

Title: Prof.

Lecturer: Ugo Amaldi

Date and Times:

- Monday, 2nd of August, 09:15am-10:00am

Summary of the proposed talk: Accelerators and cancer therapy.

'Hadrontherapy', or 'particle therapy', is a collective word which covers all cancer therapy modalities which irradiate patients with beams of hadrons.

The most used hadrons are protons and carbon ions. Protontherapy is developing very rapidly: more than 65'000 patients have been treated and five companies offer turn-key centres. Carbon ions, used for about 6000 patients, have a larger radiobiological effectiveness and, being a qualitatively different radiation, require still radiobiological and, in particular, clinical studies to define the best tumour targets.

After a review of the European effort in carbon ion therapy, the two challenges facing the physicists developing the accelerators for hadrontherapy will be described: the construction of 'single-room' facilities for protons and of multi-room facilities, not based on synchrotrons, for carbon ions.

Prerequisite knowledge and references: None

Biography-

Brief CV: not provided

Publications: none