

Registration:

| Course fee (+10% after early booking deadline, 4 weeks before course) | USD | Please select |
|--|-------|---------------|
| Attendance option | | ↓ |
| "Medical Device MRI Safety Specialist" "Full Tilt" 08, 09, 10 June 2023 (Lectures & MRI hands-on): | 2,495 | |
| "Listen & Watch" 08, 09, 10 June 2023 (Lectures only & MRI hands-on for onlooker) | 2,295 | |

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| Date, Signature |

Please send your registration to:
MRI-STaR GmbH
Fax: +49 209 1497730 88
Email: seminar@mri-star.com

Information:

Terms of payment:

The amount is due for payment 2 weeks after receipt of the invoice. The course fee must be paid via wire transfer, check or via credit card. Information is provided in separate invoice. Credit card information please provide here via fax:

Visa MasterCard AMEX
Credit card #

_____ Name of
card holder _____
valid until _____
date _____

Discounts:

20% discount on regular price for ONLINE participation.
Every 2nd and further registrant from the same organization applies for a 5% discount on top.

Registration is valid only with receipt of confirmation and payment of the course fee. Early booking deadline: 4 weeks before the course date.

A cancellation is free of charge up to 6 weeks before the course date. After that date we charge 50% of the registration fee. For a cancellation within the last 7 days 80% are charged of the course fee. If the cancellation takes place later or the participant or a backup does not attend in the course, we are entitled to deduct the full participation fee.

The course fee includes: certificate "Medical Device MR Safety Specialist", script, confirmation of participation, breakfast snack, lunch, dinner, hot and cold drinks.

The number of participants is limited. The places will be assigned in sequence of the receipt of registrations. MRI-STaR reserves the right to offer an alternative seminar date, if the number of participants is too low or too high.

Seminar location:

Georgetown University Medical Center
3900 Reservoir Road NW
SW107 Medical/Dental Building
Washington DC, 20057
USA

We would be pleased to welcome you as attendee!



MRI-STaR

Magnetic Resonance Institute
for Safety, Technology and Research

online & on-site Hands-on MR Seminar

EST Time Zone

The "Medical Device MR Safety Specialist" (MRSS) Magnetic Resonance Imaging MR Safety and Compatibility of Medical Devices

June 8-10, 2023

Organizer

MRI-STaR GmbH
www.mri-star.com

Host:

Prof. Ashley VanMeter, Ph.D.

In cooperation with  www-mrcomp.com

 **MRSS Seminar Day 1:**

| | | | |
|-------|-------|--|------------|
| 08:00 | 08:15 | Welcome reception with breakfast | |
| 08:15 | 08:45 | Introduction | Sch |
| 08:45 | 09:00 | Virtual visit of the MR system | Fri |
| 09:00 | 10:30 | Basics of MR physics and technical aspects - Static mag. field, RF-Field, Gradient-field - MR components - Refresh of the physical principle - Physics of MRI (spin, magnetization, MR signal) - MR image acquisition (RF pulse sequences, gradients, geometry, signal to noise and contrast, contrast agents) - MR Imaging techniques (fast imaging, Perfusion, Diffusion, Spectroscopy) | Fri |
| 10:30 | 10:45 | Grab a Coffee | |
| 10:45 | 12:15 | Significant hazards MRI I system-specific (MR safety, the MR system and the MR worker – IEC 60601-2-33) - General terms - Presentation of hazards - Technology of superconductivity and potential risks of cryogenes - Laser | Eng |
| 12:15 | 13:15 | Lunch break | |
| 13:15 | 14:45 | MR safety and compatibility of medical devices (and items) I / Significant hazards MRI II item-specific - Interactions of items (incl. implants) within the MR environment (static mag. field, switched gradient and RF field) - Current technical standards & guidance, MR testing methods | Sch |
| 14:45 | 15:00 | Coffee break | |
| 15:00 | 16:00 | MR safety instruction/Hands on preparation | Fri |
| 16:00 | 18:00 | Hands-on: MR basics - Preventive measures and safety in the MR environment (staff & items) - Basic MR imaging: Sequence selection, planning geometry and contrast - MR Imaging: image quality, artifacts | Sch Fri |
| 18:00 | open | Final discussion with snack | |

