Joint Annual Meeting ISMRM - ESMRMB

SMRT 19th Annual Meeting

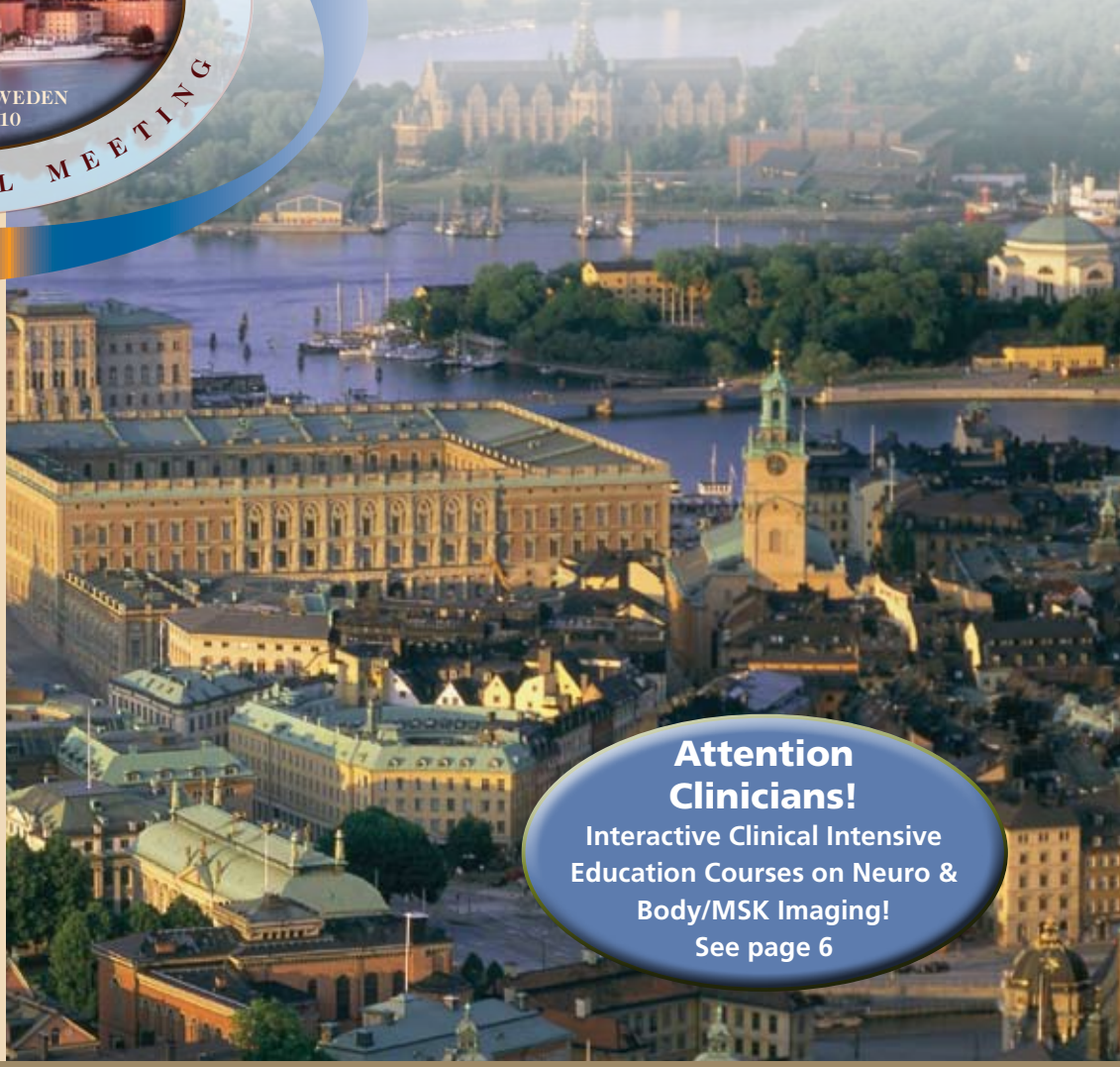
1 - 7 May 2010

Registration & Information

Stockholm

sweden

"Clinical Needs & Technological Solutions"



Early Registration Deadline:
31 March 2010

Housing Deadline:
31 March 2010

For more information, visit:
http://www.ismrm.org

Attention Clinicians!
Interactive Clinical Intensive Education Courses on Neuro & Body/MSK Imaging!
See page 6

REGISTER BY 31 MARCH AND SAVE!

The International Society for Magnetic Resonance in Medicine is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE

International Society for Magnetic Resonance in Medicine

ESMRMB European Society for Magnetic Resonance in Medicine and Biology

European Society for Magnetic Resonance in Medicine and Biology

Stockholm sweden

Clinical Needs & Technological Solutions

Program-at-a-glance

For complete program information, full course descriptions, and skill levels, please see pages 7-20, or visit our website: http://www.ismrm.org

Weekend Educational Programs (Pages 7-10)

Saturday, 1 May

- MR Imaging of the Post Operative Joint & Spine: Clinical Concepts & Methodology for Artifact Reduction
- Advanced Neuroimaging I
- MR Engineering
- Preclinical MR of Cancer
- Cardiovascular MRI: Current Applications, Clinical Needs & Technical Developments
- Brain Connectivity Assessment with MRI
- MR Physics for Physicists
- New Tricks for Old Dogs: Emerging Topics in MR

Sunday, 2 May

- Body MRI: Cinical Applications & New Directions
- Advanced Neuroimaging II
- Molecular & Cellular Imaging
- Clinical MR of Cancer
- Diffusion Imaging Acquisition Methodology
- MRI of Cerebral Perfusion
- Quantitative MRI Approaches in Clinical Imaging
- Imaging Strategies
- Study Group Programs

17:45 - 19:15
Opening Reception

Scientific Meeting:

Overview	Monday, 3 May
Sunrise Educational Courses Tuesday-Friday Find full course descriptions on pages 12-14	INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE ESMRMB European Society for Magnetic Resonance in Medicine and Biology
Plenary Sessions Find titles on page 11	**07:30** • Welcome & Awards **08:20** • Mansfield Lecture: *MRI Over the Next Decade: Quo Vadis?* • Plenary: *Clinical Needs & Technological Solutions: Alzheimer's & Dementia* • Shoulder & Elbow Imaging*
Morning Parallel Sessions Find full course descriptions on pages 15-20	**11:00-13:00** • Scientific Sessions • SWI Metalheads: Imaging Brain Iron • Women's Imaging: Case-Based Teaching
Lunchtime Symposia	**13:00-14:00** Gold Corporate Member Symposium
Mid-Day Parallel Sessions Find full course descriptions on pages 15-20	**14:00-16:00** • Poster Sessions • SMRT & ISMRM Forum: *Safe Exposure Limits* • Advances in Spine Imaging • Hip & Pelvis Case-Based Teaching
Afternoon Parallel Sessions Find full course descriptions on pages 15-20	**16:30-18:30** • Scientific Sessions • MR Physics & Techniques for Clinicians • Mouse Imaging & Spectroscopy
Evening Sessions	**18:45-20:45** Study Group Programs

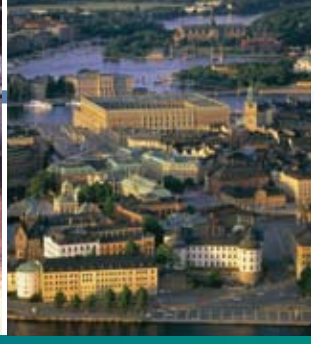
I • S • M • R • M
SOCIETY FOR MAGNETIC RESONANCE TECHNOLOGISTS
S M R T

19th Annual Meeting
1-2 May 2010

See pages 24-26 for Program Details

** Admission to session limited to Clinical Intensive Education Program registrants only.*





Joint Annual Meeting ISMRM - ESMRMB 1-7 May 2010 • SMRT 19th Annual Meeting 1-2 May 2010

ATTENTION CLINICIANS!

Clinical Intensive Education is highlighted in RED. For program description, see page 6; course overviews follow.

Monday through Friday, 3-7 May 2010

Tuesday, 4 May	Wednesday, 5 May	Thursday, 6 May	Friday, 7 May
07:00-08:00 Tuesday through Friday:			
• Tissue Contrast in MSK MRI - From Physics to Physiology		• Potentials & Challenges of High-Field MRS	
• Hot Topics in Body MRI		• Modeling & Quantitative Analysis for Body DCE MRI	
• Image Reconstruction		• From Bench to Bedside to Bench: Translation of Animal Models to Clinical Practice & From Clinical Practice to Animal Models	
• Imaging Biomarkers		• Cardiovascular Imaging: Disease or Problem Based Teaching, Practical Protocols	
• Brain: An Absolute Beginner's Guide to Anatomical & Functional MRI		• Trials and Tribulations: Multicenter Trial Headaches & Their Cures	
08:15 • Plenary: *Clinical Needs & Technological Solutions: Osteoarthritis*	**08:15** • Plenary: *The Eye of the Beholder: An Image Reconstruction Challenge*	**08:00** • YIA & Poster Awards **08:15** • Mansfield Lecture *From Rodin to Radon: Some Unusual Applications of Projection-Reconstruction* • Plenary: *Clinical Needs & Technological Solutions: Atherosclerosis*	**08:15** • Plenary: *Genotyping & MR Phenotyping*
• Advances in MS I* • Basic Neuro: Intracranial Infections* • Foot/Ankle/Knee Imaging* Case-Based Teaching	• Advances in MS II* • Body MR Angiography: An Update*		
10:30-13:00 • Scientific Sessions • Diffuse Liver Disease • MRS in Clinical Practice • Cardiac MRI: Case-Based Teaching	**10:30-12:30** • Scientific Sessions • Wrist Imaging • Bowel Imaging • Epilepsy Imaging • Hands-On Workshop #1	**10:30-12:30** • Scientific Sessions • Multisite Neuroimaging Studies • MRI & the Arrhythmic Patient • Hands-On Workshop #1 (repeat)	**10:30-12:30** • Scientific Sessions
12:30-13:30 Gold Corporate Member Symposium	**12:30 - 13:30** Gold Corporate Member Symposium	**12:30 - 13:30** Bronze Corporate Symposia	**12:30** Joint Annual Meeting ISMRM-ESMRMB Adjourned
13:30-15:30 • Poster Sessions • Inflammatory Arthropathy • Pediatric Imaging I	**13:30-15:30** • Poster Sessions • Non-Contrast MRA • Stroke Imaging • Ethics & Economics • Hands-On Workshop #2	**13:30-15:30** • Pediatric Imaging II • Cardiac MRI • Hands-On Workshop #2 (repeat)	
16:00-18:00 • Scientific Sessions • MR Physics & Techniques for Clinicians • Multimodality Imaging of Angiogenesis	**16:00-18:00** • Scientific Sessions • MR Physics & Techniques for Clinicians • Pitfalls in Diffusion-Perfusion: Case-Based Teaching	**16:00-18:00** • Scientific Sessions • MR Physics & Techniques for Clinicians • Guess That Artifact!: Case-Based Course	
18:15-19:45 Study Group Programs		**18:15** Farewell Party	

Mark Your Calendars!

ISMRM 19th Scientific Meeting & Exhibition
7-13 May 2011
Montréal, QC
Canada

ESMRMB Annual Meeting
6-8 October 2011
Leipzig, Germany

** Admission to session limited to Clinical Intensive Education Program registrants only.*

MESSAGE FROM THE PROGRAM CHAIR

"There is in this Earth no maneuver more unnerving than the Spin. Just when one thinks to have advanced into the twilight, Dawn comes round again."

