

**FAKULTÄT für PHYSIK  
LUDWIG-MAXIMILIANS-UNIVERSITÄT  
MÜNCHEN/GARCHING**

**PHYSIK-DEPARTMENT  
TECHNISCHE UNIVERSITÄT MÜNCHEN  
MÜNCHEN/GARCHING**

## **MLL-KOLLOQUIUM**

**Donnerstag, 28.06.2018, 16<sup>15</sup> Uhr**

Hörsaal der LMU in Garching, Am Coulombwall 1  
Treffen zum gemeinsamen Kaffee 16 Uhr

**Dr. Sandro Rossi**

**(Fondazione CNAO, Pavia/Italy)**

### **Particles for tumour treatments: The Italian National Centre for Oncological Hadrontherapy**

Some elementary particles used for experiments of fundamental physics have properties useful to the treatments of patients affected by oncological pathologies. They are protons and carbon ions, collectively named hadrons hence the term hadrontherapy. Hadrons are more precise on the target than conventional X-rays and possess radiobiological characteristics suited to treat radioresistant tumours. Italy is at the forefront of these techniques and in Pavia a clinical facility called CNAO (Italian acronym that stands for National Centre for Oncological Hadrontherapy) is currently treating patients with very good results. The CNAO has been created by the Health Ministry and has been realised by CNAO Foundation in collaboration with the Italian Institute of Nuclear Physics (INFN), CERN, GSI and other institutions in Italy and abroad. The seminar will deal with the rationale of hadrontherapy and will give an overview of the status of hadrontherapy in the world. The characteristics of the accelerators and systems involved in the clinical applications will be introduced and the treatments results will be illustrated, with main reference to CNAO. Attention will be also devoted to the most interesting aspects of research and development in this domain.

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