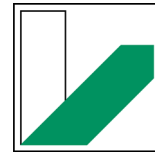
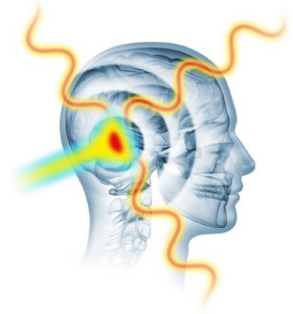


Physikalisches Kolloquium der Studierenden



UNIVERSITÄT
BAYREUTH



New frontiers in medical Physics

Research for
Ion Beam Therapy

Datum: Dienstag, 31. Mai 2022 | Zeit: 17:00 bis 18:00 Uhr | Raum: H15 (NW I)



The main rationale of ion beam therapy relies on the favorable interaction properties of swift ions in matter. These enable concentrating the energy deposition in a well-localized maximum in depth, so-called Bragg peak, thereby offering optimal coverage of the tumour target volume along with better sparing of normal tissue and critical organs compared to the widely established photon therapy. However, despite considerable developments in accelerator technology, beam delivery, treatment planning and in-room volumetric image guidance, full clinical exploitation of these advantageous properties is still hampered by several sources of uncertainties in the delivery of the intended treatment and thorough understanding of the underlying biological mechanisms.

This talk will review ongoing experimental medical physics research aiming to promote novel imaging approaches to reduce uncertainties in treatment planning and delivery, along with the development of precision pre-clinical research platforms to unravel the complex in-vivo response of tumour and normal tissue to radiation.

Prof. Dr. Katia Parodi

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