—Samuel Bowditch

Our field of Magnetic Resonance is irrepressible. What other conclusion can be drawn from the historical record, or from our own experience? For the better part of a century, the basic principles governing spin dynamics have marched from discipline to discipline, from physics to chemistry to biomedicine and onward, gathering applications and spawning technologies along the way. By all rights, the pace of discovery should have slowed, this far into the maturity of so well-understood a phenomenon as magnetic resonance. But the spin continues to yield up new secrets, each time we determine how to ask.

Our Societies too—the ISMRM and the ESMRMB—are seemingly inexhaustible, and our Annual Meetings reflect this energy. Look around the meeting rooms and poster halls each year, and you will find ample evidence of creativity and perseverance, hard-won rigor commingled with dramatic speculation. You will find basic scientists and clinicians, and all manner of species in between, with interests in everything from quantum fluctuations of the vacuum to practical protocols for the routine diagnosis of torn ligaments.

The energies of the ISMRM and the ESMRMB will converge in 2010 for our Joint Annual Meeting. Members of the Annual Meeting Program Committee in any year require a special brand of vigor, and this year, their prodigious efforts are already apparent in the rich educational program planned for 2010. The Central Office of the ISMRM, under the leadership of Executive Director Roberta Kravitz, is, as always, hard at work in making the 2010 meeting a resounding success, in close collaboration with the leadership of the ESMRMB. We are also grateful for the efforts and the collaboration of our Local Organizing Committee .

In 2010, we will come together in Stockholm, home of the Nobel Prize which has been bestowed upon a remarkable number of our colleagues. You may expect various recognitions of our Nobel tradition at the meeting. You should also expect to be charmed by your surroundings. Stockholm is a beautiful city, both richly historic and fully modern. It is an urban archipelago in the midst of the larger Swedish archipelago, and if you walk its streets you will soon find yourself crossing an unexpected island, or encountering a surprising maritime vista in the midst of grand architectural landmarks. The Old City of Gamla Stan is definitely worth a visit. And if you have a taste for spectacular engineering failures celebrated with humor and archeological precision, visit the Vasa Museum.

Incorporated into the logo for our 2010 Stockholm meeting you will find our theme of "Clinical Needs and Technological Solutions." We are indeed a community devoted to the development of new MR techniques and technologies specifically in the service of improving human health, and the ongoing dialogue between unsolved clinical problems and new diagnostic or therapeutic tools in many ways defines our mission. Each of the plenary sessions in 2010 is explicitly linked to our theme. In four of the five sessions, an initial lecture on biological substrates and current clinical understandings will be followed by lectures on state-of-the-art MR tools in the areas of Alzheimer's & Dementia, Osteoarthritis, Atherosclerosis, and Genotyping. The fifth plenary session is entitled "The eye of the beholder: an image reconstruction challenge," and it will break new ground for our plenary sessions. Following a lecture on vision science, addressing how we see and how we interpret images, the results of a scientific competition will be presented. Carefully selected datasets will be made available well before the meeting, and scientists across our field will be encouraged to submit image reconstructions using their favorite algorithms. A panel of radiologists will judge the submissions, and will then discuss the reasons for their choices with a panel of image reconstruction experts. We expect this plenary session to be an eye-opening experience for basic scientists and clinicians alike!

Daniel K. Sodickson, M.D., Ph.D.

We are honored to have two extraordinary speakers for our Lauterbur and Mansfield lectures this year, and we are pleased as well that, together, they perfectly embody our meeting theme. Dr. William Bradley, renowned neuroradiologist, researcher, and thought leader, will be delivering the Lauterbur Lecture with the title "MRI Over the Next Decade: Quo Vadis?" The Mansfield Lecture of Professor Ray Freeman, spin gymnast extraordinaire and mentor to the mentors in our field, will take us on a journey "From Rodin to Radon: Some Unusual Applications of Projection-Reconstruction."

Caroline Reinhold, M.D. as Vice-Chair of the AMPC, has been shepherd, scourge, visionary, and fearless leader of a band of dedicated volunteers as the 2010 Educational Program has taken shape. In recognition of the large number of hot topics which blur disciplinary boundaries, Caroline has created a new educational category this year for "Cross-Cutting and Emerging Areas," and you can look forward to numerous diverse offerings in addition to a strong core of case-based clinical courses and introductions to established research areas. Following a successful inaugural experience in Honolulu, we will be offering a focused Clinical Intensive Education Program for clinicians interested in learning best clinical practices from world leaders in the areas of neuroimaging, musculoskeletal imaging, and body imaging. Continuing Medical Education credits will be offered for this course and other educational sessions.

Other meeting innovations in 2010 include enhanced connections between educational and scientific sessions, creation of new small-group experiences within the larger meeting, new convenient (and environmentally sound) electronic formats for our program book, and, of course, unforgettable Stockholm-themed entertainment. Please feel free to visit http://www.ismrm.org/10 to follow the evolution of various initiatives planned for the meeting.

On behalf of the program committee, I warmly invite you to join us in Stockholm in May of 2010. Bring family, meet colleagues, share ideas, and learn about state-of-the-art clinical practices and leading-edge research. And remember, spins will be spins: you will be surprised!

Daniel K. Sodickson, M.D., Ph.D.
Chair, Annual Meeting,
Program Committee

Registration Brochure Contents

Scientific Meeting General Information, 1-7 May 2010

Location	Stockholm International Fairs, Stockholm, Sweden
Meeting Program Details	ONLY available online through the ISMRM Website: http://www.ismrm.org AND on-site at designated program kiosks.
For more information please contact the ISMRM Central office	E: info@ismrm.org T: +1 510 841 1899
Credit Designation	The ISMRM designates this meeting for up to **52.25 *AMA PRA Category 1 Credits™.*** Physicians should only claim credit commensurate with the extent of their participation in the activity. The Royal College of Radiologists has approved this meeting for up to 53 Category 1 (external) CPD credits.
Restrictions	Children under 16 are not allowed in the meeting rooms under any circumstances

Technical Exhibition Hours, Exhibit Hall B - Stockholm International Fairs

Dates and Open Hours	17:45 - 19:15 Sunday, 2 May (Opening Reception) 10:00 - 17:00 Monday, 3 May 09:30 - 17:00 Tuesday - Wednesday, 4-5 May 09:30 - 16:30 Thursday, 6 May
Admission	By meeting badge only
Restrictions	Children under 16 are not allowed on the exhibit floor under any circumstances

Student Stipend Program: http://www.ismrm.org/10/stipends.htm

Purpose
The ISMRM is proud to offer three stipend programs for the upcoming Joint Annual Meeting ISMRM-ESMRMB 2010. Please review each of the following stipend programs carefully before deciding which to pursue.

Educational Stipend for Students, Postdoctoral, and Clinical Trainees
This program offers support for the attendance of students, postdoctoral and clinical trainees to present abstracts at the Joint Annual Meeting ISMRM-ESMRMB 2010. Those applicants who are first authors on the abstract will be given priority.

Membership Deadline: 3 November 2009
Stipend Application Deadline: 10 November 2009

E. K. Zavoisky Stipend
This program offers support for the attendance of scientists and clinicians who reside in financially restricted countries and who have limited personal income to attend the Joint Annual Meeting ISMRM-ESMRMB 2010. The program is named in honor of E.K. Zavoisky, pioneer in MR research from the former USSR. Those applicants who are first authors on the abstract will be given priority.

Membership Deadline: 3 November 2009
Stipend Application Deadline: 10 November 2009

New Entrant Stipend
This program encourages new entrants to research in areas of interest to the ISMRM. Each awardee will receive US$400 toward the costs of attending Joint Annual Meeting ISMRM-ESMRMB 2010. Upon request, an awardee may be paired with a senior member of the ISMRM who will be the awardee's mentor during the Joint Annual Meeting, providing the opportunity for reviews and discussions of important scientific and clinical developments are presented at the meeting.
Membership deadline: 3 December 2009
Stipend Application Deadline: 10 December 2009

ISMRM MEMBERSHIP IS REQUIRED

2010 ISMRM membership is required before application for a stipend. If you are not a member, you will need to complete the membership application process on or before the deadline noted for each of the three stipend programs. If you are already a member, you will need to pay your 2010 membership dues on or before the deadline noted.

For more information about the Stipend Programs, including detailed application requirements and procedures, please go to: http://www.ismrm.org/10/stipends.htm.

International Society for Magnetic Resonance in Medicine
2030 Addison Street, Suite 700 Berkeley, CA 94704 USA
+1 510 841 1899

SATURDAY-WEDNESDAY, 1-5 MAY 2010

Attention Clinicians!

Interactive Clinical Intensive Education Courses on Neuro & Body/MSK Imaging!

Earn up to 39.25 CME Credits

We have selected the key clinical educational sessions from throughout the meeting, created exclusive additional content, and organized them into two CLINICAL INTENSIVE PROGRAMS over five days. In most sessions, an audience response system will be used for an interactive educational experience. Complete overviews of the individual course components can be found on the following pages.

ATTENTION CLINICIANS!

We are pleased to present a series of clinical courses intended for radiologists and other medical professionals who are interested in brushing up and fine tuning their MR interpretation skills.

We aim to provide **practical take-home messages** for daily clinical practice:
- Optimising imaging protocols
- Recognizing common imaging artifacts (and their remedies)
- Imaging pearls for diagnosis

Some course sessions will be **case-based**, using an interactive audience response system.
These two courses will run in parallel with the Joint Annual Meeting ISMRM-ESMRMB from Saturday to Wednesday but will have **a different flavor**. The courses will incorporate some of the didactic and poster material from that meeting along with exclusive additional lectures for registrants.

There will also be the opportunity to earn even more CME credits by attending Annual Meeting lectures on hot topics such as nephrogenic systemic fibrosis, unmet needs of MRI in various areas, and application of the newest hardware, coils and sequences in the field. Registrants will have time during and after the course to review scientific posters and to attend the wide array of other sessions of the main ISMRM meeting, or just simply to take advantage of the wonderful touristic opportunities Stockholm provides.

Neuroimaging Program

Organizers:
Walter Kucharczyk, M.D., F.R.C.P.
Pia C. Maly Sundgren, M.D., Ph.D.

EDUCATIONAL OBJECTIVES:
Upon completion of these neuroimaging courses, participants should be able to:
- Identify the main issues related to basic clinical neuroradiology;
- Evaluate new techniques within the field of neuroradiology that can be implemented in clinical daily practice; and
- Select and implement appropriate ideas to optimize their practice.

Musculoskeletal & Body Imaging Program

Organizers: Juerg Hodler, M.D., MBA, Elmar M. Merkle, M.D., Bachir Taouli, M.D., Lynne S. Steinbach, M.D. and Garry E. Gold, M.D.

EDUCATIONAL OBJECTIVES:
Upon completion of the body and musculoskeletal courses, participants should be able to:
- Implement optimized protocols for musculoskeletal and body imaging;
- Describe anatomy, normal variants and pitfalls in MR images of the musculoskeletal system and the body;
- Diagnose abnormalities on MR images of the musculoskeletal system and body;
- Implement recent updates in the field of MRI; and
- Describe current MR approaches for a variety of abnormalities in the musculoskeletal system and the body.

Please note: Several Clinical Intensive Education sessions will be available only to Clinical Intensive Education Course registrants. When registering, choose Option 3 in Step 5 on the registration form on page 27 of this brochure or online to ensure access to these sessions. Please watch for program updates on the ISMRM website http://www.ismrm.org/10

SATURDAY-SUNDAY, 1-2 MAY 2010

Topic: Neuro

Advanced Neuroimaging I & II
Clinical Intensive Education Option

SKILL LEVEL: Basic - Intermediate

Saturday & Sunday 1 & 2 May

This two-day course aims to give the participant a better understanding of advanced neuro imaging techniques and their application in both clinical and research settings. Speakers will be Ph.D. researchers and clinician scientists. The course will be taught in a didactic format with time for discussion after each talk and ample time provided between sessions to meet the teachers and ask questions.

