty:

Goncalo Abecasis (USA), Myles Axton (UK), Francesco Cucca (Italy), Myriam Gorospe (USA), Agnar Helgason (Iceland), Stephen Montgomery (USA), Deborah Nickerson (USA), John Novembre (USA), Nima Rezaei (Iran), Stephen Sawcer (UK), David Schlessinger (USA), Carlo Sidore (Italy), Nicole Soranzo (UK), John Todd (UK), Eleftheria Zeggini (UK)

## PRELIMINARY COURSE PROGRAM

### MONDAY JUNE 12<sup>th</sup>

#### Morning Lectures: Population studies and human disease

Introduction to Population Genetics – **John Novembre**

GWAS overview – **Eleftheria Zeggini**

to be defined – **Nicole Soranzo**

#### Afternoon Workshops

Population Structure/Signature of Selection – **John Novembre**

Next generation association studies in isolated populations - **Eleftheria Zeggini**

### TUESDAY JUNE 13<sup>th</sup>

#### Morning Lectures: Applications of DNA and RNA sequencing

Whole Genome Sequencing – **Goncalo Abecasis**

Insights from Next Generation Sequencing - **Deborah Nickerson**

Regulatory variants in individuals, families and populations - **Stephen Montgomery**

#### Afternoon Workshops

NGS variant calling – **Carlo Sidore**

Variants databases - **Deborah Nickerson**

### WEDNESDAY JUNE 14<sup>th</sup>

#### Morning Lectures: Immunogenetics

The genetics of multiple sclerosis - **Stephen Sawcer**

From genes to pathways to therapeutic opportunities and a better understanding of the human immune system- **John Todd**

Primary Immunodeficiency Diseases: From Genes to Clinics - **Nima Rezaei**

#### Free Afternoon

### THURSDAY JUNE 15<sup>th</sup>

#### Morning Lectures: Genetic studies in population isolates

to be defined – **Agnar Helgason**

From GWAS to function: The example of the Sardinia founder population – **Francesco Cucca**

to be defined - **Myles Axton**

#### Afternoon Workshops

RNA sequencing and analysis - **Stephen Montgomery**

to be defined

### FRIDAY JUNE 16<sup>th</sup>

#### Morning Lectures: Genetics of aging

Genetics of Aging – **David Schlessinger**

Noncoding RNAs in aging physiology and disease- **Myriam Gorospe**

#### Students Presentations

#### Adjourn and Departure

**Course Organizer:** Dr. Andrea Angius

**Summer School Secretary:** Jessica Bazzoli

Please do not hesitate to contact the Secretariat if you require any additional information or assistance.

Please address all correspondence to: [infosc2017@irgb.cnr.it](mailto:infosc2017@irgb.cnr.it)

For more information visit:

[www.irgb.cnr.it/summerschool2017](http://www.irgb.cnr.it/summerschool2017)