

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

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

MLL-KOLLOQUIUM

Donnerstag, 11.07.2019, 16¹⁵ Uhr

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

Prof. Guillaume Landry

(Department of Radiation Oncology, Medical Center of LMU, Grosshadern)

The role of volumetric imaging in radiotherapy: from brachytherapy to MRI guided photon therapy, with a detour in proton therapy

Volumetric imaging is nowadays a crucial component of modern radiation therapy. The radiotherapy chain begins with diagnosis imaging followed by the acquisition of both magnetic resonance and computed tomography images used for treatment planning, allowing both delineation of relevant organs and tumors, but also the extraction of quantitative information on the radiological properties of tissues. Further down the chain, in-room imaging allows accurate patient positioning at each of the 30 fractions of radiation, but also potentially treatment plan adaption. The latter requires highly quantitative images, which is challenging given the dose trade-off involved with frequent imaging, or when using modalities such as magnetic resonance imaging which do not correlate easily with radiological properties. In this presentation the use of advanced imaging techniques for various modern radiotherapy modalities ranging from brachytherapy to magnetic resonance imaging guided photon therapy, as well as for proton therapy will be presented.

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