Day one will be directed at specific techniques and their applications, including perfusion, diffusion, functional MRI, susceptibility weighted imaging and MR-based morphometry.

Day two will focus on application of these techniques to specific neuronal processes and disease states, including brain development, brain tumors, cerebrovascular disease and Parkinson's disease. The overall goal of the course is to provide an in-depth understanding of state-of-the-art advanced neuro imaging techniques which serve as tools both in the research setting as well as everyday clinical practice.

Organizers:
Nicola De Stefano, M.D., Ph.D.
Patricia Ellen Grant, M.D., M.Sc.
Micheal D. Phillips, M.D.
Stefan Sunaert, M.D., Ph.D.
Mark A. Van Buchem, M.D., Ph.D.

Topic: MSK

MR Imaging of the Post Operative Joint & Spine: Clinical Concepts & Methodology for Artifact Reduction
Clinical Intensive Education Option

SKILL LEVEL: Intermediate

Saturday 1 May

This one-day course starts with safety aspects and then guides the audience through all clinically relevant aspects of postoperative imaging of the musculoskeletal system, including a discussion of imaging protocols, normal postoperative MR appearance, as well as imaging of postoperative complications. Radiologists with extensive experience in imaging of the musculoskeletal system including the spine represent the majority of the faculty; scientists provide relevant physical aspects.

Organizers:
Christine Chung, M.D.
Juerg Hodler, M.D., M.B.A.
Hollis G. Potter, M.D.

Topic: Physics/ Engineering

MR Engineering I & II

SKILL LEVEL: Intermediate - Advanced

Saturday & Sunday 1 & 2 May

This two-day course will provide an in-depth, practical description of fundamental concepts of MR engineering. MRI engineers and physicists from industry, academia, and clinical environments will speak on the general topics of magnets, gradients and shims, prototyping, system design, RF coils and electronics. The overall goal of this program is to enable new researchers to employ more advanced engineering methods in their MRI research. Day one will provide lectures and discussions focused on magnets, gradients and systems. Talks on day two will cover MRI RF technology, followed by an interactive coil design demonstration.

Organizers:
Mark A. Griswold, Ph.D.
Brian K. Rutt, Ph.D.
Greig C. Scott, Ph.D.

Topic: Cancer

Preclinical MR of Cancer

SKILL LEVEL: Basic - Intermediate

Saturday 1 May

This one-day course focuses on cancer in preclinical models and integrates MR imaging, MR spectroscopy and MR spectroscopic imaging studies. It is designed for research scientists and physicians (radiologists and oncologists) who wish to be updated on the current state of the art in MR techniques for the investigation of preclinical models. Accordingly, most of the speakers will be Ph.D.s. The first part of the course will be geared to beginners, and will describe the basic 'how to' aspects of a range of preclinical methods in different types of models.

The second part of the course will be geared to beginners/intermediates, and will cover the application of the methods outlined in part one to preclinical cancer research. It will cover well-established applications and emerging state-of-the-art approaches. Thus it is hoped that the second part of the course will also prepare participants for new cancer-related MR applications that may emerge in the next few years.

Organizers:
Carles Arús, Ph.D.
Sabrina M. Ronen, Ph.D.

SATURDAY-SUNDAY, 1-2 MAY 2010

Topic: Cardio-vascular

Cardiovascular MRI: Current Applications, Clinical Needs & Technical Developments

SKILL LEVEL: Intermediate – Advanced

Saturday 1 May

This one-day course will provide an overview of the role of CMR within the spectrum of imaging techniques available for diagnosis and evaluation of cardiovascular disease. State-of-the-art cardiac and vascular imaging and spectroscopy techniques will be described in detail by MRI physicists, and physician experts will identify and demonstrate current clinical applications.

Specific topics will include:
- MR coronary angiography and vessel wall;
- Advanced cardiac function imaging;
- Myocardial perfusion imaging;
- Proton spectroscopy of the myocardium; and
- Cardiovascular MRI at 7T.

Time will be allotted for personal discussion with the teachers. This course will provide the background and overview of the technology and applications that will be covered in the weekday courses on cardiovascular MRI.

Organizers:
Orlando P. Simonetti, Ph.D.
Han Wen, Ph.D.

Topic: Diffusion/ Perfusion

Brain Connectivity Assessment with MRI

SKILL LEVEL: Intermediate – Advanced

Saturday 1 May

This one-day course will provide an overview of the concept of functional connectivity and how it is defined, measured, and used for the advancement of neuroscience and in clinical applications. The main areas to be covered are:

- Connectivity assessment of spontaneous oscillations in fMRI;
- Connectivity assessment with diffusion imaging; and
- Bringing the modalities together: applications.

We will begin with overview talks on how connectivity is defined, why it is important, and how it is measured. Then, specifics of connectivity assessment will be discussed and the use of spontaneous oscillations in fMRI and diffusion imaging for the assessment of connectivity presented. We will cover potential pitfalls in interpretation, artifacts in the latest techniques, as well as some of the possibilities and current applications. Lastly, methods that attempt to bring multiple modalities and animal models together to assess and understand functional connectivity will be described.

Organizer:
Peter A. Bandettini, Ph.D.

Topic: Physics/ Engineering

MR Physics for Physicists

SKILL LEVEL: Intermediate – Advanced

Saturday 1 May

This one-day course will explore the physical methods and mathematical models that underlie nearly all research and development in MRI and MR spectroscopy. Each lecture will be given by a Ph.D. scientist or engineer who has made significant contributions in their topic area. We will cover the general topics of spin physics, magnetization generation, signal detection, generation of contrast, and imaging physics. Discussions will follow each talk.

Organizers:
Michael H. Buonocore, M.D., Ph.D.
Michael Markl, Ph.D.
Oliver Speck, Ph.D.

Topic: Cross-Cutting & Emerging

New Tricks for Old Dogs: Emerging Topics in MR

SKILL LEVEL: Advanced

Saturday 1 May

The main topics to be covered in this one-day course are:
- Genotyping and phenotyping:
- The relevance of MRI;
- Physiological measurement with MRI;
- Novel contrast agents for MRI; and
- Molecular imaging.

Our overall goals will be to provide experienced MR scientists with information on cutting edge applications of MRI in biomedicine and developments of MRI in order to increase its range of applicability in biomedicine. Speakers are mainly basic scientists, and the format will be lectures and discussion.

Organizers:
Jeffrey W.M. Bulte, Ph.D.
Penny Anne Gowland, Ph.D.

Topic: Body

Body MRI: Clinical Applications & New Directions

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Sunday 2 May

This one-day course will cover cutting edge clinical areas for body MR radiologists looking to introduce or improve the use of advanced methods into their practice. Lectures will highlight current state-of-the-art protocols, and indications and results of MRI in different disease processes involving liver, kidneys, adrenals, pancreas, prostate and female pelvis. In addition, there will be lectures highlighting body protocol optimization, artifacts, 3T, and basics of diffusion imaging.

Organizers:
Talissa Altes, M.D.
Elmar M. Merkle, M.D.
Bachir Taouli, M.D.

Topic: Cancer

Molecular & Cellular Imaging

SKILL LEVEL: Intermediate

Sunday 2 May

This one-day course is designed for graduate students, postdoctoral scientists, and physicians (radiologists) who are either new to this field or wish to be updated on the current state of the art in molecular and cellular imaging applications. The first part of the course will describe how contrast agents can be used to endow cells with MR-visible properties, and then how this enables tracking of stem cells and immune cells in various disease models. Different molecular probes will be described, of which some can provide contrast with other modalities. We will also cover combining these probes with therapeutic drugs in targeting of surface receptors, and issues with translating molecular imaging from small rodents to large animal models. Finally, the regulatory issues and current pitfalls that exist with clinical translation will be outlined in detail.

Organizers:
Jeffrey W.M. Bulte, Ph.D.
Anna V. Moore, Ph.D.

Topic: Cancer

Clinical MR of Cancer

SKILL LEVEL: Intermediate – Advanced

Sunday 2 May

This one-day course will focus on the role of clinical MR methods in the evaluation of cancer. It is designed for physicians (radiologists and oncologists) and for research scientists who wish to know the current state of the art and emerging MR techniques for clinical cancer investigations. It will cover the need for diagnosis, screening and development of various MR methods like imaging and spectroscopy in the evaluation of cancer of various organs; current challenges in clinical diagnosis and management of the disease, including therapeutic selection, guidance and monitoring; key biological hallmarks of cancers that are assessable by MRI/MRS techniques that are ready for clinical translation; evaluation of the potential and the role of various MR imaging and spectroscopic techniques for various organ specific cancers and methods of biomarker qualification processes including the integration of multi-parametric information using statistical methods and bioinformatics.

Speakers will be both M.D.s and Ph.D.s and talks will give the participants a feel for the use of MR methodology for diagnosis, screening and the relevant biomarkers that can be used for diagnosis, the assessment of tumor aggressiveness, therapy response and resistance, and can also be relevant to the development of novel anti-cancer therapeutics.

Organizers:
N. R. Jagannathan, Ph.D.
Daniel B. Vigneron, Ph.D.

Topic: Diffusion/ Perfusion

Advances in Diffusion & Perfusion MRI
Morning Session: Diffusion Imaging Acquisition Methodology for Physicists & Engineers

SKILL LEVEL: Intermediate – Advanced

Sunday 2 May

The purpose of this half-day course is to describe diffusion-weighted imaging acquisition methods, with a focus on pulse sequences. The knowledge obtained in the course should allow the participant to pursue new strategies for acquiring non-traditional diffusion-weighted imaging data and potential applications. The participant will gain knowledge of the benefits and limitations of these advanced methods.

Organizers:
Jeffry R. Alger, Ph.D.
Joelle E. Sarlls, Ph.D.

SATURDAY-SUNDAY, 1-2 MAY 2010

Topic: Diffusion/ Perfusion

Advances in Diffusion & Perfusion MRI Afternoon Session: An Updated Comparative View of MRI of Cerebral Perfusion

SKILL LEVEL: Intermediate – Advanced

Sunday 2 May

This half-day intermediate/advanced educational course will provide a comparative view of the two main methodologies used both in research and clinical practice today to measure cerebral perfusion: arterial spin labeling and dynamic susceptibility contrast (DSC-MRI). The speakers (M.D.s and Ph.D.s) will be our leading experts in MRI development and applications of ASL and DSC-MRI, and the main topics to be covered are:

- Fundamentals of arterial spin labeling and of DSC-MRI;
- Applications of arterial spin labeling and of DSC-MRI;
- Limitations & pitfalls of arterial spin labeling and of DSC-MRI; and
- The future of arterial spin labeling and of DSC-MRI.

Organizer:
Afonso C. Silva, Ph.D.

Topic: Diffusion/ Perfusion

Quantitative MRI Approaches in Clinical Imaging

SKILL LEVEL: Intermediate

Sunday 2 May

This one-day course covers intermediate level topics in quantitative MRI. The course will be presented by physicists and image processing scientists with extensive technical experience. The theory underlying many current approaches to quantification will be discussed, and potential problems and artifacts will be highlighted and explained.

The topics covered will include:

- MR parameter mapping;
- Dealing with data imperfections;
- Image registration, segmentation, and morphological analysis;
- Quantitative analysis of data from a range of specific MR methods, including: DWI, perfusion MRI, relaxometry, fMRI, and spectroscopy;
- Multimodal approaches; and
- Atlasing.

