DAY #1 Friday, October 15, 2004

07:45-08:00  Welcoming Remarks, Announcements
             1st Day Opening Ferenc A. Jolesz

08:00-09:45  SESSION 1: Intra-Operative

- Invited Presentations by Moderators (15 minutes each)
  o Peter M. Black “MR-guided resection of brain tumors-the first decade”
  o Christopher Nimsky “Intraoperative Imaging in Neurosurgery”
  o Charles L. Truwit “Minimally-Invasive Neurosurgical Procedures in a high field MR suite”

- Scientific Presentations (10 minutes each: 8 minutes lecture, 2 minutes questions)
  o 101 The Use of Intraoperative MRI for the Resection of Pituitary Macroadenomas - Densler
  o 102 Benefit of an advanced neuronavigation platform for interventions guided by intraoperative MRI - Moche
  o 103 Image Guided Placement of Deep Brain Stimulator Electrodes Using Real-Time High Field Interventional MRI - Martin
  o 104 Robust Nonrigid Registration to Capture Brain Shift from Intraoperative MRI - Clatz
  o 105 Intraoperative ultrasound in brain tumor resection – a real alternative for intraoperative MRI - Schneider
  o 106 The Out and In Technique for Treatment of Complex Intracranial Tumors in the GE iMRI System - Vitaz

09:45-10:15  BREAK

10:15-12:10 SESSION 2: Vascular

- Invited Presentations by Moderators (15 minutes each)
  o Franc Wacker “MR Imaging-Guided Percutaneous Angioplasty and Stent Placement: Experimental Applications in a Swine Model.”
  o Eliot McVeigh “Current Status of MR guided cardiac interventions”

- Scientific Presentations (10 minutes each: 8 minutes lecture, 2 minutes questions)
  o 201 Intravascular magnetic resonance/radiofrequency-enhanced gene therapy for prevention of in-stent neointimal hyperplasia - Gao
  o 202 Fully MR-guided catheterization of the hepatic arteries for selective drug delivery: a feasibility study in pigs - Seppenwoolde
  o 203 Expandable Intra-Vascular MR Imaging and MR Tracking Catheters - Schmidt
  o 204 Magnetic resonance guided cardiac catheterisation in children and adults with congenital heart disease Muthurangu
  o 205 Assessment of Cerebral Blood Flow After Carotid Stenting - Saloner
  o 206 In Vivo Cardiovascular Catheterization Under Real-Time MRI Guidance-A Passive Tracking Approach - Zhang
12:00-14:00  LUNCH, POSTER REVIEW

14:00-15:15  SESSION 3: Percutaneous Procedures

- **Invited Presentations by Moderators** (15 minutes each)
  - *Thomas Shultz* “Percutaneous procedures - Especially in children”
- **Scientific Presentations** (10 minutes each: 8 minutes lecture, 2 minutes questions)
  - 301 Integrating Diagnostic And Interventional MRI For The Molecular Characterization Of Prostate Cancer - *Ménard*
  - 302 Device to perform transrectal MR-guided Prostate-Biopsy in a 1.5T closed bore magnet - *Winkel*
  - 303 MR Imaging-Guided Steroid-Infiltration of the Sacroiliac - *Fritz*
  - 304 Contrast Enhanced Cement for Bone Augmentation in Interventional MRI at 0.23T, study on a phantom model - *Blanco*
  - 305 Needle guiding robot for MR-guided microwave thermotherapy of liver tumor using motorized remote-center-of-motion constraint - *Hata*
  - 306 Automated Fully MRI Compatible Tissue Harvester - *Meiler*

