



EINLADUNG

zum

ZIH - KOLLOQUIUM

**Titel: Mathematical modelling of tumour control probability
for radiation treatment**

**Referent: Prof. Dr. Thomas Hillen
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Abstract:

The Tumour Control Probability (TCP) is an important indicator for radiation treatment scheduling and planning. In recent studies it has been shown that the cell cycle might have an important impact on the prediction of treatment success. In particular for radiation treatment, it is known that cells in a mitotic state (G₂, or M-phase) are much more radiosensitive compared to resting cells (e.g. G₀, or G₁-phase).

In this talk, I will present existing models for the TCP. An important model is the linear-quadratic model (LQ-model) and I will explain its clinical use in detail. Based on the work of Zaider and Minerbo, I will then derive a cell cycle model for radiation treatment of tumours. From this model I will derive an expression for the TCP (joint work with A. Dawson). For the example of radiation treatment of prostate cancer, I will investigate various treatment strategies as they are used in Europe or North America (joint with O. Yurtseven and G. de Vries).

Ort: Willers-Bau C 307

Zeit: Dienstag, den 23. Mai 2006, 13:00 Uhr

gez. Prof. Dr. Wolfgang E. Nagel