

# **SOSC 2022 Fourth International School on Open Science Cloud**



**Monday, November 28, 2022 - Friday, December 2, 2022**

**INFN Perugia**

## **Scientific Program**

The SOSC 2022 theme is “**Computing Models for Scientific Experiments**”. The school programme is organized in three main tracks:

## **Fundamentals**

## **Machine Learning**

## **Workflow Management**

The "Fundamentals" track will provide an overview of the main challenges related to the design of a scientific computing model, introducing concepts such as software management, containerization, application distribution and deployment.

The "Machine Learning" track will provide an introduction to Machine Learning, including some more advanced lectures aimed to improve skills on Data Science techniques and applications.

The "Workflow Management" track will finally provide students with knowledge on how to organize workflows and pipelines in a distributed environment. Novel and effective approaches to interactive and quasi-interactive parallel processing of data sets will then be covered.

The school is structured in **lectures and hands-on sessions**. The hands-on sessions will be designed to allow students to exercise with the most popular systems introduced in the lectures, taking tasks from real-world leading data driven scientific communities as examples. The hands-on programme foresees the development of individual projects related to the development of a simplified computing model for a scientific experiment.

SOSC 2022 will also propose a **special session on FPGA** (Field Programmable Gate Array). Scientific computing is moving towards the exploitation of more and more heterogeneous resources.

## **Fundamentals**

Managing software and data  
Tools for Data Handling and Processing

## **Machine Learning**

Introduction to Machine and Deep Learning  
Data Science

## **Workflow Management**

Cloud Solutions for Advanced Big Data Workflows