The overall goal of the course is to provide a detailed overview of the methodological issues that are important when undertaking quantitative analyses.

Organizers:
Alan Connelly, Ph.D.
Carlo Pierpaoli, M.D., Ph.D.

Topic: Physics/ Engineering

Imaging Strategies

SKILL LEVEL: Intermediate

Sunday 2 May

This one-day course will cover methods important for people who want to design or understand imaging pulse sequences and reconstruction methods. It is meant to be a complementary course to "MR Physics for Physicists," which will be held the previous day.

Four general topics will be covered:

- General pulse sequence strategies;
- Pulse sequence tools;
- Tools for rapid imaging; and
- Imaging beyond morphology.

Organizers:
Walter F. Block, Ph.D.
Jean H. Brittain, Ph.D.
Brian A. Hargreaves, Ph.D.

Nobel Notes

Did you know. . .

Alfred Nobel wrote the final draft of his Nobel Prize bequest on a torn piece of paper at the Swedish Club in Paris in front of four witnesses because he distrusted lawyers!

Lauterbur Lecture (3 May) & Mansfield Lecture (6 May)

2010 Lauterbur Lecture, Monday, 3 May
Professor William G. Bradley, Jr., M.D., Ph.D., F.A.C.R.
University of California, San Diego, CA, USA

MRI Over the Next Decade: Quo Vadis?

Dr. Bradley is Professor and Chairman, Department of Radiology, at the University of California, San Diego. He received his B.S. at the California Institute of Technology and his Ph.D. at Princeton, both in chemical engineering. He received his M.D. and did his radiology residency at the University of California, San Francisco, where he first became involved in MRI in 1979. He has published over 177 papers, 52 chapters, and 20 textbooks, including *Magnetic Resonance Imaging* (3rd Edition), coedited with David Stark. He was President of the SMRI (now ISMRM) 1988-89 and was honored with the Gold Medal of the SMRM (now ISMRM) in 1989 and that of the RSNA in 2003 for "pioneering research in MRI." He served on the Board of the Research and Education Foundation of the RSNA 1995-2001 and was Chairman of the RSNA Fund Development Committee from 1996-2007. He was on the Board of Chancellors of the American College of Radiology where he chaired the Commission on Neuroradiology and MRI from 1999 to 2005 and served as Vice President 2005-2006. He is currently on the Boards of the Association of University Radiologists, the Clinical MRI Society, and the International Society for Strategic Studies in Radiology.

2010 Mansfield Lecture, Thursday, 6 May
Professor Ray Freeman
Cambridge University, Cambridge, England, UK

From Rodin to Radon: Some Unusual Applications of Projection-Reconstruction

Professor Ray Freeman began his research with Rex Richards at Oxford in 1954, and considers himself fortunate to have worked with some of the early pioneers of NMR—Anatole Abragam and Robert Pound at Saclay, France, John Pople and David Whiffen at the British National Physical Laboratory, and Weston Anderson at Varian Associates in California. He started his own research group, first at the Physical Chemistry Laboratory in Oxford, and later at the Chemistry Department at Cambridge. Profressor Freeman has concentrated throughout his career on the methodology of high-resolution NMR, including double-resonance methods, relaxation studies, radiofrequency pulse design, polarization transfer, broadband decoupling, two-dimensional NMR, adiabatic pulses, Hadamard spectroscopy, and fast multidimensional NMR. He has written *A Handbook of Nuclear Magnetic Resonance* and *Spin Choreography*, followed more recently by *Magnetic Resonance in Chemistry and Medicine* which draws together the two main applications, NMR and MRI. Now formally retired, he continues to work in his "spare time."

Plenary Sessions

Preceding the scientific sessions each day, the plenary sessions will cover a broad range of important and topical themes.

Monday	**Clinical Needs & Technological Solutions: Alzheimer's & Dementia**
Tuesday	**Clinical Needs & Technological Solutions: Osteoarthritis**
Wednesday	**The Eye of the Beholder: An Image Reconstruction Challenge**
Thursday	**Clinical Needs & Technological Solutions: Atherosclerosis**
Friday	**Genotyping & MR Phenotyping**

Formal Scientific Sessions

Scientific Sessions	The content of these sessions will reflect the entire spectrum of submitted papers. This is where participants will present their most recent results. The Society aims to maintain the scientific quality and fair selection of the contributed presentations, based on an anonymous review process involving at least four peers. The composition and themes of the scientific sessions will reflect the number of submissions in a specific category and the most appropriate encompassing topic.
Oral Sessions	In oral sessions each author will make a nine-minute presentation, followed by three minutes for discussion.
Traditional Poster Sessions	A poster session is an informal presentation of the poster content with the opportunity for scientific interchange between the authors and other meeting participants. Specific times for the authors to be present for discussion will be assigned. A poster may contain text, graphs, photographs, diagrams, etc., affixed to a poster board so it can be viewed.
Multimedia Electronic Poster Presentations	A multimedia electronic poster session is an informal presentation of the poster at a computer kiosk with the opportunity for scientific interchange between the authors and other meeting participants. Specific times for the authors to be present for discussion will be assigned. Electronic posters will be uploaded to the ISMRM prior to the meeting and will be available for viewing throughout the week on computer kiosks in the poster hall.

TUESDAY-FRIDAY, 4-7 MAY 2010

Topic: MSK

Tissue Contrast in MSK MRI - From Physics to Physiology

Clinical Intensive Education Option (Tues. & Wed.)

SKILL LEVEL: Advanced

Tuesday – Friday
4 – 7 May

This four-hour course will assess mechanisms of contrast, organization of tissue, and its influence on imaging parameters. It will also provide a discussion of recently promoted sequences, most notably T1ρ and UTE. Both radiologists and basic scientists will provide up-to-date knowledge of these fast-developing research topics.

Organizer:
Bernard J. Dardzinski, Ph.D.

Topic: Body

Hot Topics in Body MRI:

Clinical Intensive Education Option (Tues. & Wed.)

Advanced Body Diffusion
NSF Update
Prostate Ablation

SKILL LEVELS:
Intermed./Advan.
Basic
Advanced

Tuesday – Friday
4 – 7 May

Tuesday & Wednesday:
Advanced Body Diffusion
(Clinical Intensive Education Option)
The first two days of this course will cover current knowledge on diffusion imaging applied to body imaging. Lectures will highlight basic physics and current state-of-the-art protocols and results of DWI in kidneys, prostate and female pelvis, and oncology.

Thursday: NSF Update
On day three, Thursday, the course will review current information and recommendations on NSF, and the current state of the art in non-contrast protocols (excluding MRA) and their diagnostic performance, based on clinical scenarios.

Friday: Prostate Ablation
The Friday session was organized in response to the increased interest in local ablation methods in prostate cancer used as alternate methods to surgery and radiation therapy. Available methods will be reviewed by an expert urologist, and the MR methods and results before and after ablation will be reviewed by a radiologist.

Organizers:
Talissa Altes, M.D.
Elmar M. Merkle, M.D.
Bachir Taouli, M.D.

Topic: Physics/ Engineering

Image Reconstruction

SKILL LEVEL: Intermediate – Advanced

Tuesday – Friday
4 – 7 May

This four-hour course will provide an in-depth review of the fundamental concepts common to many image reconstruction problems in MRI. MRI scientists from industry and academia will speak on non-Cartesian image reconstruction, off-resonance correction, parallel imaging, emerging sparse data methods, and chemical shift and motion.

These sessions are intended to introduce new researchers to the advanced algorithms employed in state-of-the-art systems. Each of the eight lectures will be followed by an opportunity for questions.

Organizer:
Elfar Adalsteinsson, Ph.D.

Nobel Notes

Did you know. . .

A total of 809 Nobel prizes
have been awarded since 1901
to 789 individuals and
20 organizations

Topic: Cross-Cutting & Emerging

Imaging Biomarkers

SKILL LEVEL: Basic

Tuesday – Friday 4 – 7 May

This four-hour course will introduce biomarker principles, how imaging is used as a biomarker in general, and how imaging biomarkers is used in several specific diseases. Presenters will be scientists and physicians actively involved in the use of MR biomarkers. After a broad introduction to biomarkers (both imaging and non-imaging), how they are used, how they are qualified to be fit for their intended use and what is needed to implement MR biomarkers in a multi-center clinical trial, we will cover examples of how imaging biomarkers (including, but not limited to MR) are used in MS, oncology, cardiovascular diseases and neurodegenerative diseases.

Organizers:
Jeffrey L. Evelhoch, Ph.D.
Sabrina M. Ronen, Ph.D.

Topic: Diffusion/ Perfusion

Brain: An Absolute Beginner's Guide to Anatomical & Functional MRI

SKILL LEVEL: Basic

Tuesday – Friday 4 – 7 May

In this four-hour course, each session will provide an introduction to how MRI of the human brain works. A different MRI technique will be presented on each day: quantitative MRI, diffusion, functional MRI, and perfusion. Each topic will cover the neuroanatomical and physiological features relevant for the technique, the basic principles, underlying physics, and the most commonly used data acquisition and analysis methods. Lectures will be followed by a period for questions.

Organizer:
Geoffrey J.M. Parker, Ph.D.

Topic: Cancer

Potentials & Challenges of High Field MRS

SKILL LEVEL: Basic – Intermediate

Tuesday – Friday 3 – 7 May

This four-hour course will focus on main methodological areas problematic for advanced MRS at high magnetic fields. Our first goal will be to demonstrate potentials of MRS for neuroscience research and clinical diagnostics. Second, is to describe all major challenges of MRS at very high fields and to explain possible solutions for an efficient shimming, for a design of pulse sequence and appropriate processing tool for metabolite quantification. Finally, yet importantly, the strengths of MRS techniques at ultra-high fields will be demonstrated on applications using animal models.

Organizers:
Rolf Gruetter, Ph.D.
Ivan Tkac, Ph.D.

Topic: Cross-Cutting & Emerging

Modeling & Quantitative Analysis for Body DCE MRI

SKILL LEVEL: Intermediate – Advanced

Tuesday – Friday 4 – 7 May

This four-hour course will provide in-depth review of modern techniques for developing and clinical validation of kinetic models for dynamic contrast-enhanced (DCE) MRI. Speakers are scientists who are actively involved in developing and analyzing DCE models for functional body imaging. Course material follows a top-down sequence, from theoretical/abstract view to practical/clinical issues. Topics include:

- Principles of modeling & simulations: model analysis and validation, sensitivity of parameters to noise, reduction of parameters;
- Monte Carlo analysis of bias and variability;
- Tracer kinetics, compartmental/distributed models, differential equations, convolution equations;
- Model complexity and feasibility;
- Measurement challenges: how do we measure arterial input? Inflow artifacts, population averaged input function. How do we convert MRI signal to tracer concentration? Linear conversion, direct conversion, water exchange regimes;
- Contrast agents available for DCE MRI: molecular size and its consequence, factors that contribute to relaxivity, gadolinium, iron oxide, and manganese agents; hyperpolarized tracers;
- Trade-off between spatial and temporal resolution; and
- Model/parameter validation studies, reproducibility/repeatability studies.

The goal is to provide researchers with hard-to locate information on kinetic modeling and model analysis and validation methodology.

Organizers:
Henry Rusinek, Ph.D.
Min-Ying Lydia Su, Ph.D.

