INVITATION TO A GUEST LECTURE

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The Essential Role of Multiphysics and Engineering in Ultra High-Field MRI

- Date: Monday, September 23, 2019, 1.15 – 2.15 pm
- Address: Johannes Kepler University Linz, Altenberger Straße 69, 4040 Linz
- Room: Seminar Room S2 048, Science Park 2
- Organization: Institute for Measurement Technology, Univ.-Prof. Dipl.-Ing. Dr. Bernhard Zagar

Abstract: Magnetic Resonance Imaging (MRI) has emerged as one of the most powerful and informative diagnostic tools in modern medicine. While most clinical MR studies use magnetic field strengths of 1.5 T or 3 T, leading research is pushing these magnetic field strengths to 7 T and beyond. These new Ultra High-Field (UHF) technologies promise images with higher spatial resolution, higher sensitivity to subtle change, and novel contrasts, which will in turn improve our basic understanding of anatomy and physiology in both healthy tissue and disease. However, there are substantial hurdles to surmount before we will reap the promised benefits of UHF MRI in clinical applications. This talk will introduce some of the major challenges faced in UHF MRI and will summarize a number of concepts in engineering and multiphysics that are being researched to overcome these issues.

Bio: Prof. Dr. Simone Angela Schnaitter Winkler graduated from JKU Linz in 2005 and is a Stanford-trained and NIH K99/R00 funded assistant professor at Weill Cornell Medicine. Her research focuses on Ultra High-Field MRI and multidisciplinary engineering applied to medicine and medical imaging.

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