

## **OPEN SCIENCE CLOUD SCHOOL**

Antonio Laganà, MASTER-UP srl, Perugia (IT)

As part of the activities of the European Joint Doctorate ITN-EJD-TCCM the first edition of SOSC (School on Open Science Cloud) has been jointly organized in Perugia by the Department of Chemistry, Biology and Biotechnologies and the Department of Physics and Geology of the University of Perugia in collaboration with INFN during the week 5-9 June 2017.

The school aimed at training young researchers in Molecular sciences, Physics and IT to the use of distributed and cloud computing for research and innovation. Accordingly its contents were arranged to provide a comprehensive introduction to scientific computing with particular emphasis on Cloud infrastructural solutions for scientific applications. Related main paradigms were reviewed and related hands-on sessions were organized to train young researchers on both general scientific programming and specific topics like Molecular sciences, statistical methods for data analysis and educational applications.

The covered topics are:

Introduction to scientific computing (*scientific computing: an historical and inspired view; perspectives, funding and European models; big experiments: computing challenges; scientific programming*).

Cloud and workflows (*introducing cloud computing; science in OpenStack; introduction to parallel computing; workflows in molecular sciences*).

Applications I: Molecular Sciences (*molecular dynamics; quantum dynamics*).

Applications II: Statistical methods, data analysis and processing (*statistical methods in data analysis; deep learning*).

Educational (*LibreEOL; GLOREP*).