15:15-15:30  BREAK

15:30-17:00  SESSION 4: Thermal Ablation

- **Invited Presentations by Moderators** (15 minutes each)
  - *Stuart G. Silverman* “MRI-guided Percutaneous Tumor Ablation”
  - *Sherif Nour* “MRI-Guided and Monitored Radiofrequency Tumor Ablation”
- **Scientific Presentations** (10 minutes each: 8 minutes lecture, 2 minutes questions)
  - 401 MR-Guided Renal Tumor Cryoablation_Initial Clinical Experience - *Hushek*
  - 402 3D Computerized Monitoring Of Image-Guided Percutaneous Tumor Ablations: Validation Of The System In An Animal Model And Retrospective Clinical Case Applications - *Tuncali*
  - 403 RF Ablation Electrode Current Imaging at 0.5T - *Scott*
  - 404 MR-Guided Laser-Induced Interstitial Thermotherapy of Recurrent Glioblastoma - *Schwarzmaier*
  - 405 Segmentation of frozen tissue from MR-images after cryoablation of the liver - *Samset*
  - 406 Radiofrequency Ablation of Hepatic Malignancies _Percutaneous Insertion of an MRI-Compatible Application Probe* - *Rosenberg*

**BUSES TO RECEPTION**

18:30-20:30  RECEPTION at the Brigham and Women’s Hospital

- TOURS
DAY #2 Saturday, October 16, 2004

08:00-08:15 Remarks, Announcements, Poster Awards
2nd Day Opening Thomas Kahn

08:15-09:45 SESSION 5: Technical: Pulse Sequences

- Invited Presentations by Moderators (15 minutes each)
  o Jeff Duerk “Comparison of MR imaging sequences for intervention”
  o Kim Butts “Pulse Sequences for Interventional MRI”

- Scientific Presentations (10 minutes each: 8 minutes lecture, 2 minutes questions)
  o 501 Radial Acquisitions with Real-Time Tracking and Adaptive Imaging Parameters - Elgort
  o 502 Three-dimensional Thermal Mapping using Phase Unwrapping - Cline
  o 503 Respiratory Motion Correction for Passive Endovascular Device Tracking - Bartles
  o 504 Passive tracking without baseline subtraction by dual gradient echo difference imaging - Peeters
  o 505 Optimization of the Self-Referenced Temperature Imaging Method - Kokuryo
  o 506 Real-time Motion Tracking and Temperature Map Correction for MRI-guided Thermal Therapy - Tokuda

09:45-10:15 BREAK

10:15 –12:00 SESSION 6: Technical: Systems

- Invited Presentations by Moderators (15 minutes each)
  o Ergin Atalar “RF safety for Interventional MRI Procedures”
  o Rebecca Fahrig “Truly Hybrid X-ray-MR Imaging System: Technical Considerations and Clinical Results”

- Scientific Presentations (10 minutes each: 8 minutes lecture, 2 minutes questions)
  o 601 A System for Prostate Image Guided Interventions in a 3T MRI Scanner - El-Sharkawy
  o 602 Neurovascular XMR Suite and Patient Transport System for the Clinical Treatment of Acute Stroke and other Neurovascular Diseases: Initial Clinical Experience - Kiruluta
  o 603 Interactive real-time MR image navigation assisted by a PC-based application tool, MRNavi - Morikawa
o 604 Simultaneous RF Heating and MR Thermal Mapping Using An Intravascular MR-Imaging RF-Heating System - Qiu
o 605 Initial Clinical Experience With A Passive Electromagnetic 3D Locator System - Hushek
o 606 Optically Coupled Micro-Transmit Coils - Scott
o 607 Real-Time XMR Guidance for Cardiac Electrophysiology Procedures - Rhode

12:00-13:00  LUNCH

13:00-15:00 SESSION 7: Anesthesia, Safety, Radiotherapy

• Invited Presentations by Moderators
  o George P. Topulos  “Anesthesia issues for interventional MRI” (15 minutes)
  o Steve Hushek  “Safety Protocols for Interventional MRI” (15 minutes)
  o Derek Hill  “MR Exposure Limits for Interventional MR ” (30 minutes)
• Scientific Presentations (10 minutes each: 8 minutes lecture, 2 minutes questions)
  o 701 A Safe Transmission Line for Interventional Devices - Weiss
  o 702 Towards safer Cardiac Intervention_a novel approach that combines X-ray and Magnetic Resonance imaging for guidance of stent implantation - Hegde
  o 703 Predicting true SAR limits for in vivo imaging in MR guided prostate procedures - Metzger
• SPECIAL SESSION: Radiotherapy Scientific Presentations (10 minutes each)
  o 704 High Dose Rate Brachytherapy For Prostate Cancer Using Interventional MRI at 1.5T - Ménard
  o 705 Comparison of patients’ reported quality of life following MR- and ultrasound-guided brachytherapy for localized prostate cancer, using a standardized questionnaire and multivariate analysis - Barnes
  o 706 MR image-guided interstitial brachytherapy for recurrent endometrial carcinoma - Viswanathan

