



Contribution ID: 14

Type: **not specified**

## FlashTherapy: an innovation in radiation therapy

*Wednesday, 4 September 2019 10:00 (20 minutes)*

The Radiation Therapy (RT) goal is to destroy cancer cells, minimizing the damage to the rest of the body as well as any side effect. The “FLASH” Therapy, an innovative technique in radiation therapy, has shown that short pulses of electrons at very high dose rates are less harmful to healthy tissues but just as efficient as conventional dose rate radiation to inhibit tumour growth.

The therapy has been successfully tested with low energy electrons in small animals. It foresees millisecond pulses of radiation (beam on time < 100-500ms) delivered at a high dose-rate (>40-100 Gy/s), over 2000 times faster and more than 1000 more intense than conventional RT. We will discuss the genesis of this methodology, the instrumentations used and its evolution.

**Primary author:** GIULIANO, Lucia (INFN - National Institute for Nuclear Physics)

**Co-authors:** PALUMBO, LUIGI (UNIVERSITA' DI ROMA LA SAPIENZA); SPATARO, Bruno (Istituto Nazionale Fisica Nucleare (IT)); Prof. MOSTACCI, Andrea (Sapienza University of Rome e INFN-Roma I (IT)); Dr FAILLACE, Luigi (INFN Milano )

**Presenter:** GIULIANO, Lucia (INFN - National Institute for Nuclear Physics)