Clinical Bioinformatics

Bioinformatics – Basic methods and applications

for students of the Faculty of Medicine and Surgery and PHD students in biomedical disciplines

Academic Year 2015/2016

Module 1: Biomedical data repositories and online resources (Part I)
Wednesday, 4 may 2016

14:30-14:45  Prof. RICCARDO BELLAZZI
Introduction

lesson 1, 14:45-16:15  Prof. MARCO MASSEROLI
Biological data and knowledge organization, databanks and interoperability.

lesson 2, 16:15-18:00  Prof. MARCO MASSEROLI
Exercise classes on primary and specialized biological databanks and information extraction.

Module 1: Biomedical data repositories and online resources (Part II)
Friday, 6 may 2016

lesson 3, 14:30-16:15  Prof. MARCO MASSEROLI
interpretation of biomolecular data and knowledge via bio-ontologies.

lesson 4, 16:15-18:00  Prof. MARCO MASSEROLI
Exercise classes on bio-ontologies and tools for integrated data query.

Module 2: Computational methods and integrative bioinformatics approaches
Wednesday, 11 may 2016

lesson 5, 14:30-16:15  Ing. IVAN LIMONGELLI
Next generation sequencing pipelines, sequence analysis and annotation.

lesson 6, 16:15-18:00  Prof. RICCARDO BELLAZZI
machine learning and integrative Bioinformatics approaches.

Module 3: Applications (Part I)
Wednesday, 25 may 2016

lesson 7, 14:30-16:15  Prof. DIEGO DI BERNARDO
gene networks and reverse engineering algorithms.

lesson 8, 16:15-18:00  Prof. DIEGO DI BERNARDO
From gene networks to drug networks for clinical drug repurposing.

Module 3: Applications (Part II)
Monday, 30 may 2016

lesson 9, 14:30-16:15  dr. LUCA BELTRAME
Next generation sequencing for mutational profiling of longitudinal tumor biopsies.

lesson 10, 16:15-18:00  Prof. MASSIMILIANO PAGANI
applications of integrative bioinformatics methods in oncology.

Speakers: Prof. RICCARDO BELLAZZI (Course Coordinator)
Dr. LUCA BELTRAME, Mario Negri Institute for Pharmacological Research, Milano
Prof. DIEGO DI BERNARDO, Università di Napoli e TIGEM
Ing. IVAN LIMONGELLI, Università di Pavia
Prof. MARCO MASSEROLI, Politecnico di Milano
Prof. MASSIMILIANO PAGANI, Istituto Nazionale Genetica Molecolare, Milano

The Course is offered to students enrolled in all degree courses of the Faculty of Medicine and Surgery (20 seats available) and students of PhD programs of biomedical disciplines (40 seats available).

Credits: 2 CFU. Students are required to attend at least 8 lectures and overcome a written test.

The test preparation materials are the slides of the lectures.

During Practical classes students will use their own PCs.

The course will be held in English.

Registration open until availability (maximum 60 participants).

For information: didattica@ghislieri.it
Online registration: collegio.ghislieri.it/ccr