15:00-15:15  BREAK

15:15 –16:45 SESSION 8 Focused Ultrasound Surgery (FUS)

• Invited Presentations by Moderators (15 minutes each)
  o Clare Tempany  “FUS for Uterine Leiomyomas”
  o Chrit Moonen  “Automatic temperature control during MRI-Guided FUS”
  o Kullervo Hynynen  “Technical development of FUS systems”
• Scientific Presentations (10 minutes each: 8 minutes lecture, 2 minutes questions)
  o 801 MR Guided Focused Ultrasound of Uterine Fibroids – The Effects of GnRH analogue Pre-treatment - Smart
  o 802 MRI-based thermal dosimetry during focused ultrasound thermal ablation of uterine fibroids - MacDannold
- **803** Non-Invasive MR-Guided Focused Ultrasound Surgery In The Treatment Of Uterine Fibroids, 1 Year Follow Up - **Kim**
- **804** Does the thickness of anterior abdominal wall fat affect the treatment of uterine fibroids treated with Magnetic Resonance guided Focused Ultrasound Surgery (MRgFUS)? - **So**
- **805** Liver Tissue Ablation using MR guided Focused Ultrasound with Controlled Apnea- Initial Experience - **Inbar**
- **806** Contrast Kinetics for Improved Prediction and Assessment of Thermal Necrosis - **Cheng**

16:45-17:00  2nd Day Closing Remarks **Jonathan Lewin**

**SPECIAL SESSION:** Day#2 7:30- 12:15 (Parallel with scientific session)

**Nursing Session/ Technologist Session**

**Program Directors**
Nurse: **Angela Kanan**
Technologist: **Jancie Fairhurst**

**Schedule of Events**

07:30  Registration

07:45  Welcome

08:00  Planning an Intraoperative MRI Site  
**Angela Kanan, RN, BSN, CNOR**  
*Brigham and Women’s Hospital*

08:30  Instruments and Equipment for Intraoperative MRI  
**Kent Schroeder BSc**  
*Teleflex Medical Group*

09:00  Neurosurgery in 1.5T Magnet  
**Jennifer Worley RN**  
*Fairview University Medical Center*

09:30  Caring for the Pediatric Patient  
**Lori Russell, RN, BSN**  
*Norton Healthcare*

10:00  Break

10:30  Intraoperative MRI and Neurosurgical Robots  
**Pamela Leblanc, RN, CPNc**  
*Foothills Medical Center*
11:00 MRI Tracking System
Robert Moser, RT(R)(CT)(MR)
Neil Hoerter, RT(R)(MR)
Norton Healthcare

11:30 Prostate Brachytherapy
Janice Fairhurst RT(R)(MR)
Brigham and Women’s Hospital

12:00 Evaluation/Adjourn
12:15 Lunch

Scientific Posters

Focused Ultrasound Surgery

P1. Nominal Orientation of MRI-Guided Focused Ultrasound Treatment of Uterine Leiomyomas Induces Greater Leiomyoma Necrosis - Fennessy
P2. Temporal Evolution of the Apparent Diffusion Coefficient (ADC) in Uterine Fibroids after High Intensity Focused Ultrasound Treatment - Jacobs
P4. Treatment Techniques in Non-Invasive MR-Guided Focused Ultrasound Surgery in the Treatment of Uterine Fibroids for Improved Clinical Outcome - Kim
P5. Pre-treatment acoustic window area as a predictor of the post-treatment nonperfused volume for MRg Focused Ultrasound Surgery (MRgFUS) of uterine fibroids - So
P6. MR Imaging-guided Focused Ultrasound Surgery in The Treatment of Symptomatic Uterine Fibroids: Results and 3-months Follow-up - Okada
P7. Focused Ultrasound Treatment of Breast Cancer under Contrast Enhanced MR Imaging – Furusawa
**Interventional MRI Systems**

