FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

Garchinger Maier-Leibnitz-Kolloquium

Donnerstag, 13.07.2023, 16^{15} Uhr

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

Prof. Christoph Bert

(Univ. Erlangen-Nürnberg and University Clinic Erlangen)

Quality assurance in brachytherapy of breast cancer

Brachytherapy is one of the oldest treatment delivery options in radiation oncology. Encapsulated radioactive isotopes are (temporarily) inserted in or close to the tumor. Frequently, breast cancer patients are treated by brachytherapy after breast conserving surgical removal of the tumor. Brachytherapy is then delivered interstitially, i.e. catheters are implanted into the breast so that the Ir-192 source can be guided to the tumor bed. Treatment planning is based on computed tomography imaging, segmentation of the target volume, followed by definition and optimization of dwell positions and dwell times that result into a dose distribution covering the target.
One of the main challenges in radiation therapy is treatment delivery as modelled in treatment planning. In each single fraction, here typically 9 fractions within 1 week, all assumptions of treatment planning should be met, i.e. reproducible anatomy, correct technical delivery, ÔÇª such that the dose is delivery to the breast tissue as modelled. Aids as patient positioning cushions, imaging in treatment position, in-vivo dosimetry, or electromagnetic tracking for reconstruction of the implant geometry are tools to support this task.
The talk will address the basics of brachytherapy and give some insights on quality assurance options for correct treatment delivery in each single fraction.

Hybrid online access via ZOOM:
https://lmu-munich.zoom.us/j/98457332925?pwd=TWc3V1JkSHpyOTBPQVlMelhuNnZ1dz09
Meeting ID: 984 5733 2925
Passcode: 979953

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