

CERN-MEDICIS : INNOVATIVE RADIOISOTOPES FOR MEDICAL APPLICATIONS

A.P. Bernardes¹, R. Catherall¹, K. Kershaw¹, S. Marzari¹, T. Stora¹, J. Prior², L. Buehler³, O. Ratib³

1 CERN, Geneva, Switzerland

2 CHUV, Lausanne, Switzerland

3 HUG, Geneva, Switzerland

Isotope mass Separation OnLine has been developed for over fifty years to address fundamental questions in nuclear structure and astrophysics. In parallel, applications for solid state physics have benefited from the diversity and purity of the radioactive ion beams available in these facilities, as seen with the large variety of beams and applied research program at Isolde. In the past fifteen years, medical applications have also been developed, culminating with the recent construction of a dedicated extension, CERN-MEDICIS, which is expected to start operating next year. Dedicated targets will be irradiated in the beam dump position of the Isolde HRS target station, and radioisotopes fractions will be extracted thanks to a dedicated isotope mass separator. With an access to dedicated isotope batches for medical applications, research projects will be developed in the fields of targeted radiotherapy, surgery, and Pet-aided hadron therapy within a network of medical and fundamental research institutions. This program is stimulated by a starting European Marie Curie training network, MEDICIS-Promed, across fifteen institutes in the H2020 framework program of the European Commission.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 642889