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*“PET-based molecular imaging in personalized  
oncology: the DKFZ experience”*

Friday, **14 November 2014**

At 11:30

NHRF auditorium

## **PET-based molecular imaging in personalized oncology: the DKFZ experience**

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### **Abstract**

Molecular imaging techniques allow an individualization and optimization of therapy on a patient basis noninvasively. The availability of new hybrid scanners, like PET-CT and PET-MRI allow the combined assessment of changes in morphology and function and are therefore a unique tool for personalized cancer treatment. In particular, it is crucial to identify non-responders as soon as possible for therapy guidance. The choice of the appropriate therapy as well as of the optimal duration of a treatment can help to avoid side effects and save costs for the health system. Maintenance therapies with new targeted drugs may allow a longer progression-free survival and require also a tight monitoring for assessment of a therapeutic result and a fast change to a more intense protocol in case of relapse. Standardization of response criteria is however a prerequisite for a more routine application of molecular imaging for therapy guidance. Furthermore, the development of new specific tracers will enable a more accurate assessment of a therapeutic result or visualize specific molecular alterations caused by the applied new drugs and ensure that the new agent inhibits its molecular target. Numerous peptides targeting receptor-active tumors are in development with a high potential in a large spectrum of tumors for theranostic approaches. Dynamic PET protocols may be useful within phase II studies with the goal to validate the efficacy of a new drug based on quantitative imaging data.

**Biography:**

Upon completion of the studies of medicine at the University of Athens in 1988, she joined the Dept. of Radiology of the German Cancer Research Center, where she completed the doctorate in medicine in 1990. The research focus of her was the use of positron emission tomography in oncological patients, in particular the use of new methodological aspects for the combination of basic with translational research. In 2004 she became an Assistant Professor of Nuclear Medicine and in 2007 an associate professor. New imaging technologies using studies with radiolabelled cytostatic agents, peptides, amino acids, perfusion and hypoxia as well as proliferation tracers on the field of oncological PET were the focus of her work. Individualization of chemotherapy and prognosis of therapeutic outcome is one of her major research topics. Methodological aspects as well as the relation between molecular imaging data and genomic data is the current field of her research. She is member of several Editorial Boards, reviewer for several scientific journals, congresses and grant proposals and has contributed to the organisation of international scientific meetings.