TUESDAY-FRIDAY, 4-7 MAY 2010

Topic: Cross-Cutting & Emerging

From Bench to Bedside to Bench: Translation of Animal Models to Clinical Practice & From Clinical Practice to Animal Models

SKILL LEVEL: Intermediate

Tuesday – Friday 4 – 7 May

In this four-hour course, each session will focus on the translation of animal work to clinical practice and vice versa, and the use of MRI to diagnose, estimate or get a deeper insight in the outcome of the following pathologies:

- Traumatic brain injury (TBI)
- Polycystic kidney disease (PCKD)
- Multiple sclerosis (MS)
- Oncology Imaging (OI)

Experimental findings and clinical work will be discussed separately and combined in each session. The two speakers will fine tune their findings to provide a full picture of what is feasible and what is already translated to the clinical work-up, and also how the clinical practice might translate into animal models and improve insight into disease patho-physiology.

Organizers:
Afonso C. Silva, Ph.D.
Pia C. Maly Sundgren, M.D., Ph.D.

Topic: Cardio-vascular

Cardiovascular Imaging: Disease or Problem Based Teaching, Practical Protocols

SKILL LEVEL: Advanced

Tuesday – Friday 4 – 7 May

This four-hour course will review current cutting-edge topics in cardiovascular MRI. The major emphases will include 3T cardiovascular MRI, time-resolved MRA, image processing and visualization, and T2/T2* imaging. Course instructors are MDs, PhDs (or both). Content will include selection of pulse sequences for optimal disease detection, practical and time-optimized imaging protocols, and a thorough review of the potential pitfalls of imaging patients with these disorders. The current problems at 3T will be addressed and solutions discussed where appropriate, to provide attendees with an understanding of the strengths and limitations of current MRI methods.

The overall goals are to increase the attendee's knowledge base in these areas, and to inform future clinical imaging decision-making.

Organizer:
Victor A. Ferrari, M.D.
Vivian S. Lee, M.D., Ph.D., M.B.A.
Mitsue Miyazaki, Ph.D.

Topic: Neuro

Trials and Tribulations: Multicenter Trial Headaches & Their Cures

SKILL LEVEL: Basic – Intermediate

Tuesday – Friday 4 – 7 May

This four-hour course is aimed at providing a better understanding of the underlying principles behind and issues with running a multicenter imaging trial. Topics will include:

- Site certification;
- Trial execution;
- Liability and safety monitoring;
- Detecting relative changes in the brain; and
- Surrogate markers.

Speakers will consist of Ph.D. researchers and clinician scientists with extensive clinical trial experience.

Organizers:
Jeffrey Joseph Neil, M.D., Ph.D.
Nicola De Stefano, M.D., Ph.D.

Nobel Notes

Did you know. . .

Marie Curie won not just one, but two Nobel Prizes: one for physics (which she shared with her husband), and one for chemistry. Her daughter, Irene Joliot-Curie, also won a Nobel Prize (in chemistry, which she shared with her husband, Jean-Frederic Joliot).

MONDAY, 3 MAY 2010

Topic: Body

Women's Imaging
Case-Based Teaching
Clinical Intensive Education Option

SKILL LEVEL: Basic

Monday 3 May

This two-hour course will review the latest clinical applications of MR for breast and gynecological pathology. Our faculty will cover the role of MRI for diagnosis of benign and malignant breast lesions and benign diseases of the uterus, as well as ovarian masses.

Organizers:
Talissa Altes, M.D.
Elmar M. Merkle, M.D.
Bachir Taouli, M.D.

Topic: MSK

Shoulder & Elbow Imaging
Clinical Intensive Education Option

SKILL LEVEL: Basic

Monday 3 May

In this interactive two-hour course, speakers with extensive experience in clinical joint imaging will discuss current imaging protocols, typical indications for MR imaging, the MR appearance of clinically relevant intra- and extra-articular abnormalities, their differential diagnosis as well as important pitfalls. The presentation will be part of an integrated series of courses covering relevant aspects of musculoskeletal imaging.

Organizer:
Juerg Hodler, M.D., M.B.A.
Lynne S. Steinbach, M.D.

Topic: MSK

Hip & Pelvis
Case-Based Teaching
Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Monday 3 May

This two-hour course will demonstrate relevant hip abnormalities using a case-based approach. Typical examples will be used for demonstration of adequate imaging protocols, followed by cases useful for the discussion of indications for MR imaging. The most relevant abnormalities will be covered, including sports medicine issues and femoroacetabular impingement. Periarticular abnormalities will be covered, as well as intraarticular.

Organizer:
Christine Chung, M.D.

Topic: Neuro

Imaging Brain Iron: SWI Metalheads
Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Monday 3 May

This two-hour course taught by Ph.D. scientists and M.D. clinician-scientists is directed at imparting an understanding of susceptibility weighted imaging and its application to the assessment of iron within the brain. We will focus on the underlying physics and pitfalls of SWI imaging, covering the pathophysiology of brain iron within the brain, and diseases of abnormal iron deposition.

Organizers:
Stefan Sunaert, M.D., Ph.D.
Mark A. Van Buchem, M.D., Ph.D.

Topic: Cross-Cutting & Emerging

SMRT-ISMRM Forum:
Safe Exposure Limits for Staff & Patients

SKILL LEVEL: Basic

Monday 3 May

The overall goal of this two-hour course is to provide new and experienced MR workers with information on any risks associated with working in the MR environment. The basic scientist and technician speakers will cover staff exposure: limits, effects (including in pregnancy) and regulations. Lectures will be followed by discussions.

Organizers:
Penny Anne Gowland, Ph.D.
Ben Allen Kennedy, B.Sc., M.M.R.T.

Weekday Educational Courses

Monday - Thursday, 3 - 7 May 2010

Topic: Neuro

Advances in Spine Imaging

Clinical Intensive Education Option

SKILL LEVEL: Intermediate

Monday 3 May

This two-hour course is part of the Clinical Intensive Neuro Course, and open to all meeting registrants. It will focus on imaging techniques and problems related to MRI of the spine. The physician speakers will cover:

- The role of new sequences and coils in imaging of less cooperative or unstable patients;
- Spine imaging at high field;
- The possible role for DWI/DTI in spine imaging; and
- MRI of vascular malformations of the spine.

Organizers:
Walter Kucharczyk, M.D.
Pia C. Maly Sundgren, M.D., Ph.D.

Topic: Cancer

Tools & Tips for Mouse Imaging & Spectroscopy

SKILL LEVEL: Intermediate

Monday 3 May

This two-hour course will provide practical recommendations for mouse screening using MRI and MRS techniques. It will provide information necessary for optimizing the experimental protocol, cover animal handling, etc. Further, this course will offer tips and tools to optimize mouse screening, e.g. reduce the time requirements and at the same time maximize anatomical and biochemical information. There are many rapid developments ongoing in this field, and this course will offer a fresh update.

Organizers:
Klaas Nicolay, Ph.D.
Ivan Tkac, Ph.D.

Topic: Cross-Cutting & Emerging

MR Physics & Techniques for Clinicians

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Four-Session Course: Monday – Thursday 3 – 6 May

This eight-hour course will be a basic but comprehensive review of MRI physics and techniques. The presentations will be non-mathematical and will be suitable for clinicians and physicists new to the field. The course will cover the basic principles of MR physics (signal generation, encoding, and relaxation), pulse sequence design and timing diagrams, spin-echo imaging, gradient-echo imaging, and fast spin-echo imaging, and a variety of more advanced techniques including ultra-fast imaging, parallel imaging, high-field imaging, perfusion imaging, diffusion imaging, and functional MR imaging.

Organizers:
Marcus T. Alley, Ph.D.
Michael Markl, Ph.D.

TUESDAY, 4 MAY 2010

Topic: Neuro

Advances in Multiple Sclerosis I & II

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Two-Session Course: Tuesday – Wednesday 4 – 5 May

This 2.5-hour course in two sessions will focus on the state of the art in MS imaging and discuss whether MRI can be used as a biomarker for following MS. The use of contrast media for MRI of suspected or known MS patients will be discussed.

Organizers:
Walter Kucharczyk, M.D.
Pia C. Maly Sundgren, M.D., Ph.D.

Topic: MSK

Foot, Ankle & Knee

Case-Based Teaching

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Tuesday 4 May

In this interactive two-hour course, speakers with extensive experience in clinical joint imaging will discuss current imaging protocols, typical indications for MR imaging, the MR appearance of clinically relevant intra- and extraarticular abnormalities, their differential diagnosis as well as important pitfalls. The presentation will be part of an integrated series of lectures covering relevant aspects of musculoskeletal imaging.

Organizers:
Juerg Hodler, M.D., Ph.D.
Lynne S. Steinbach, M.D.

Topic: Neuro

Intracranial Infections
Clinical Intensive Education Option

SKILL LEVEL: Basic

Tuesday 4 May

This 50-minute course will focus on basic infections in the brain and their MR imaging characteristics. Physician speakers will cover prions, virus, bacterial, fungi and parasites.

Organizers:
Walter Kucharczyk, M.D.
Pia C. Maly Sundgren, M.D., Ph.D.

Topic: Cardio-vascular

Summits in Clinical Cardiovascular Applications Series
Case-Based Teaching
Clinical Intensive Education Option

SKILL LEVEL: Advanced

Tuesday 4 May

This two-hour course will provide an overview of the role of cardiac MR within the spectrum of imaging techniques available for diagnosis and evaluation of cardiac disease. The course comprises state-of-the-art application of routine cardiac MRI, and the case-based format allows insight into common and rare pathologies which can be detected and classified by MRI. Our goal is to prove insight into new techniques as well as insightful knowledge on practical issues in cardiac diseases and cardiac MRI. Speakers will be both basic scientists and radiologists/cardiologists, and formal talks will be followed by a time for in-depth discussion with the teachers.

Organizer:
Georg M. Bongartz, M.D.

Topic: Body

Diffuse Liver Disease
Clinical Intensive Education Option

SKILL LEVEL: Intermediate – Advanced

Tuesday 4 May

This two-hour course will review:
- Non-MR methods for diagnosing liver fibrosis (ultrasound elastography and serum markers) by an expert hepatologist;
- The role of MRI for diagnosis of liver fibrosis using diffusion, perfusion and elastography;
- Diagnosis of fat and iron in the liver using MRI; and
- HCC detection with MRI.

Organizers:
Talissa Altes, M.D.
Elmar M. Merkle, M.D.
Bachir Taouli, M.D.

Topic: Neuro

MRS in Clinical Practice
Clinical Intensive Education Option

SKILL LEVEL: Intermediate

Tuesday 4 May

This two-hour session is a part of the Clinical Intensive Neuro Course and open to all meeting registrants. Physician speakers will focus on clinical MR spectroscopy as a tool to solve problems related to brain tumors, metabolic disorders, dementia and psychiatric disorders.

Organizers:
Walter Kucharczyk, M.D.
Pia C. Maly Sundgren, M.D., Ph.D.

Topic: Neuro

MR of Inflammatory Arthropathy
Clinical Intensive Education Option

SKILL LEVEL: Intermediate – Advanced

Tuesday 4 May

This two-hour course will cover three main topics:
- Clinical assessment of inflammatory arthropathy;
- Ankylosing spondylitis; and
- Psoriasis.

These are commonly encountered topics in daily practice for which imaging strategies are quickly evolving. A rheumatologist and two radiologists will guide attendees through this important aspect of musculoskeletal imaging.

Organizers:
Juerg Hodler, M.D., M.B.A.
Hollis G. Potter, M.D.

Topic: Cross-Cutting & Emerging

Pediatric Imaging I & II: Emerging & Cross-Cutting Techniques

Clinical Intensive Education Option

SKILL LEVEL: Intermediate – Advanced

Two-Session Course
Tuesday & Thursday
4 May & 6 May

This course will be presented over two two-hour sessions. It will provide an overview of the latest developments in advanced imaging and post-processing techniques for pediatric MRI.

