



EINLADUNG  
zum  
VERA - SEMINAR  
von

**Barbara Katharina Geist**

Division of Nuclear Medicine, Medical University of Vienna

**Physics meets Medicine:  
Quantification in Nuclear Medicine**

Positron Emission Tomography (PET) is a functional imaging method in Nuclear Medicine. Here, biomolecules labeled with positron-emitting radioisotopes are employed as non-invasive probes (tracers). With dynamic scans of a combined PET and Magnetic Resonance tool (PET/MR), tracer concentrations can be measured over time with very high morphological resolution.

The fate of a tracer in a certain organ and its sub-regions is dependent on underlying biochemical processes, which can be described with kinetic models. The development of a kinetic model is accompanied by experiments, i.e. animal and human studies, leading to a deeper understanding of these processes and to an improved diagnosis. An example for the derivation of such a model is the investigation of kidney function using  $^{18}\text{F}$ -labeled glucose (FDG). This and further developments are being conducted at the Division of Nuclear Medicine at the Medical University of Vienna, which will be presented during this talk.

**Donnerstag, 22. März 2018, 16:30 Uhr**

**1090 Wien, Währinger Str. 17, "Kavalierstrakt",  
1. Stock, Victor-Franz-Hess Hörsaal**