

Seminar series: Selected research topics in Biomedical Engineering

Location: Biomedical Engineering Department, Allschwil, Lecture Room 14.003.02

15. November, 13:00-14:30, host Oliver Bieri:

Magnetic Resonance Safety: a Physicist's Perspective

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Abstract:

Magnetic Resonance Imaging is generally considered a safe imaging modality, as it does not involve ionizing radiation. However, the strong magnetic and electromagnetic fields involved in the image formation pose significant health hazards, both to the patients and to the personnel, that should not be overlooked in a clinical setting.

The role of the Physicist in MR safety is to provide the technical knowledge of the physical processes and of the relevant regulations to support the medical and technical staff in the definition of general safety guidelines and in the handling of cases in which special circumstances (such as implants or health conditions) might lead to increased hazard.

This presentation will provide an overview of the problems and of the practical aspects that an MR Safety Expert needs to consider in his or her day-to-day practice in a clinical environment.

Curriculum:

Dr. Santini studied Electronic Engineering with a specialization in Biomedical Engineering at the Università degli Studi di Firenze. He then moved to Basel and in 2009 gained a PhD degree in Biophysics (Magnetic Resonance Imaging) in the Radiology Department (University of Basel). He then continued as a postdoctoral fellow and since 2013 Dr. Santini is the Magnetic Resonance Safety Expert in the University Hospital in Basel. In 2015 he was the first person from Switzerland to obtain the title of MR Safety Expert from the American Board of MR Safety, and helped draft the Swiss guidelines for MR Safety endorsed by the Swiss Society of Radiology.

Dr. Santini is the author of more than 40 scientific publications and recipient of various research grants.