## XVIth Quark Confinement and the Hadron Spectrum



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## IPPOG and spin-offs from particle and nuclear physics

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While the mandate of particle physics research institutes is fundamental research, the developed technologies find applications for the benefit of society. With the aim to highlight their impact on medical applications and in particular on cancer treatment, the new Particle Therapy MasterClass (PTMC) package was developed and integrated into the International MasterClass 2021 (IMC) online programme, attracting immediately some 37 institutes from 20 countries and more than 1500 students. The PTMC, focusing on the topic of cancer treatment, a particular sensitive topic, is becoming increasingly popular, attracting the interest of students and tutors alike. The main idea is to show that (a) fundamental properties of particle interactions with matter, which are used to detect them in physics experiments, are also the basis for treating cancer tumours; and (b) the same accelerator technologies are used in both research laboratories and therapy centres. Ultimately students are shown "what physics has to do with medicine" and what are the various possibilities that physics and STEM studies may open up for job opportunities in fields that there is lack of expert personnel.

Author: Prof. FOKA, Yiota (GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))

Presenter: Prof. FOKA, Yiota (GSI - Helmholtzzentrum fur Schwerionenforschung GmbH (DE))

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