

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

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

MLL-KOLLOQUIUM

Donnerstag, 08.06.2017, 16¹⁵ Uhr

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

Prof. Laura Schreiber

(Univ. Klinikum Würzburg / Comprehensive Heart Failure Center)

Seeing is Understanding - From Imaging Technology to Preventing Heart Failure

Magnetic Resonance Imaging (MRI) technology and its applications have made tremendous progress in the last two decades. Submillimeter spatial resolution, subsecond measurement times and pushing imaging sensitivity by overcoming Boltzmann statistics allow for a visualization and measurement not only of organ morphology, but also of tissue microstructure, tissue function, and metabolism down to the cellular and molecular level. High-Performance Computing (HPC) allows for a better understanding of both, imaging technology as well as human disease. In my talk I will give an overview of current status with a particular emphasis on diagnosis and understanding heart failure, a medical condition expected to develop into an epidemic in the next two decades. Ultrahighfield MRI, highly parallel send, receive and shim technology, hyperpolarization techniques as well as HPC are developing towards tools to help come true the longterm vision of the Würzburg Comprehensive Heart Failure Center: the prevention of heart failure and its complications.

gez. Peter Thirolf
Tel. 289-14064

gez. Norbert Kaiser
Tel. 289-12367