Specific topics will include:
- Fetal and neonatal imaging;
- Pediatric neuroimaging & spectroscopy: from screening to quantitative follow up;
- BOLD fMRI assessment of disease involvement, and investigation of the connectivity by analyzing the resting state;
- Cardiovascular imaging in children, i.e. with congenital heart diseases;
- Body imaging, focusing on emerging diffusion and perfusion techniques;
- Assessment of renal function in children; and
- Pediatric PET-MR.

Organizers:
Patricia Ellen Grant, M.D., M.Sc.
Claudia M. Hillenbrand, Ph.D.

Topic: Body

Multimodality Imaging of Angiogenesis

SKILL LEVEL: Intermediate – Advanced

Tuesday
4 May

This two-hour course will review:
- Basic tumor angiogenesis by a tumor biologist expert;
- Non-MR methods to assess tumor angiogenesis: contrast-enhanced ultrasound and perfusion CT, with advantages and disadvantages of each method highlighted; and
- MR perfusion to diagnose and quantify tumor angiogenesis.

Organizers:
Talissa Altes, M.D.
Elmar M. Merkle, M.D.
Bachir Taouli, M.D.

WEDNESDAY, 5 MAY 2010

Topic: Body

Body MR Angiography: An Update

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Wednesday
5 May

Speakers in this interactive two-hour course will discuss current MR imaging protocols, typical indications for non invasive vascular imaging, the MR appearance of clinically relevant vascular abnormalities, their differential diagnosis as well as important pitfalls. Substantial emphasis will be put on the role of MR angiography in comparison to alternate non invasive imaging modalities such as CT angiography.

Organizer:
Elmar M. Merkle, M.D.

Topic: MSK

Wrist Imaging

Clinical Intensive Education Option

SKILL LEVEL: Intermediate

Wednesday
5 May

This two-hour course will discuss three main topics that are important for clinical MR imaging: triangular fibrocartilage, intrinsic ligaments and bone/cartilage injury. Three experienced radiologists from different institutions will discuss the various aspects of wrist imaging including imaging protocols, normal anatomy and MR appearance of abnormalities.

Organizers:
Juerg Hodler, M.D., M.B.A.
Hollis G. Potter, M.D.

Topic: Neuro

Epilepsy: From Electrophysiology to Imaging & Back Again

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Wednesday
5 May

This two-hour course will be taught by M.D. clinician scientists and directed at understanding the neurophysiology of epilepsy, the use of MR imaging in the diagnosis and treatment of seizures and understanding combined approaches for diagnosis and therapy of epilepsy using fMRI, DTI, MEG, SPECT, and EEG.

Organizer:
Stefan Sunaert, M.D., Ph.D.

Topic: Body

MRI of the Small Bowel, Large Bowel & Rectum: An Update

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Wednesday 5 May

Speakers in this interactive two-hour course will discuss current MR imaging protocols, typical indications for bowel imaging, the MR appearance of clinically relevant bowel abnormalities, their differential diagnosis as well as important pitfalls. Substantial emphasis will be put on the role of MRI in comparison to alternate non invasive imaging modalities such as CT enterography and colonography

Organizer:
Elmar M. Merkle, M.D.

Topic: Cardio-vascular

Non-Contrast MRA: Summits in Clinical Cardiovascular Applications

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Wednesday 5 May

This two-hour course will provide an overview of the role of MR within the spectrum of imaging techniques available for diagnosis and evaluation of vascular disease. The speakers will be both basic scientists and radiologists. The course will cover cutting-edge MRA without contrast media and recent state-of-the-art application of routine native MRA. The seminar-style comprises direct educational presentations, followed by in depth-discussion. This program will provide insight into new non-contrast MRA techniques and their applicability, as well as profound knowledge on practical issues in MRA and especially its limitations versus contrast enhanced techniques.

Organizer:
Georg M. Bongartz, M.D.

Topic: Cross-Cutting & Emerging

Ethics & Economics

SKILL LEVEL: Basic – Intermediate

Wednesday 5 May

This two-hour course will focus on different ethical and economic questions that affect clinical practice and research, and how new ways of thinking and predicted outcome based on evidence-based medicine might influence the way we practice medicine and perform research. We will cover the following issues:

- How much ethics can we afford?;
- What to do with incidental findings in research;
- Implementation of evidence-based medicine in radiology; and
- Maintaining integrity in drug trials and company-sponsored trials.

Organizers:
Georg M. Bongartz, M.D.
Claudia M. Hillenbrand, Ph.D.
Pia C. Maly Sundgren, M.D., Ph.D.

Topic: Neuro

Stroke Imaging

Clinical Intensive Education Option

SKILL LEVEL: Basic – Intermediate

Wednesday 5 May

This two-hour course will cover:

- The MRI work-up in acute stroke (arterial);
- Comparing CT to MRI in acute Stroke: large vessels and perfusion;
- Small vessel disease; and
- Lesions masquerading as acute stroke.

Organizers:
Walter Kucharczyk, M.D.
Pia C. Maly Sundgren, M.D. Ph.D.

Nobel Notes

Did you know. . .
The ISMRM boasts four Nobel recipients: **Richard R. Ernst**, who received the Nobel Prize in Chemistry in 1991; **Kurt Wütrich**, who received the Nobel Prize in Chemistry in 2002; and **Paul C. Lauterbur** and **Sir Peter Mansfield**, who jointly received the Nobel Prize in Physiology or Medicine in 2003.

Topic: Diffusion/ Perfusion/ Neuro

Pitfalls in Diffusion-Perfusion-fMRI Quantification Processing: What Artifacts Should I worry About in Practice Case-Based Teaching

Clinical Intensive Education Option

SKILL LEVEL: Basic

Wednesday 5 May

Quantitative investigations using diffusion MRI, perfusion MRI, and fMRI are increasingly used in clinical and research studies. This two-hour case-based course will describe the artifacts in quantitative studies using these techniques. There will be particular emphasis on the description of those artifacts most commonly encountered in practice, and how they can be recognized. Practical examples of these artifacts will be shown, and the potential implications for clinical and research studies discussed. Speakers in this basic-level course will have extensive experience both in the technical aspects and in the applications of these methodologies.

Organizer:
Fernando Calamante, Ph.D.

THURSDAY, 6 MAY 2010

Topic: Cross-Cutting & Emerging

How to Perform a Multisite Neuroimaging Study

SKILL LEVEL: Basic – Intermediate

Thursday 6 May

This two-hour course will cover the design and implementation of multi-center MR neuroimaging studies. The importance of scanner QA and parameter selection will be discussed, as will the lessons learned from multi-center structural, diffusion tensor, functional and perfusion studies.

Organizers:
Gary H. Glover, Ph.D.
Bryon A. Mueller, Ph.D.
Douglas C. Noll, Ph.D

Topic: Cross-Cutting & Emerging

Hot Topics: MRI & the Arrhythmic Patient

SKILL LEVEL: Intermediate – Advanced

Thursday 6 May

This two-hour course will include lectures and a panel discussion covering the latest developments in cardiovascular MRI for detection of arrhythmia, and MR planning and guidance of therapy. Specific topics will include:

- MRI detection of arrhythmic substrate;
- MRI planning of RF ablation therapy;
- MR-guided RF ablation; and
- MRI of patients with implanted pacemakers and defibrillators

Organizers:
Claudia M. Hillenbrand, Ph.D.
Orlando P. Simonetti, Ph.D.

Topic: Cardio-vascular

Practical Tricks for Cardiac MRI: Summits in Clinical Cardiovascular Applications

SKILL LEVEL: Intermediate – Advanced

Thursday 6 May

This two-hour course will provide an overview of the role of cardiac MR within the spectrum of imaging techniques available for diagnosis and evaluation of cardiac disease. The speakers are both, basic scientists and radiologists/cardiologists. The course comprises state-of-the-art as well as recent advances in cardiac MRI technique and application. The seminar-style allows direct educational presentations, followed by dedicated time for in-depth discussion with the teachers. This course will provide insight into new techniques as well as profound knowledge on practical issues in cardiac diseases and cardiac MRI.

Organizer:
Georg M. Bongartz, M.D.

Topic: Physics/ Engineering

Guess That Artifact! Case-Based Teaching

SKILL LEVEL: Basic – Intermediate

Thursday 6 May

In our "Guess That Artifact" game show, contestants will compete in the evaluation of MR artifacts from the mundane to the esoteric over the course of two hours. Emphasis will be placed on the physical origin and methods for mitigating the artifact. Winners will receive valuable prizes! Each round will be followed by a brief (five-minute) explanation by one of our hosts. There will be no lovely assistant.

Organizers:
Mark A. Griswold, Ph.D.,
Harald H. Quick, Ph.D.

About the ISMRM

The International Society for Magnetic Resonance in Medicine is an international, nonprofit, scientific association whose purpose is to promote communication, research, development, and applications in the field of magnetic resonance in medicine and biology and other related topics and to develop and provide channels and facilities for continuing education in the field. Its multidisciplinary membership of over 6,000 consists of clinicians, physicists, engineers, biochemists, and technologists.

In addition to its large scientific meeting, the Society holds workshops and publishes two journals, *Magnetic Resonance in Medicine* and the *Journal of Magnetic Resonance Imaging*. It also sponsors study groups on specific areas of scientific interest and chapters based on geographical location.

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Fax: +43 1 535 70 41
Email: office@esmrmb.org
Website: http://www.esmrmb.org

ESMRMB MEMBERSHIP AND EDUCATIONAL PROGRAMS

AIMS OF SOCIETY

The European Society for Magnetic Resonance in Medicine and Biology is a non-profit Society, which aims to support educational activities and research in the widest sense in the field defined by the Society's name. The ESMRMB is open to physicians, engineers, scientists and other individuals who are interested in the developments or the introduction of magnetic resonance techniques in the fields of medicine and biology.

MEMBERSHIP CATEGORIES	
Regular Member	€ 140.-
Student member, incl. online and print Journal	€ 70.-
Student member, incl. online Journal	€ 10.-
Senior member	€ 112.-
Associate member	€ 10.-
Free associate member	€ 0.-

ESMRMB MEMBERSHIP CATEGORIES AND BENEFITS

ESMRMB members are entitled to the following benefits:

- Special member fees at the Annual Scientific Meeting of the Society
- Special member fees at the School of MRI, offering a vast programme of technical and clinical teaching courses in MR
- Special member fees at the Lectures on MR teaching courses for MR physicists and basic scientists
- Free subscription to "MAGMA", the official Society journal, 6 issues per year, including online access via SpringerLink
- Free access to EPOS™, the electronic presentation online system of ECR, containing over 4,300 electronic scientific exhibits, including those of ESMRMB
- Access to the MyUser Area, providing the ESMRMB membership directory, Society documents, online registration to the Annual Scientific Meeting and Educational programs, etc.
- Continuous information about the Society and MR in Europe

For information on membership categories and online membership application, please visit http://www.esmrmb.org.

ESMRMB EDUCATIONAL PROGRAMS

The ESMRMB furthermore offers educational programs, such as the ESMRMB School of MRI. The programme is aimed at physicians and technicians. Up to 14 courses are offered per year in different countries all over Europe, as well as at times courses in Cape Town, South Africa and Dubai, United Arab Emirates. Participants come from more than 79 countries worldwide and alongside the English speaking courses, French and Spanish courses have been offered in the last years.

Visit www.school-of-mri.org for more information and registration.

The ESMRMB Lectures on MR course programme has been established 6 years ago and offers up to 6 courses per year for MR physicists and other basic scientists, continuously introducing new topics. With the Lectures on Magnetic Resonance the ESMRMB continues to offer new teaching courses that are especially designed to provide the physical fundamentals of MR imaging, diffusion, perfusion, spectroscopy and RF engineering, as well as aspects of applications of these techniques in clinical and biomedical research and development. Visit www.esmrmb.org for more information.

