

ICRS-13 & RPSD-2016

13th *International Conference on Radiation Shielding*
&
19th *Topical Meeting of the Radiation Protection & Shielding Division*
of the *American Nuclear Society -2016*

1st Plenary invited talk:

“Machine and radiation protection challenges of high energy/intensity accelerators: the role of Monte Carlo calculations”

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The role of Monte Carlo calculations in addressing machine protection and radiation protection challenges regarding accelerator design and operation is discussed, through an overview of different applications and validation examples especially referring to recent LHC measurements.

Francesco Cerutti started his career on heavy ion reaction modeling at low energies, getting his degree in Physics in Milan and his PhD in Turin. After becoming a contributing author of the FLUKA code, he joined the CERN staff in 2006, as a member of the CERN FLUKA team, working both at the code development and at its application to various simulation studies concerning the CERN facilities, in particular the Large Hadron Collider. Since 2011, he leads the section of the Engineering Department in charge – among other activities - of beam machine interaction calculations. In the framework of the High Luminosity LHC project, he is the coordinator of the workpackage dedicated to the evaluation of particle showers and energy deposition. He is reviewer for several journals, including Physical Review, Nuclear Instruments and Methods in Physics Research, and Radiation Protection Dosimetry, and organizer of the series of Varenna Conferences on Nuclear Reaction Mechanisms.