PROGRAM SCHEDULE

THURSDAY, OCTOBER 13\textsuperscript{TH}

WELCOME
8:00 – 8:05 Kamil Ugurbil

8:05 – 10:10
HIGH FIELD INSTRUMENTATION
CURRENT PROJECTS OF HIGH FIELD IMAGING MAGNETS
Moderator: J. Thomas Vaughan
8:05 – 8:25 Magnex Josef Boehm
8:25 – 8:45 Siemens Franz Schmitt
8:45 – 9:05 GE Douglas Kelley
9:05 – 9:25 Philips Mike Morich
9:25 – 9:40 Varian Alan Rath
9:40 – 9:55 Bruker Hans Post
9:55 – 10:10 MR Instruments Kevin Sundquist

10:10 – 10:30 BREAK

IMAGING
Moderator: Michael Garwood
10:30 – 11:00 Kamil Ugurbil
\textit{“Ultra-High Magnetic Fields in Neuroimaging”}
11:00 – 11:30 Roger Ordidge
\textit{“Human Brain MRI at 4.7 Tesla”}
11:30 – 12:00 Mark Haacke
\textit{“High Resolution Imaging: Why is it Important for $T_1$ Weighted Imaging, MRA, and SWI?”}

12:00 – 1:15 LUNCH
RF HARDWARE / MODELING / METHODS / SAFETY

Moderator: Pierre-Francois van de Moortele

1:15 – 1:45 Christopher Collins
“Tissue-Field Interactions in High Field MRI: Models, Interpretation, and Application”

1:45 – 2:15 J. Thomas Vaughan
“Human Imaging at the Highest Fields”

2:15 – 2:45 Lawrence Wald
“Highly Parallel Arrays for High Field Neuro-imaging”

2:45 – 3:15 Gregor Adriany
“Transmit Arrays for High Magnetic Fields”

3:15 – 3:30 BREAK

PARALLEL IMAGING

Moderator: Steen Moeller

3:30 – 4:00 Klaas Pruessmann (Overview)
“Parallel MRI: (I) Introduction and (II) Assessing and Addressing Field Perturbations”

4:00 – 4:30 Mark Griswold
“K-Space Parallel Imaging Methods and Their Application at High Fields”

4:30 – 5:00 Xiaoping Hu
“Auto-Calibrated Parallel Spiral Imaging”

5:00 – 5:30 Jeff Duyn
“Making the Most of High Field: Parallel MRI”

5:30 – 6:00 Pierre-Francois Van de Moortele
“$B_1$ Destructive Interferences and Spatial Phase Patterns at Ultra High Magnetic Field with Head Transceiver Array Coil: Impact on Transmit $B_1$
Immediately Following the Talks
Reception at the CMRR

FRIDAY, OCTOBER 14TH

HIGH FIELD PROTON SPECTROSCOPY / METHODS & APPLICATIONS
Moderator: Patrick Bolan
8:30 – 9:15 Ivan Tkac – Overview
“In Vivo ‘H NMR Spectroscopy at Very High Magnetic Fields”
9:15 – 9:45 Ray Somorjai
“The Analysis of Biomedical Data – Curses, Caveats, Challenges”
9:45 – 10:15 Leo Cheng
“Metabolomic Profiling of Human Cancer with Ex Vivo Tissue MR Spectroscopy”
10:15 – 10:45 Peter Vermathen
“Proton MRS in Human Skeletal Muscle: Observation of Ordering Effects and Intra-Myocellular Lipids”

10:45 – 11:00 BREAK

SPECTROSCOPY & DISEASE
Moderator: Elizabeth Seaquist
11:00 – 11:30 Brian Ross
“Clinical MRS – Are We There Yet? EBM and the High Field Imperatives!”
11:30 – 12:00 Malgorzata Marjanska
“Monitoring Disease Progression in Transgenic Mouse Models of Alzheimer’s Disease Using $^1$H MRS”

12:00 – 12:30  Rolf Gruetter
“New Horizons at High Field For Metabolic Studies of Diabetes and its Complications”

12:30 – 1:00  Gulin Oz
“What Can Spectroscopy at High Fields Do for Neurological Disorders?”