P9. Passive Catheter Tracking for Endovascular Intervention using Tuned Fiducial Markers and an Interleaved Sequence – **Boubertakh**

P10. Catheter tracking techniques & imaging strategies for endovascular intervention – quest for best approach - **Hegde**

P11. Active Microelectrode Systems for MRI-guided Intracranial Interventions_A Feasibility Study - **Karmarkar**


P16. Required Standards for MR Safety and Compatibility Testing of Medical Devices used with Magnetic Resonance Imaging – **Schaefers**

P17. A Gd-DTPA Polymer Ink_a Novel Device Visualization Material for MR Intervention - **Kumamoto**

P18. Intrabiliary MRI - **Weiss**

**Intraoperative**


P20. Intraoperative MR-Guidance of Laser Therapy for Gliomas-The Technique - **Ulrich**

P21. MR-compatible Neurosurgical Head Holder and Array Coil Combination for Intra-operative MRI at 1.5T - **Vetter**

P22. New Approach for Efficient Prediction of Brain Deformation and Updating of Preoperative Images Based on the Extended Finite Element Method - **Vigneron**
P23. An Evaluation Procedure for Ancillary Devices in an IntraOperative MRI Setting
   - Hushek

Percutaneous Procedures

P24. Robot-assisted Percutaneous Intervention in Open-MRI – DiMaio
P25. Magnetic Resonance Imaging-Guided Marking of Musculoskeletal Tumors – Fritz
P26. MR Imaging–Guided Facet Joint Infiltration Using an Open Low-Field MR-Scanner – Fritz
P27. MRI-Guided Transperineal Technique in the Lithotomy Position for Percutaneous Biopsy and Ablation of Perineal Area Tumors - Tuncali
P28. In-bore, MRI Guided Breast Biopsy System – Tesic

Thermal Therapy

P29. Magnetic Resonance Temperature Maps for Microwave Hyperthermia – Demura
P31. In-vivo Bipolar Radiofrequency Liver Ablation with Real-time MR-thermometry Control - Ivancevic
P32. Quasi-Real Time Feedback Control System for Liver Thermal Ablations based upon Self-Referenced MR Temperature Imaging - Keserci
P33. MR-Guided Saline-Enhanced Radiofrequency Ablation of Unresectable Liver Tumors using A 0.2 T MR-System – Kettenbach
P34. Microwave Ablation Therapy of Hepatic Tumors by using Cylindrical Beam Navigation System - Kurumi
P36. Can Pre-Ablation MRI Scans Predict the Course of Renal Cell Carcinoma Radiofrequency Ablation Procedures? - Nour

P37. Assessment of tissue necrosis induced by saline enhanced Radiofrequency Thermal Ablation: Comparison of MRI and histopathological findings - Rafie

P38. A New Display System for MR-Guided Microwave Ablation Therapy of the Liver Tumor - Sato

P39. MR-Guided LITT as a Minimally Invasive Procedure in the Treatment of Callosal Gliomas - von Tempelhoff

Vascular

P40. MR Guided punctures of the superior mesenteric vein - Arepally

P41. The Cylindrical Meanderline Radio Frequency Coil for Intravascular Magnetic Resonance Studies of Atherosclerotic Plaque - Farrar

P42. Fiducial-Based Registration of MR and X-ray Images for MRI-Guided Catheter Interventions - Gutierrez

P43. Expert Rater Evaluation of Fast Imaging Protocols For In Vivo Intravascular MRI - Hillenbrand

P44. Interventional MR Angiography With No Strings Attached: Wireless Active Catheter Visualization - Quick

P45. X-ray/MR Fluoroscopy for Delivery and Assessment of Endovascular Stents to Repair Aortic Coarctation - Saeed

P46. Radial and Cartesian Real Time Imaging and Interactive Catheter Tip Tracking - Zuehlsdorff