ESMRMB Hands-On MRI course programme, aimed at technologists, radiographers and interested physicians, has been successfully introduced in 2009! Two and a half days of training in a radiology department of a European university includes 50% hands-on training on the MRI console and post-processing software and 50% lectures. Three courses took place in 2009 on equipment of different vendors and on different topics. Visit www.esmrmb.org to find out more.

MARK YOUR CALENDAR

2011 Annual Meeting

October 6-8 Leipzig, Germany

International contacts developed very early in the history of MRI. As early as April 1976, an international NMR imaging meeting was organized in Nottingham (UK), followed by a second conference in Winston-Salem in North Carolina (USA) in 1981. The Society of Magnetic Resonance in Medicine (SMRM) was founded in Boston (USA) in 1982. A second society, Society of Magnetic Resonance Imaging (SMRI), aimed towards radiologists in the USA, was founded at the same time. In 1994, SMRM and SMRI merged to form SMR, the Society for Magnetic Resonance (now named ISMRM, the International Society for Magnetic Resonance in Medicine).

The first European effort aimed at teaching users started in 1982: the European Workshop on Nuclear Magnetic Resonance in Medicine, known today as the European Magnetic Resonance Forum (EMRF) Foundation. The first annual meeting of the European Workshop was held in Mons (Belgium) in 1983.

On 14 and 15 October 1983, some 300 participants gathered for the "First Symposium on NMR" in Geneva. At this meeting, it was decided to found a European NMR society. The moving forces were Max-André Hopf, a radiologist from Geneva, and Margaret Foster, a scientist working at the Department of Biomedical Physics and Bioengineering of the University of Aberdeen.

In 1984, radiologists and physicists combined to organize an informal group to discuss the common interest in establishing a society structure to gather professionals working in the field of MR in medicine and biology. Statutes for the new society were prepared and ratified during its first congress in Geneva in autumn 1984 and were continuously adapted and amended during the following years.

Later on a society was founded which had its seat in Geneva, Switzerland. John Mallard of Aberdeen became founding president and Peter A. Rinck followed him in this position in the years 1985 - 1987. The European Workshop agreed to an association with the ESMRMB. The second congress of the ESMRMB was held in Montreux, Switzerland, from 1-3 October 1985, the third in Aberdeen from 22-24 September 1986. In 1986, Erik Boijsen, president of the European Association of Radiology (EAR), wrote to his fellow-members on the board of the EAR, that it was important to support ESMRMB, and thereby gave significant help in the development of the newly formed organization.

The meeting planned in Italy in 1987 was, unfortunately, cancelled at short notice. However, the EMRF integrated the Society meeting into its annual meeting in London. Common meetings were then continued until 1991, when scientific and educational meetings were separated once again.

In 1989, the European Workshop and ESMRMB joined SMRM in a tripartite conference, led by SMRM, in Amsterdam. Since then, there have been four more joint meetings (SMRM/ESMRMB in Berlin 1992, SMR/ESMRMB in Nice 1995, ISMRM/ESMRMB in Glasgow 2001, and ISMRM/ESMRMB in Berlin 2007).

The annual meeting in 1990 was arranged in Strasbourg and the one in 1991 in Zurich. The size and quality of the meetings grew slowly but surely. After the Zurich meeting, the EMRF Foundation and ESMRMB discontinued their cooperation. It was agreed that the society would now be able to run on its own and would continue to organize scientific meetings. It was recognized that a growing Society and an ever-increasing annual congress required a permanent logistic organization. Thus, negotiations were started with the business office of the European Congress of Radiology (ECR), and in late 1994 a permanent office of the ESMRMB was installed in Vienna. At the same time, the Society was incorporated in Austria as a non-profit organisation and new statutes were set up in 1995. The application was signed by Gustav von Schulthess. A contract for administrative assistance was signed between the European Congress of Radiology and the ESMRMB by Axel Haase (ESMRMB), and Albert L. Baert (ECR). Since then, the ESMRMB Office has been located in Vienna.

In 1994, MAGMA became the official journal of the society. Also, since the late 1990s, ESMRMB has organized basic and advanced clinical MR courses on its own under the name "School of MRI".

The 9th annual meeting of the Society was arranged together with the SMRM in Berlin, and the following meetings were conducted in Rome, Vienna, Nice (joint meeting with ISMRM), Prague, Brussels, Geneva, Sevilla, Paris, Glasgow (joint meeting with ISMRM). At the Annual Business Meeting in Glasgow, a Strategic Planning Committee was formed in the response to the need of further modernizing the structure of the Society. As a direct result of the work in this committee, a new structure and new statutes of our Society were approved at the Rotterdam meeting in 2003.

Professor Peter Rinck is gratefully acknowledged for help with preparing the text.

ESMRMB SPONSORS

The ESMRMB would like to thank the following companies for their support and membership in the ESMRMB industry forum MR Enterprise Europe:

Bayer Schering Pharma AG
Bracco
Bruker BioSpin MRI
GE Healthcare
Guerbet
Hitachi Medical Systems
Philips Healthcare
Siemens Healthcare

ESMRMB OFFICERS (as per August 2009)

President: Berry, Isabelle / FR
Past President: Cerdán, Sebastián / ES
President Elect: Speck, Oliver / DE
Secretary: Schick, Fritz / DE
Treasurer: Danielsen, Else Rubæk / DK
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Director, School of MRI: Steinbrich, Wolfgang / CH
Director, Lectures on MR: Scheffler, Klaus / CH
Director, Hands-On MRI: Van der Lugt, Aad / NL
Chairperson, SPC: Hall-Craggs, Margaret / UK

19th Annual Meeting

1-2 May 2010

MR Imaging Now and Into the Future

Abstract deadline: 6 January 2009

Stockholm sweden

The Program and Education Committees would like to invite technologists from around the world to attend the 19th Annual Meeting of the Section for Magnetic Resonance Technologists. Our meeting will be held on the 1st- 2nd of May 2010 in conjunction with the ISMRM – ESMRMB Joint Annual Meeting at the Stockholmsmässan, Stockholm International Fairs, Sweden. The goal of the SMRT is to provide quality educational opportunities for MR technologists/ radiographers, and to foster and maintain a high level of professionalism in the field.

Feedback from previous meetings indicates that registrants highly regard the opportunity to present and hear proffered papers and poster presentations. We widely encourage technologists from around the world who are interested in sharing their work to submit abstracts for oral or poster presentation. The poster exhibition and walking tour will be a key event on the Friday evening prior to the weekend program. This is a great opportunity to meet other registrants, and to see the work of your peers in both the clinical and research environments. The structure of the meeting program allows for seven oral presentations. These presentations will be made by the authors of the top scoring abstracts, with the highest-scored overall abstract receiving the President's Award. First, Second, and Third Place Awards in both Clinical Practice and Research-focussed presentations will also be awarded. Authors of abstracts not selected for an award and subsequent oral presentation may also choose to submit an electronic poster for award consideration. Poster awards include First, Second, and Third Place Awards in both the Clinical Practice and Research categories. Abstracts with either a clinical practice or research focus will be accepted until 6 January 2010. Online abstract instructions and submissions will be available on the SMRT website: www.ismrm.org/smrt.

This year's program offers a diverse range of forums including MR technology updates, advances in safety, high and ultra-high field imaging updates, abdominal, paediatric, musculoskeletal, and neuro-imaging, as well as a forum on emerging technologies such as non-neuro spectroscopy, MR elastography (MRE), and fetal imaging. The SMRT Business Meeting will be held before lunch on Saturday. The Business Meeting is an open session for members to attend and learn what the SMRT is doing to further its mission and goals. Members choosing to attend will remain current regarding the activities of the SMRT over the previous year and the goals for the upcoming year. All members of the Policy Board and Executive Committee will be introduced. This is an important part of the meeting where you as a member get to voice your questions/ opinions to the Policy Board and Executive Members. Your attendance and interaction at this meeting is invaluable to the SMRT in continuously improving our networking with our membership and allowing the SMRT to increase its ability to evolve further as a global resource of MR education. On Sunday afternoon, awards will be presented to our members who have helped fulfil the SMRT's commitment to excellence in MR education. Awards will also be presented to the authors of the most outstanding papers and posters in the Clinical and Research-focussed categories.

Finally, please be sure to attend the SMRT and ISMRM Joint Forum presentation which will be held at 14:00 on Monday, 3 May 2010. Your registration for the SMRT Annual Meeting allows you to attend this forum. This year the forum topic is titled "Safe Exposure Limits for Staff," organized by Penny A. Gowland, Ph.D. and Ben Kennedy, BAppSc (MIT) MMRT. Presenters include Donald McRobbie, Ph.D., Freddy Stahlberg, Ph.D., Paul Glover, Ph.D, and Sija Greer. The joint forum, by design, is a grand collaboration of energy and talent between the ISMRM and the SMRT, and continuously aims to promote the highest quality of education in the MR world. The SMRT Annual Meeting program has been approved for 14.50 Category A CE credits and Australia Institute of Radiology (AIR) CPD Activity credits. Technologists and radiographers can also earn additional Category A CE credits at many of the ISMRM – ESMRMB Joint Annual Meeting educational courses held Monday through Friday.

The SMRT was established to provide superior educational opportunities for technologists/ radiographers, as well as to provide a forum for members to collaborate with, and learn from each other. The 2010 Annual Meeting is dedicated to providing these opportunities. On behalf of the 2010 Program and Education Committees, we are pleased to invite you to join us in Sweden for an educational symposium all about MR Imaging—Now and Into the Future.

The SMRT was established to provide superior educational opportunities for technologists/ radiographers as well as a forum for members to collaborate with and learn from each other. The 2010 Annual Meeting is dedicated to providing these numerous important tools.

Join the SMRT and take advantage of the reduced meeting registration fee for SMRT members. For SMRT membership information visit: http://www.ismrm.org/smrt

A World of Knowledge
A World of Opportunity

SMRT 19th Annual Meeting Program Schedule
"MR Imaging Now and Into the Future"

SMRT Poster Walking Tour Reception – Friday, 30 April 2010, 6:00 pm

Time	Saturday, 1 May 2010
07:00	**Registration**
07:45	**Welcome & Announcements** Pamela S. Vincent, MPA,R.T.(R)(M)(CT)(MR), SMRT President 2009-2010 Michael D. Macilquham, B.App.Sc.,MHSc (MRI), SMRT Program Chair 2010
	Forum 1: Physics and Technology Moderator: Sonja Kay Robb-Belville, MSRS, R.T., (R)(MR)
08:00	**Physics Refresher** Martin Graves, M.Sc.
9:00	**From 3.0T to 7.0T** A. Greg Sorensen, M.D.
9:30	**High Field RF Coils & Techniques** Stuart Crozier, Ph.D., D. Eng., FInstP
10:00	**Break**
	Forum 2: MR Safety Ashok Saraswat, M.S., Bed., R.T.,(R)(MR)
10:20	**SAR: A Practical Guidance for MR Users** Franz Hebrank, Ph.D.
10:50	**Time Varying Magnetic Fields & Spatial Gradient Considerations** Donald McRobbie, Ph.D.
11:20	**SMRT Annual Business Meeting**
12:00	**Lunch**
	Forum 3: Proffered Papers Moderator: Stephen Darty, R.T.,(N)(MR)
12:45	**Proffered Papers/ President's Award Paper SMRT Meets Scandinavia** Titti Owman, Anne Dorte Blankholm, M.Sc.,R.T.,(MR)
	Forum 4: Technical Updates Moderator: J. Carol Lee, B.S.,R.T.,(R)(CT)(MR)
13:45	**Whole Body Imaging** Thomas Lauenstein, M.D.
14:15	**Body Diffusion Weighted Imaging** Dow Mu Koh, M.D.
14:45	**Break**
	Forum 5: Neuro Moderator: Colleen A. Hammond, R.T., (R)(MR)
15:00	**Applications of DWI and PWI** Meng Law, M.D., MBBS, FRACR
15:40	**fMRI From Paradigm to Analysis** Amanda Wood, Ph.D.
16:20	**Artifacts in Spine MRI** Joseph Castillo, B.Sc., M.Sc.
17:00	**Announcements/Close**

