

POZIV NA PREDAVANJE

Prof. Benedetto Di Ruzza, Ph.D.

University of Foggia & INFN Bari, Italy
(<https://orcid.org/0000-0001-9925-5254>)

Inspire-HEP Author:1040590

Scopus Author ID:35227195900

Teaching web page (in italian language)

<https://sites.google.com/unifg.it/diruzza>

e-mail: benedetto.diruzza@unifg.it

U srijedu, 30. travnja 2025. 10:00 – 11:00 h

Tehnički fakultet predavaonica P1 (prizemlje)



Medical Irradiation Facilities Technologies: present status and future perspectives

Talk abstract:

The aim of this seminar is to give an overview of the different technologies used now days in a modern medical irradiation facility used for cancer treatment, and more in detail in a proton/ion irradiation facility. Every medical beam treatment plan is the complex results of the wise use of simulation software, beam accelerating technologies, dosimetry devices, biological experiments and many other different research activities. Proton/ion therapy is an example of a multidisciplinary activity where the contamination of different technologies is the key of successful results.

Proton therapy was born from an intuition of the American physicist Robert Rathbun Wilson in 1946, but only many years later, in 1989-1990, it become a safe and effective treatment methodology practiced in hospitals. This was possible thanks to the enormous progress achieved in international particle physics research laboratories such as, between the others, the Fermilab Laboratory in Chicago and the CERN laboratory in Geneva, where complex and precise particle accelerators were built and made this treatment practicable in a safe condition on human patients.

After a brief presentation of the basic principles and the historical evolution of proton therapy, will be described the main centers connected to the Italian National Health System where proton/hadron therapy is delivered on patients with cancer disease. After an overview of the commercial and custom devices used in these centers, there will be a brief introduction on what is currently considered the new frontier of cancer treatment with irradiation, namely the “FLASH Irradiation”. To conclude, the research activities that the University of Foggia carries out in cooperation

with the Trento FBK Research Center on these topics will be described.

Ulaz je slobodan. Predavanje je na engleskom jeziku.

Kontakt osoba Prof. dr.sc. Vera Gradišnik <mailto:Vera.Gradisnik@riteh.uniri.hr>