Syllabus Geant4 school

Reference Professors: Silva Bortolussi and Ian Postuma

Period: 16-20 January 2023

Number of hours: 35

Description:

The school is a five days hands-on Geant4 course. Geant4 is a software toolkit, written in C ++, for simulating tracking of particles in the matter with the Monte Carlo approach. The software is developed and maintained by an international collaboration of scientists belonging to different institutions. Geant4 can be used for applications in high energy physics, astrophysics, medical physics, particle astrophysics and nuclear physics.

The topics of the International Geant4 School will cover both high energy/nuclear physics and medical applications, with a focus on Geant4DNA, for the applications in radiobiology. Lectures will cover all aspects of the toolkit from basic installation through advanced topics and will be interspersed with examples that build a progressively more complex application, extensible to real space and medical use. A dedicated short C++ course is also included to get familiar participants with the basic elements of the Geant4 programming language.

The school is aimed at MSc students, PhD students, medical physicists and young researchers working at Universities or Research Institutes.

Exam: a final test is foreseen for the release of a certificate for those interested. For PhD students who intend to choose this school as a course, a committee of professors will propose a final exam valid for the PhD plan of studies.