

2013 MINNESOTA WORKSHOPS

Program Schedule

FRIDAY – October 11, 2013

7:15 – 8:00 AM Registration

8:00 – 8:15 AM Welcome – Kamil Ugurbil

RF ENGINEERING: MASTERING THE HOT SPOTS

Moderator **Steven Wright**

8:15 – 8:45 AM **Elfar Adelsteinsson**
Pulse Design for Parallel Transmit

8:45 – 9:15 AM **Xiaoping Wu**
Multichannel Multiband RF Pulse Design

9:15 – 9:45 AM **Gerhard Brinker**
*In Vivo Experimental Examination on Damage
Threshold in Muscle Tissue and Reaction of
Thermoregulation System at High Level RF
Exposure of Swine by 3T Whole Body Resonator*

9:45 – 10:15 AM **J. Thomas Vaughan**
*CMRR Engineering Developments for Ultra High
Field MRI*

10:15 – 10:30 AM **Break**

10:30 – 11:00 AM **Alexander Raaijmakers**
UHF Coil Design using Dipole Antennas

11:00 – 11:30 AM **Graham Wiggins**
Ideal Current Patterns as a Guide to RF Coil Design

11:30 – 12:00 PM **Siemens Medical – Franz Schmitt**
UHF Imaging at Siemens – an Update

12:00 – 1:00 PM Lunch

TOWARDS CLINICAL APPLICATION: PART 1

Moderator Mikko Nissi

1:00 – 1:30 PM **Oliver Kraff**
*Contrast and Non-Contrast Enhanced Vessel
Imaging at 7T*

1:30 – 2:00 PM **Gregory Metzger**
Ultrahigh Field Functional Body Imaging

2:00 – 2:30 PM **Christopher Rodgers**
UHF Cardiac MR, Including ³¹P MRS

2:30 – 2:45 PM Break

2:45 – 3:15 PM **Gary Gold**
Osteoarthritis: Insights from High Field MR Imaging

3:15 – 3:45 PM **Jutta Ellermann**
High Resolution Bilateral Hip Joint Imaging at 7T

3:45 – 4:15 PM **Philips Healthcare – Michael Morich**

POSTER SESSION

Moderator Silvia Mangia
4:15 – 4:30 PM Short Poster Talks
4:30 – 5:15 PM Poster Viewing

6:00 – 9:00 PM

Dinner at TCF Bank Stadium

After Dinner Speaker: Jack Gallant

Two Great Tastes that Taste Great Together: High-Field fMRI and Voxel-Wise Modeling

SATURDAY – October 12, 2013

HIGH RESOLUTION fMRI

Moderator

Essa Yacoub

8:00 – 8:30 AM

Elia Formisano

The Computational Architecture of the Human Auditory Cortex

8:30 – 9:00 AM

Denis Schluppeck

How Small Can We Go? High-resolution fMRI of Human Somatosensory Cortex

9:00 – 9:30 AM

Lars Muckli

Layer Resolution fMRI to Investigate Cortical Feedback in the Visual Cortex

9:30 – 9:45 AM

Break

CONNECTOMICS: MICROSTRUCTURE TO NETWORKS

Moderator

Christophe Lenglet

9:45 – 10:15 AM

An Joseph Vu

The Feasibility of Higher Resolution Whole Brain Functional and Diffusion MRI at 7T for the Human Connectome Project

- 10:15 – 10:45 AM **Kawin Setsompop**
Accelerated DSI and Efficient Acquisition of MR Connectomics Data
- 10:45 – 11:15 AM **Yaniv Assaf**
MRI of White Matter Micro-Structure
- 11:15 – 11:45 AM **Matthew Glasser**
Improving the Accuracy of Parcellations and Functional Parcellated Connectomes
- 11:45 – 12:45 PM** **Lunch**
- 12:45 – 1:15 PM **Bruker Corporation – Holger Liebel**
Pushing the Boundaries of UHF MR Magnet Technology

BEYOND WATER: MRS AND MRI

- Moderator** **Patrick Bolan**
- 1:15 – 1:45 PM **Gulin Oz**
Consensus and Standardization in Clinical, High Field Proton MRS: Dream or Reality?
- 1:45 – 2:15 PM **Hoby Hetherington**
B0 Shimming at 7T with a High Order/Degree Insert
- 2:15 – 2:45 PM **Tom Scheenen**
MR Spectroscopy and Imaging of the Prostate
- 2:45 – 3:00 PM** **Break**

- 3:00 – 3:30 PM **Malgorzata Marjanska**
*Studying in vivo Real-Time Metabolism with
Hyperpolarized MRS*
- 3:30 – 4:00 PM **Xiao-Hong Zhu**
*Noninvasive Assessment of Brain Energetics and
Redox State*
- 4:00 – 4:30 PM **Armin Nagel**
Multinuclear MRI
- 5:00 – 7:30 PM Reception at CMRR**

SUNDAY - October 13, 2013

TOWARDS CLINICAL APPLICATIONS: PART 2

- Moderator** **Kamil Ugurbil**
- 8:00 – 8:30 AM **Michael Knopp**
*How Can UHF MRI Become a Specialty
Neuroimaging Clinical Exam?*
- 8:30 – 9:00 AM **Peter Luijten**
Clinical Applications of 7T in the Brain
- 9:00 – 9:30 AM **Sebastian Schmitter**
*Transmit B_1 Strategies in Cerebrovascular and
Cardiovascular MRI at 7 Tesla*
- 9:30 – 9:45 AM Break**

9:45 – 10:15 AM **Oliver Wieben**
4D MR Flow – Imaging of Forum and Function

10:15 – 10:45 AM **Noam Harel**
Clinical Application of 7T MRI for Deep Brain Stimulation (DBS) Surgery

10:45 – 11:15 AM **GE Healthcare – Doug Kelley**
GE 7T Program

11:15 – 12:15 PM Brunch

QUANTITATIVE CONTRAST FOR UHF

Moderator Shalom Michaeli

12:15 – 12:45 PM **William Rooney**
MRI Contrast Agent Applications at Ultra-High Magnetic Fields

12:45 – 1:15 PM **Michael McMahon**
Diamagnetic Chemical Exchange Saturation Transfer Liposomes for Monitoring Nanocarrier Accumulation in Tumors Following Vascular Therapy

1:15 – 1:45 PM **Ulrich Katscher**
Estimating Electric Conductivity, Permittivity, and Local SAR via B_1 -Mapping

1:45 – 2:15 PM **Richard Bowtell**
Investigating White Matter Microstructure using Phase Imaging at 7 Tesla

2:15 – 2:30 PM Break

ENCODING AND RECONSTRUCTION

Moderator

Steen Moeller

2:30 – 3:00 PM

Michael Garwood

Spatiotemporal-encoded MRI by Steering Resonance Over an Object (STEREO)

3:00 – 3:30 PM

Maxim Zaitsev

MRI with Non-Linear Spatial Encoding Magnetic Fields

3:30 – 4:00 PM

Mark Griswold

Magnetic Resonance Fingerprinting (MRF)

4:00 – 4:30 PM

Klaas Pruessmann

Current Progress in Magnetic Field Sensing and Control in MR Systems

4:30 PM

Adjournment