

## Registration:

Course fee (+10% after early booking deadline, 4 weeks before seminar)	USD	Please select ↓
Attendance option		
“MR Safety Expert” 24, 25, 26 Jun 2021 physicists / physicians (Lectures & MRI hands-on):	1,650	
“MR Safety Expert” 24, 25, 26 Jun 2021 technologists / radiographers (Lectures & MRI hands-on):	1,190	

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Please send your registration to:  
MRI-STaR GmbH  
Fax: +49 209 1497730 88  
Email: [seminar@mri-star.com](mailto: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 2<sup>nd</sup> 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 seminar date.

A cancellation is free of charge up to 6 weeks before the seminar 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 fees include: MRI-STaR certified MRSE exam, certificate, script, confirmation of participation.**

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:

Video Conference

EST Time Zone

Washington DC

USA

**We would be pleased to welcome you as attendee!**



## ONLINE Hands-on MR Seminar

EST Time Zone

## The “MR Safety Expert” (MRSE)

acc. to ABMRS Syllabus, DIN 6876-1, OENORM  
1125-1/2, Dutch/MHRA/RANZCR Guidelines

## June 24-26, 2021

Organizer

MRI-STaR GmbH  
[www.mri-star.com](http://www.mri-star.com)

This course prepares the attendee to sit for the MRSE exam!

In cooperation with  [www.mrcomp.com](http://www.mrcomp.com)

 **MRSE Seminar Day 1:**

08:00	08:05	Welcoming	
08:05	08:30	Introduction	Sch
08:30	08:45	Virtual visit of the MR system	Kug
08:45	10:15	<b>Basics of MR physics and technical aspects</b> - Static magnetic field, RF-Field, Gradient-field - MR system 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)	Kug
10:15	10:30	Grab a Coffee	
10:30	11:15	<b>The Anatomy of modern Gradient Systems &amp; its related Safety Aspects</b>	Schm
11:15	11:30	Grab a Coffee	
11:30	13:00	<b>Significant hazards MRI I</b> 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 cryogens - Laser	Eng
13:00	14:00	Lunch break	
14:00	15:30	<b>MR safety and compatibility of medical devices (and items) I / Significant hazards MRI II</b> item-specific - Interactions of items (incl. implants) within the MR environment (static magnetic field, switched gradient and RF field) - Current technical standards & guidance, MR testing methods	Sch
15:30	15:45	Coffee break	
15:45	16:30	<b>MR safety instruction/Transfer to scanner</b>	Kug
16:30	18:00	<b>Hands-on: Behavioral measures in possible emergency situations for medical personnel, firefighters and for technical staff</b> - General behavior when entering the scanner room - Safety provisions for the MR environment - Magnetic emergency - Electricity failure and fire	Kug Sch
18:00	open	Final discussion	

 **MRSE Seminar Day 2:**

08:15	08:30	Welcoming	
08:30	10:15	<b>Significant hazards MRI III</b> patient-specific - Risks with respect to the static magnetic field - RF field and gradient field - Examples from clinical practice	Kug
10:15	10:30	Coffee break	
10:30	11:30	<b>Significant hazards MRI IV</b> - Contrast agents	Fau
11:30	11:45	Grab a Coffee	
11:45	13:10	<b>Behavioral measures in MR routine I</b> - Access control to the scanner room - Patient positioning	Kug
13:10	14:10	Lunch break/Transfer to scanner	
14:10	15:30	<b>Hands-on: Practical demonstrations and exercises</b> - Patient positioning - Medical emergency - Emergency exercises	Kug
15:30	15:45	Coffee break	
15:45	16:45	<b>Laws, regulations and clinical standards for MR operators</b> - Employee protection - Responsibilities	Fricke
16:45	17:00	Discussion	

**Target audience:**

The seminar is especially designed for the **MR physicists, technologists/radiographers, MR clinicians.**

The seminar language is English. The MR user will learn about MR safety regulations, standards, measures inside the MR environment. The user will be elevated to be able to organize the MR environment as MR safety responsible expert using the MR safety measures, know-how about SOPs and organization of processes for patients, MR workers and volunteers or other individuals.

 **MRSE Seminar Day 3:**

08:15	08:30	Welcoming	
08:30	09:30	<b>MR safety and compatibility of medical devices (and items) II</b> - Finding the "worst-case" - Labeling of devices for the MR environment	Sch
09:30	09:45	Coffee break	
09:45	10:45	<b>Hands-on: Behavioral measures in MR routine II (Implant labeling research)</b> - Implant research - case studies	Sch
10:45	11:00	Coffee break	
11:00	12:00	<b>Behavioral measures in MR routine III</b> - Servicing and cleaning operations - Documentation (training, accidents)	Kug
12:00	13:00	<b>MRI-StaR Certificate Examination</b> (Multiple-Choice-Test) for free; <b>Optional:</b> ABMRS additional examination on official MRSE exam date	
13:00	13:30	Final discussion/Farewell	

*Program is Subject to changes*

**Lecturers:**

**Dr. rer. nat. H. Kugel**  
Department of Clinical Radiology, University of Munster, Germany

**H. Engels, Ph.D.**  
MR Safety Consultant, MR:comp and former MR Safety Director Philips Healthcare, The Netherlands

**Wm. Faulkner, BS, RT(R)(MR)(CT), FSMRT, MRSO (MRSC)**  
William Faulkner & Associates, LLC, Chattanooga, USA

**S.T. Fricke, Ph.D.**  
MR-Physicist, Children's National Medical Center, Washington, DC

**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

**\*The seminar will be held together with the separate course Medical Device MR Safety Specialist (MRSS) for industry participants (est. in 2007).**