Program is subject to changes

 **MRSS Seminar Day 2:**

| | | | |
|-------|-------|---|---------------|
| 09:00 | 09:15 | Breakfast | |
| 09:15 | 10:45 | Computational methods, RF-safety & implants - Research & Trends related to MR safety - Numerical simulation and modeling | Zyl webex |
| 10:45 | 11:00 | Coffee break | |
| 11:00 | 12:00 | The Anatomy of modern Gradient Systems & its related Safety Aspects | Schm webex |
| 12:00 | 12:15 | Grab a coffee | |
| 12:15 | 13:00 | Hands-on: MR Safety - RF-induced heating experiment | Sch |
| 13:00 | 14:00 | Lunch break | |
| 14:00 | 14:50 | MRI from a clinical view I - Diagnostics & Therapy - Surgery & Interventions (Biopsy, Ablation (RF, Laser), etc.) | Mel |
| 14:50 | 15:00 | Grab a Coffee | |
| 15:00 | 15:35 | MRI from a clinical view II - Robotics, Navigation, Visualization of implants and Instruments | Mel |
| 15:35 | 16:00 | Coffee break/Transfer to scanner | |
| 16:00 | 17:30 | Hands on: MR interventions - Your first MR-guided biopsy - Learn about workflow and technique | Sch Mel |
| 17:30 | 18:00 | Discussion | |
| 18:30 | open | Get together dinner | |

Target audience:

The seminar is especially designed for the **MR safety technical interests of auditors and quality/regulatory affairs managers, product and sales managers, R&D managers/engineers/physicists.**

The seminar language is English. Each hands-on participant should become qualified for basic MR imaging, understanding the MR interactions and applying required safety precautions in the MR environment.

**The seminar will be held together with the separate course "MR Safety Expert" (MRSE) for MRI users*

TIME SLOTS in Eastern Standard Time (EST)

 **MRSS Seminar Day 3:**

| | | | |
|-------|-------|--|--------------|
| 08:15 | 08:30 | Breakfast | |
| 08:30 | 09:45 | MR safety and compatibility of medical devices (and items) II - Finding the "worst-case" - Labeling of devices for the MR environment | Sch |
| 09:45 | 10:00 | Coffee break | |
| 10:00 | 11:00 | Practical training: Behavioral measures in MR routine (Implant labeling research) - Implant research - Case studies | Sch |
| 11:00 | 11:15 | Coffee break | |
| 11:15 | 12:45 | Assessment of MR safety for patients with implantable medical devices - ISO/TS 10974: Requirements for active implantable medical devices - Potential physical relevance for passive dev. | Eng |
| 12:45 | 13:00 | Grab a coffee/snack | |
| 13:00 | 13:30 | Edition 4 and 10974 content updates | Bri |
| 13:30 | 13:40 | Coffee break | |
| 13:40 | 14:25 | Guest lecture: FDA Regulatory Aspects on MR Safety, Testing, and Labeling of medical devices | Kai webex |
| 14:25 | 15:00 | Discussion/Multiple-Choice-Test/End | |

Lecturers:

Prof. Dr. rer. nat. W. Zylka
Westphalia University, Campus Gelsenkirchen, Germany

S.T. Fricke, Ph.D.

Professor of Radiology & Director of Medical Physics, Georgetown University, Washington DC ; MRI Scientist, Children's National Hospital, Washington DC
CEO, Hyper MC2 LLC, Potomac, Maryland

Prof. A. Melzer, M.D., DDS

Institute for Medical Science and Technologies IMSaT, Universities Dundee & St. Andrews, United Kingdom

H. Engels, Ph.D.

MR Safety Consultant, MR:comp and former MR Safety Director Philips Healthcare, The Netherlands

Wolfgang Kainz, PhD

CEO & President, High Performance Computing for MRI Safety, LLC, USA

Johan van den Brink, PhD

Principal Scientist MRI at Philips Healthcare, The Netherlands

Dipl.-Phys. F. Schmitt

MR-Consultant, MR:Comp, former VP Gradient Systems & Director Ultra Highfield Imaging at Siemens Healthcare, Erlangen, Germany

G. Schaefers, Dipl.-Ing. (FH)

MR Safety Testing Laboratory, MR:comp GmbH, Gelsenkirchen, Germany