1:00 – 2:15  LUNCH

2:15 – 2:45  Arend Heerschap
“Creatine Uptake and its Functions in Skeletal Muscle and Brain. Insights from Studies at 7T of Mice Deficient in Creatine Synthesis and Phosphorlyation”

2:45 – 3:15  Michael Garwood
“Clinical Assessment of Breast Cancer using $^1$H MRS at 4 Tesla”

LOW GAMMA NUCLEI
Moderator: Gil Navon

3:15 – 3:45  Sebastian Cerdan
“$^{13}$C NMR Detected Deuterium Turnover; A Novel Metabolic Tool”

3:45 – 4:15  Pierre-Gilles Henry
“New Strategies for $^{13}$C and $^1$H[$^{13}$C] NMR Spectroscopy at High Fields”

4:15 – 4:45  BREAK

4:45 – 5:15  Ravinder Reddy
“Sodium MR and Molecular Imaging”

5:15 – 5:45  Wei Chen
“In Vivo $^{31}$P and $^{17}$O MRS Study of Cerebral Metabolism,”
6:30 PM Dinner Radisson Hotel Metrodome
Speaker: Dr. Alexander Pines
“Novel Methods of Imaging and Spectroscopy from Meters to Nanometers”

SATURDAY, OCTOBER 15th

NOVEL TECHNIQUES
Moderator: Malgorzata Marjanska
8:30 – 9:00 Dimitri Sakellariou
“Ex-Situ NMR and MRI”
9:00 – 9:30 Jan-Henrik Ardenkjaer-Larsen
“In Vivo MR of Agents Pre-Polarized by the DNP-NMR Method”

FUNCTIONAL IMAGING SIGNALS
Moderator: Seiji Ogawa
9:30 10:15 Richard Buxton – Overview
“Do We Understand the Physiologic Basis of the Signals We Measure with fMRI?”
10:15 – 10:45 Mark Mintum
“Metabolic Correlates of Human Brain Activation”

10:45 – 11:00 BREAK
11:00 – 11:30  Karl Kasischke  
“High Field MR Imaging and Spectroscopy & Magnetic Resonance Imaging of Brain Function”

11:30 – 12:00  Nikos Logothetis  
“Functional MRI in Monkeys: Studying Mass Action by Means of Imaging Connectivity & Electrophysiology Techniques”

12:00 – 12:30  Seong-Gi Kim  
“Spatial Specificity, Sensitivity and Reproducibility of Columnar-Resolution of CBV-weighted fMRI”

12:30 – 1:45  LUNCH

Moderator:  Xiaoping Hu
1:45 – 2:15  Fahmeed Hyder  
“Energetics of Neural Populations by fMRI”

2:15 – 2:45  S. Lalith Talagala  
“Continuous ASL Perfusion MRI with a Separate Labeling Coil”

2:45 – 3:15  Nanyin Zhang  
“Utilization of Binocular Inhibitory Interaction for Reliable Mapping of Ocular Dominance Columns”

3:15 – 3:30  BREAK

3:30 – 4:00  Noam Harel  
“Uncovering the Origin of Tissue-fMRI Signals”

4:00 – 4:30  Essa Yacoub  
“Spatial Characteristics of the Post-Stimulus Response”

4:45  POSTER SESSION
DIFFUSION IMAGING
Moderator: Charles Springer
8:00 – 8:45 Joseph Ackerman (Overview)
“Progress (?) Toward Quantitative Interpretation of the MR Diffusion Signal”
8:45 – 9:15 Robert Gillies
“Measuring Chemotherapy Response with Diffusion MRI”
9:15 – 9:45 Brian Ross (MI)
“Brain Tumor Diffusion MRI: A Biomarker for Treatment Response”
9:45 – 10:00 BREAK
10:00 – 10:30 Jacques-Donald Tournier
“Resolving Multiple White Matter Fibre Orientations from Diffusion-Weighted MRI”
10:30 – 11:00 Stephane Lehericy
“Applications of Diffusion Fiber Tracking in the Study of Basal Ganglia Circuitry”

MOLECULAR MECHANISM
Moderator: Kamil Ugurbil
11:00 – 11:45 Charles Springer (Overview)
“The Persistence of Motion: The Ubiquity of the NMR Shutter-Speed”
11:45 – 12:15 Shalom Michaeli
“MR Relaxation in the Rotating Frame: A Novel In Vivo
Approach Using Adiabatic RF Pulses”

12:15 – 1:30 LUNCH

1:30 – 2:00 Murali Krishna
“Imaging Tissue Oxygen Using Low Field Magnetic Resonance Imaging”

2:00 – 2:30 Alan Koretsky
“Cellular Imaging with Micron Sized Particle of Iron Oxide”

2:30 – 3:00 Gil Navon
“The Effect of Wallerian Degeneration on the Rat Sciatic Nerve Compartments Studied by $^2$H DQF NMR”

3:00 – 3:30 Dean Sherry
“Imaging Tissue Physiology with lanthanide-based Molecular Imaging Agents”

CLOSING REMARKS
3:30 – 3:40 Kamil Ugurbil