Advanced Cardiac
MR & CT Imaging

Course organiser:
Jens Bremerich / Basel, CH

September 20–22, 2007
Munich, DE

Local organisers:
Armin Huber, Bernd Wintersperger / Munich, DE

Course venue:
University Hospitals Munich
Campus Grosshadern
Department of Clinical Radiology/Lecture Hall Building
Marchionistr. 15
DE - 81377 Munich

Preliminary faculty:
H. Arheden, C. Becker, J. Bremerich, P. Buser, D. Didier,
J. Fröhlich, G. Lund, M. Markl, B. Wintersperger

MRI has evolved to a valid clinical tool in everyday practice. Its unique capabilities of imaging cardiac morphology and function with excellent spatial, temporal and contrast resolution explain its outstanding role in imaging cardiac disease.

Successful cardiac imaging requires thorough knowledge of both, pathology and modality. Beginners and advanced course participants learn basic principles of cardiac MR and review dedicated protocols. Clinical topics provide deep insight into congenital, valvular, ischemic, inflammatory, and pericardial disease as well as storage disorders, masses and cardiomyopathy. Participants discuss these disorders with respect to relevant clinical questions. Strengths and limitations of MR and CT will be highlighted. The focus of this course is MR, but CT and its role for coronary imaging and cardiovascular risk assessment are addressed.

Participation Requirements: Physicians who have attended the School of MRI Applied MR Techniques courses or have good knowledge from other sources; minimum of 6 months experience in applied MRI.

City-information Munich:
Munich is the main attraction of Bavaria and a cosmopolitan city as any other in Europe. The city has always played an important role in history and is now the centre of Germany’s high-tech industry. Nevertheless, its city centre is very charming and inviting and the Pinakothek is one of the world’s best museums. Take a walk at Englischer Garten, one of the largest city parks in Europe and of course don’t forget to sample some of the local beers!

Airport: Munich is an internationally important hub – various daily direct flights to almost any destination worldwide

Hotel information: www.esmrmb.org

Grants available for
Advanced Cardiac
MR & CT Imaging
more information on page 2
Learning objectives

Basic principles of cardiac MRI
- Spin-echo, Gradient-echo
- Triggering, gating
- Resolution of time, space, contrast
- Coronaries
- Contrast modulation by preparation pulses

Cardiac CT
- Basic principles
- Coronaries
- Calcium Score
- Valves
- Postprocessing

Congenital and valvular heart disease
- Segmental analysis
- Grown up congenital heart disease
- MR or CT
- Regurgitation, Insufficiency

Heart failure, cardiomyopathy, ARVC
- Pathophysiology
- ARVC
- Non compaction

Ischemic heart disease:
Infarct, Viability, Perfusion, Stress
- Function
- Perfusion
- Infarct, Viability, Late enhancement

Cardiac masses, pericardial disease
- Systematic approach
- Benign and malignant tumors, metastasis, thrombus
- Acute vs. chronic pericarditis

Infiltration, Deposition, Inflammation
- T2* weighted sequences, Late Enhancement
- Sarcoïdosis
- Amyloidosis
- Hemosiderosis, Thalassemia
- Myocarditis

Pharmacology
- Contrast media, facts and trends
- Beta-Blocker
- Adenosine
- Dobutamine

- Setup for stress test
- Safety considerations
- Dedicated protocols
- Cooperation Radiology/Cardiology/Physics

MRI or CT
- Role of MRI as compared to CT
- Interactive case review