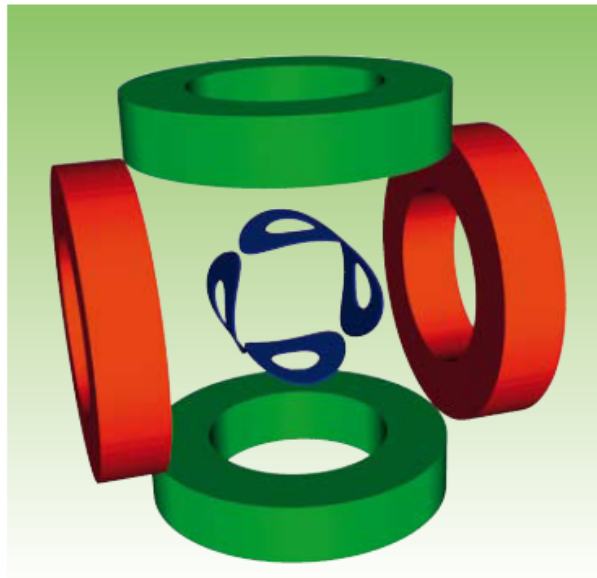




Im Focus das Leben
Universität zu Lübeck

International Workshop on
Magnetic Particle Imaging
IWMPI 2010

LÜBECK, MARCH 18-19, 2010



Arbeitsgemeinschaft Medizintechnik
in Schleswig-Holstein e.V.



Institute of Medical Engineering
University of Lübeck



German Society for
Biomedical Engineering
Magnetic Methods in Medicine

TENTATIVE PROGRAM

Thursday, March 18

Reception

Introduction

- 13:00** Opening Remarks
T.M. Buzug, J. Borgert
- 13:10** History of MPI
M. Kuhn
- 13:20** Keynote: Overview on MPI
B. Gleich, J. Weizenecker

Scientific Session – Short Presentations

- 14:05** Colloidal Stability of Water Based Dispersions Containing Large Single Domain Particles of Magnetite
N. Buske
- 14:10** Superparamagnetic Iron Oxide Nanoparticles for Magnetic Particle Imaging
K. Lüdtke-Buzug
- 14:15** Investigation of the Magnetic Particle Imaging Signal's Dependency on Ferrofluid Concentration
J.P. Gehrcke
- 14:20** Magnetization Harmonics as a Remote Method for Monitoring Endocytosis of Nanoparticles
A.M. Rauwerdink
- 14:25** Magnetic Particle Spectrometry for the Evaluation of Field-dependent Harmonics Generation
T. Wawrzik
- 14:30** Noise within magnetic particle imaging
I. Schmale

- 14:35** A Surveillance Unit for Magnetic Particle Imaging Systems
S. Kaufmann
- 14:40** Superparamagnetic Iron Oxides for MR-Visualization of Textile Implants
I. Slabu
- 14:45** Detection of Autologous Chondrocytes at Polyethylene Scaffolds in Vivo - Experimental Study
I. Schoen
- 14:50** F. Vogt
- 14:55** J. Weizenecker

Break

Scientific Session – Particles I

- 16:00** The Effects of Molecular Binding on The Phase of MSB Measurements
J.B. Weaver
- 16:30** SPIO Nanoparticles Encapsulation into Human Erythrocytes for MPI Application
M. Magnani

Break

Scientific Session – Particles II

- 17:15** Use of Resovist in Magnetic Particle Imaging
G. Schütz
- 17:35** Clinical Application of Iron Oxide nanoparticles in Magnetic Resonance Imaging and Research Perspectives
M. Port
- 17:55** Larger Single Domain Iron Oxide Nanoparticles for Magnetic Particle Imaging
S. Dutz

Dinner

Friday, March 19

Scientific Session – Spectrometry

- 8:00 **Size-optimized Magnetite Nanoparticles for Magnetic Particle Imaging**
R.M. Ferguson
- 8:30 **Evidence of Aggregates of Magnetic Nanoparticles in Suspensions which Determine the Magnetization Behavior**
D. Eberbeck
- 8:50 **A Spectrometer to Measure the Usability of Nanoparticles for Magnetic Particle Imaging**
S. Biederer

Break

Scientific Session – Imaging I

- 9:40 **Narrowband Magnetic Particle Imaging in a Mouse**
P. Goodwill
- 10:10 **Two-Dimensional Magnetic Particle Imaging**
T. Wawrzik
- 10:30 **Resolution Distribution in Single-Sided Magnetic Particle Imaging**
T.F. Sattel

Break

Scientific Session – Imaging II

- 11:00 **The Effect of Relaxation on Magnetic Particle Imaging**
Y. Wu

11:20 **3D Real-Time Magnetic Particle Imaging: Encoding and Reconstruction Aspects**
J. Rahmer

11:40 **Efficient Field-free Line Generation for Magnetic Particle Imaging**
T. Knopp

Lunch Break

Scientific Session – Technology and Safety

- 13:00 **Concept for a Digital Amplifier with Quality Sinusoidal Output Voltage for MPI Drive Field Coils**
C. Loef
- 13:20 **Calculation and Evaluation of Current Densities and Thermal Heating in the Body During MPI**
J. Bohnert
- 13:40 **JFET Noise Modelling for MPI Receivers**
I. Schmale

Scientific Session – Magneto-Relaxometry

- 14:05 **Cancer Therapy with Magnetic Nanoparticles Visualized with X-Ray-Tomography, Magnetorelaxometry and Histology**
S. Lyer
- 14:25 **Localization and Quantification of Magnetic Nanoparticles by Multichannel Magnetorelaxometry for Thermal Ablation Studies**
H. Richter

14:45 **Imaging of Magnetic Nanoparticles Based on Magnetorelaxation and Minimum Norm Estimations**
D. Baumgarten

Break

Scientific Session – Medical Applications

- 15:35 **Developing Cellular MPI: Initial Experience**
J.W.M. Bulte
- 16:05 **Sentinel Lymphnode Detection in Breast Cancer by Magnetic Particle Imaging Using Superparamagnetic Nanoparticles**
D. Finas
- 16:25 **Magnetic Sensing Methods and Materials for Medical Applications**
B. ten Haken

Wrapping Up

16:45 T.M. Buzug, J. Borgert

Visit Lab Lübeck

17:00 – 18:00