



Course in Systems Biology

2CFU – April 2022

Organized by Giovanni Scala

The course aims at providing the students with the basics approaches and principles of Systems Biology spanning from multi-omics data integration to their complex functional characterization. The proposed topics will be accompanied by use cases from real world applications in the field of toxicology testing and with practical sessions of data analysis. A leading expert in Systems Toxicology, Prof. Dario Greco (University of Tampere), will participate as a guest speaker.

Day 1 (3h)

Giovanni Scala (Dept. of Biology, UNINA): Introduction to Systems Biology

Day 2 (3h)

Dario Greco (University of Tampere): *Introduction to Omics technologies*

Day 3 (3h)

Giovanni Scala (Dept. of Biology, UNINA): Preprocessing and analysis of omics data with Eutopia

Day 4 (3h)

Dario Greco (University of Tampere): Systems biology and toxicogenomic

Day 5 (3h)

Giovanni Scala (Dept. of Biology, UNINA): Integrative analyses of multi-omics data

Day 6 (3h)

Giovanni Scala (Dept. of Biology, UNINA): Functional profiling of Mechanism of Actions in multiple experiments