Time	Sunday, 2 May 2010
07:00	**Registration**
07:45	**Welcome & Announcements** Julia Lowe, B.S., R.T., (R) (MR) SMRT President 2010-2011 Michael D. Macilquham, B.App.Sc.,MHSc (MRI) SMRT Program Chair 2010
	Forum 6: Breast MR Masterclass Moderator: Janice Fairhurst, B.S., R.T.,(R)(MR)
08:00	**Overview of Breast MRI** Michael Knopp, M.D., Ph.D.
9:00	**Techniques to Optimize Breast MR** Chris Kokkinos, B.App. Sc., PgCert (MRI)
9:30	**MR-Guided Breast Biopsy Techniques** Laura Amodei, M.D.
10:00	**Break**
	Forum 7: Body MRI Moderator: Jane M. Francis, DCR, (R) DNM
10:20	**Abdominal MR Artifacts** Neil M. Rofsky, M.D.
11:00	**Pediatric Congenital Cardiac Protocols** Rod Jones, DCR, (R), M.Sc. (MRI)
11:40	**Female Pelvic Imaging** Laurian Rohoman, R.T.,(R)(MR), ACR
12:20	**Lunch**
	Forum 8: Clinical MSK Imaging Moderator: Maryann Blaine, MAT, B.S., R.T.(R)(MR)
13:00	**Proffered Papers**
13:30	**Musculoskeletal MR at 3.0T** Garry Gold, M.D.
14:00	**Cartilage Imaging Methods** Hollis G. Potter, M.D.
14:30	**SMRT Awards Presentation**
14:45	**Break**
	Forum 9: Emerging Technologies Moderator: Muriel Cockburn, D.C.R., B.Sc.Hons
15:00	**MR Elastography** Richard L. Ehman, M.D.
15:40	**Non-Neuro Spectroscopy** Arend Heerschap, Ph.D.
16:20	**Fetal MR Techniques** Daniela Prayer, M.D.
17:00	**Announcements/Adjourn**

SOCIETY MEMBERSHIP HOUSING INFORMATION

Become a member of the ISMRM, ESMRMB, or SMRT today, and SAVE SIGNIFICANTLY on registration fees!

ISMRM Membership

To learn more and to apply for ISMRM membership, go to:
http://www.ismrm.org

- Access, both print and electronic, to one or both of the official Society journals (JMRI or MRM);
- Access to over 3,500 scientific oral presentations, traditional posters, and electronic posters from annual meetings and scientific workshops;
- Enjoy networking with today's MR leaders through ISMRM events, conferences, as well as study group and chapter meetings, and the online membership directory provides another key networking resources;
- Benefit from volunteering for abstract review, committee membership, study groups, and/or chapter membership and leadership;
- Receive reduced rates for educational opportunities, including ISMRM scientific workshops, courses, annual meetings, e-learning;
- Enjoy discounted rates on resources through the ISMRM Website, including the Bookstore and Career Center.

ESMRMB Membership

To learn more and apply for ESMRMB membership, please go to:
http://www.esmrmb.org

- Receive special member fees at the Annual Scientific Meeting of the Society;
- Enjoy special member fees at the School of MRI, offering a vast programme of technical and clinical teaching courses in MR;
- Enjoy special member fees at the Lectures on MR teaching courses for MR physicists and basic scientists;
- Benefit from a free subscription to "MAGMA", the official Society journal, 6 issues per year, including online access via SpringerLink;
- Also benefit from free access to EPOS™, the electronic presentation online system of ECR, containing over 4,300 electronic scientific exhibits, including those of ESMRMB 2004, 2005, 2006, and 2008;
- Access the Members' area of the Society website, providing contact information on all Society members, as well as Society documents;
- Receive continuous information about the Society and MR in Europe.

SMRT Membership

To learn more and apply for SMRT membership, go to:
http://www.ismrm.org/smrt

- Receive quarterly the Signals Newsletter, with educational articles for MR technologists, highlights of SMRT activities, student scopes, future meeting announcements, book reviews, safety articles, and job opportunities;
- Access SMRT Educational Seminars, a home study program that is accredited for Category A Continuing Education credits required to maintain ARRT registry of advanced examination for MR;
- Receive reduced registration fees for SMRT and ISMRM meetings, egionals and workshops;
- Join ISMRM Study Groups, established to foster interaction among members with a common interest in topical and active areas of MR;
- Enjoy reduced subscription fees for the ISMRM journals - Journal of Magnetic Resonance Imaging (JMRI) and Magnetic Resonance in Medicine (MRM);
- Access the ISMRM/SMRT Membership Directory.

ACCOMMODATIONS • FOR MORE INFORMATION VISIT: http://www.ismrm.org/10/housing.htm
Housing Reservation Deadline: 31 March 2010

Many hotels offering a range of rates, and amenities have been reserved by the Society for the meeting in Stockholm. While in Stockholm, MCI has been appointed to coordinate all hotel reservations for our delegates. In order to receive the special convention rate, attendees must make their reservations through the official housing bureau, MCI, on or before 31 March 2010

A number of rooms have been reserved at these hotels at special rates. All prices include VAT and most include a breakfast buffet. "First come –first served" applies.

MCI's booking service is free of charge and your room reservation must be guaranteed using your credit card. Rooms will not be charged for in advance.

If all the rooms at our official hotels are booked, or if you prefer another hotel, MCI can also offer a wide selection of quality hotels in Stockholm. To reserve your room today, just go to the ISMRM website (http://www.ismrm.org/10/housing.htm) and either download the reservation form and fax it to MCI, or reserve your room online.

MCI - Stockholm Office
Drottninggatan 97
P.O. Box 6911
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T: +468 54651500 (09:00-17:00 hours)
F: +468 54651599
E: ismrm@mci-group.com
W: http://www.ismrm.org/10/housing.htm

INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE

ESMRMB European Society for Magnetic Resonance in Medicine and Biology

Registration Form

Register Early by 31 March 2010 & Save!

Return form to: ISMRM, 2030 Addison St., Suite 700, Berkeley, CA 94704, USA • Fax: +1 510 841 2340

STEP I: MEETING BADGE INFORMATION

Badges and materials will be available at the registration desk in Stockholm. **Meeting materials will NOT be mailed.**

Honorific and gender: ❒ M.D. ❒ M.D. Candidate ❒ Ph.D. ❒ Ph.D. Candidate ❒ Prof. ❒ RT ❒ Other: _____ ❒ Male ❒ Female

Family Name: First/Given Name: Middle Name:

Institution: City: State/Province: Country:

STEP 2: MAILING/CONTACT INFORMATION

This address is for ❒ Work ❒ Home

Street Address: City: State/Province: Zip+4/Postal Code: Country:

Phone: Fax: Email:

Is this new contact information? ❒ Yes ❒ No

STEP 3: STUDENT VERIFICATION*

**Required for all students, post docs, and technologists who are registering as non-members*

Supervisor's Name: _____ Institution Name: _____

Supervisor's Phone: _____ Supervisor's E-mail: _____

STEP 4: ATTENDANCE INFORMATION

❒ I have a disability & require assistance ❒ Send me an invitation letter for the purpose of obtaining a visa.

STEP 5: PROGRAM OPTIONS AND FEES (Please check one box below)

				Student/Postdoc/Associates		Technologist/Radiographer	
	Program Options (please check the program you are planning to attend)	**ISMRM-ESMRMB Member Fee**	**Non-Member Fee**	**ISMRM-ESMRMB Student Member Fee**	**Student Non-Member Fee*** *Supervisor's information required	**SMRT Member Fee**	**Non-Member Fee** *Supervisor's information required
1	**Joint Annual Meeting ISMRM-ESMRMB Weekend Educational Programs 1 - 7 May**	❒ US$800 *After 31 March* ❒ US$900	❒ US$1340 *After 31 March* ❒ US$1440	❒ US$320 *After 31 March* ❒ US$320	❒ US$560 *After 31 March* ❒ US$560		
2	**Scientific Meeting 3 - 7 May**	❒ US$620 *After 31 March* ❒ US$720	❒ US$1060 *After 31 March* ❒ US$1160	❒ US$200 *After 31 March* ❒ US$200	❒ US$300 *After 31 March* ❒ US$300		
3	**Clinical Intensive Course 1 - 7 May 2010**	❒ US$800 *After 31 March* ❒ US$900	❒ US$1340 *After 31 March* ❒ US$1440	❒ US$320 *After 31 March* ❒ US$320	❒ US$560 *After 31 March* ❒ US$560		
4	**SMRT Annual Meeting, 1 - 2 May**					❒ US$260 *After 31 March* ❒ US$260	❒ US$360 *After 31 March* ❒ US$360
5	**SMRT Annual Meeting & ISMRM-ESMRMB Scientific Meeting, 1 - 7 May**					❒ US$460 *After 31 March* ❒ US$460	❒ US$660 *After 31 March* ❒ US$660

STEP 6: CALCULATE SWEDISH VAT AT THE RATE OF 25% (*APPLICABLE TO ALL REGISTRATION FEES*)

Corporations can recover VAT paid out during the course of doing busness in Europe. Some universities, research centers and other types of institutions may also qualify to recover VAT. Complete instructions and details are available at: http://www.taxport-usa.com/ISMRM2010.

Program Registration fee: US$_____ + 25% Swedish VAT US$_____ = TOTAL REGISTRATION FEE US$_____

STEP 7: PAYMENT OPTIONS (Fees are shown, and must be paid, in US dollars)

❒ Check enclosed (personal, bank, institution) made payable to ISMRM or International Society for Magnetic Resonance in Medicine

❒ Credit Card Please charge registration fees to my: ❒ VISA ❒ AMEX ❒ MasterCard

Cardholder's Name (please print clearly): Billing Street Address (required): Postal Code (required):

Card Number: Expiration Date: ____ / ____ Cardholder's Signature:

Refunds/Cancellations: A refund of the registration fee will be made for any program when a written request is received in the ISMRM office on or before 14 April 2010

Joint Annual Meeting ISMRM - ESMRMB

SMRT 19th Annual Meeting

Stockholm sweden

"Clinical Needs & Technological Solutions"

INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE

ESMRMB European Society for Magnetic Resonance in Medicine and Biology

REGISTER EARLY AND SAVE!

INTERNATIONAL SOCIETY FOR ISMRM MAGNETIC RESONANCE IN MEDICINE

2030 Addison Street, Suite 700
Berkeley, California 94704 USA
http://www.ismrm.org

2010 IMPORTANT MEETING DATES AND DEADLINES

10 December 2009	Deadline for receipt of applications for New Entrant Stipend (See page 5)
6 January 2010	Deadline for receipt of abstracts for the SMRT 19th Annual Meeting (see page 24)
18 March 2010	Deadline for housing reservations (See page 26)
31 March 2010	Deadline for advanced registration for the Joint Annual Meeting ISMRM - ESMRMB (see page 27)
16 April 2010	Full text version of Proceedings & Educational Syllabus available online to pre-registered attendees only
1-2 May 2010	SMRT 19th Annual Meeting
1-7 May 2010	Joint Annual Meeting ISMRM - ESMRMB